Priestly Demolition Master SDS List - Last Review June 08 2023

#	PRODUCT	MANUFACTURER
1	2in1 primer Grey	Transtar Autobody Technologies
2	565 Thread Selant with PTFT	Henkel
3	78E Hydraulic Jack Oil 1QT CN	Permatex Inc
4	8057382 Flat Black Anti Rust Spray Paint	Valspar Indurstries
5	ABC Fire Extinguisher	Tyco Fire Protection Products
6	Acdelco Dexos 1 5W 30	Exxon Mobil Corporation
7	ACE Methyl Alcohol Kleen	Flo Tumbler Ind. Ltd.
8	Acetylene	Josef Gas
9	Acetylene	Messer Canada Inc
10	Air Motor Oil	Lloyds Laboratories Inc.
11	Anti seize 133K Anti Seize Lubricant	Permatex
12	Anti Seize Grease	Grease Warehouse
13	ARC AIR CARBON ARC ELECTRODES	Victor Technologies
14	Argon Compressed Gas	Josef Gas
15	Armor All Original Protectant.pdf	The Armor AllSTP Products Company
16	ARMOR ALL® Air Freshening Multi Purpose Spray Auto Cleaner – Cool Mist	The Armor AllSTP Products Company
17	Atlas Copco Chisel Paste VP 3537	Atlas Copco Construction Tools AB
18	Autran Syn 295	BP Lubricants USA Inc.
19	Bakor Aquatac Primer	Henry Company
20	Batter Sealer HD	Kent Automotive
21	Battery Cleaner	Lawson Products, Inc.
22	Battery Cleaner & Acid Detector	Lawson Products, Inc.
23	Battery Terminal Protector	CRC Industries, Inc.
24	Bechen High Lub SW2	CARL BECHEM GMBH
25	Benefect Botanical Disinfectant	Sensible Life Products
26	Benefect Botanical Multi Purpose Cleaner	Sensible Life Products
27	BEYE 1 GL 4PK High Hide Odorless	Rust Oleum Corporation
28	Bleach	LAVO Inc
29	Body Pro Mini Fibre	ITW Evercoat
30	Bowl Cleaner	Mega Maintenance (H&S)
31	BW001 Solid Carbon Steel Wire Electrodes & Rods	Messer Canada Inc
32	BW006 Bare Aluminium Wire Electrodes and Rods	Messer Canada Inc
33	CAM2 Transmission Fluid	CAM2 International, LLC
34	Canon GPR 33 Black Toner	Canon USA, Inc.
35	Canon GPR 33 Cyan Toner	Canon USA Inc.
36	Canon GPR 33 Magenta Toner	Canon USA, Inc.
37	Canon GPR 33 Yellow Toner	Canon USA, Inc.
38	Carbon Dioxide (2 30%) in Argon	Messer Canada Inc
39	Castrol AP Gear 80W 90	BP Lubricants USA Inc.
40	Castrol Assuron 30	BP Lubricants USA, Inc
41	Castrol Dex.Marc Domestic Multi	BP Singapore Pte Ltd
42	Castrol GTX 10W	BP Lubricants USA, Inc
43	Castrol GTX 5W	BP Lubricants USA, Inc
44	Castrol Pyroplex Blue 1	BP Lubricants USA, Inc
45	Castrol Pyroplex Blue 2	BP Lubricants USA, Inc
46	Castrol Syngear 75W	BP Lubricants USA, Inc
47	Castrol Tection Extra 15W	BP Lubricants USA, Inc
48	Castrol Vecton 15W	Castrol BP Petco Ltd.
49	CE001 Carbon steel Covered Electrodes	Messer Canada Inc
50	Childers CP 240 Sealant	H.B. Fuller Construction Products Inc.
51	Clorax Green Works Glass & Surface Cleaner	The Clorox Company of Canada Ltd.
52	CLR Calcium Lime Rust Remover	Jelmar, LLC
53	Comet Powder Cleaner	Prestige Brands
54	Concrobium Mold Control	Siamons International Inc.
55	Core Chain and Cable Lubricant	Drummond, A Lawson Brand
56	CR60 Waterproofing	Condor Chimiques
57	CRC Chain & Wire Rope Lubricant	CRC Industries, Inc.
58	Crown Dry Graphite Lubricant	Aerosol
59	Delo Syn Gear XDM SAE 75W	Chevron Products Company
60	DeoxIt D5 D series	CRC Industries, Inc.
61	DeWalt Chalks	Stanley Works
62	Diesel (PetroCan)	Petro Canada
63	Diesel Fuel Conditioner	Diesel F
64	Disk brake Quiet	CRC Industries, Inc.
65	DRI GRAPH Dry Graphite Lubricant	Lawson Products, Inc.
66	Dry Ice Carbon Dioxide Solid	Praxair Canada Inc.
67	Dual Range HV 46	Castrol Industrial North America, Inc.
68	DURA SEAL® Penetrating Finish	MINWAX Company
69	Duron TMMC Sae 30	Petro Canada Lubricants Inc.

70	Dynamic Safety Eye Wash	Niagara Pharmaceuticals Inc
71	Dynatex 49560 Anti Seize and Lubricating Compound	Dynatex a division of Soudal Accumetric
72	E Z Go	Multi Blend Ltd.
73	Eagle One™ SUPERIOR NANOWAX™ SPRAY	Ashland
74	Electro Contact cleaner	ITW Pro Brands
75	Emzone Air Intake Carb & Choke Cleaner	Empack Spraytech Inc.
76	Emzone Brake & Parts Cleaner The BIG Can	Empack Spraytech Inc.
77	Emzone Brakes and Parts Cleaner	Empack Spraytech Inc.
78	Emzone Foaming Glass Cleaner	Empack Spraytech Inc.
79	Emzone foaming glass cleaner	Empack Spraytech Inc.
80	Enamel Flat Black	Rust Oleum Corporation
81	ES74 Spray & Wipe Cleaner	Enviro Solutions Limited
82	Facto HD	Swish Maintenance Limited
83	FANTASTIK® ORIGINAL DISINFECTANT ALL PURPOSE	S.C. Johnson and Son, Limited
84	FAST DRY 2500 HIGH GLOSS ALKYD BLACK	PPG Industries Inc.
85	Fertan Rust Remover	CRP Industries
86	Final Charge Global 50/50 Prediluted Antifreeze and Coolant	Old World Industries, LLC
87	Flex Seal Dispense A Gasket RTV Red Silicone	Lawson Products, Inc.
88	Flo Perm All Season Windshield Washer Antifreeze 35 C	Vulsay Industries Ltd.
89	Flo Perm Global Concentrat Antifreeze	Vulsay Industries Ltd.
90	Flo Perm Magnum Global Concentrate Antifreeze coolant	Vulsay Industries Ltd.
91	Flo Perm Universal SCA PreCharged Concentrate Antifreeze Coolant	Vulsay Industries Ltd.
92	Fluor Orange	Rust Oleum Corporation
93	Flux Cored and Metal Cored Welding Wire	HOBART BROTHERS COMPANY
94	Foster 32	H.B. Fuller Construction Products Inc.
95	Foster 40	H.B. Fuller Construction Products Inc.
96	Fuel injector cleaner	Radiator specialty Co
97	Gas Line Antifreeze	MotoMaster
98	Gaseous Ocygen	Josef Gas
99	Gasoline Unleaded	PetroCanada
100	Germ Away	QuestSpecialty Corporation
101	Goof Off Graffiti Remover	W. M. Barr
102	Graffiti Remover	Würth Canada Limited
103	Great Stuff Big Gap Filler Insulation Foam Sealant	The Dow Chemical Company
104	GS1000 288 ANG	Prolab Technolub
105	Gunk Carburator Parts Cleaner	RSC Chemical Solutions
106	H2Blu – Diesel Exhaust Fluid	Henkel
107	Hagerty Chandelier Cleaner	W. J. Hagerty & Sons, Ltd., Inc.
108	Hardsurfacing Electrodes	HOBART BROTHERS COMPANY
109	HDH All	Irving Blending & Packaging
110	Heavy Duty 20 Spray Adhesive	3M
111	Heavy Duty Chain Lubricant	Lawson Products, Inc.
112	Heavy Duty Degreaser	CRC Industries Inc
113	Heavy Duty Oil Stabilizer	Lucas Oil Products, Inc
114	Honey Goo	Kleen Flo Tumbler Ind. Ltd.
115	Humidifier Bateriostatic Treatment	Essick Air Products, Inc.
116	Hydrogen Peroxide Multi Purpose Cleaner	Enviro Solutions Limited
117	Ironlak STANDARD COLOURS	AVT Paints Pty Ltd
118	Isopropyl Rubbing Alcohol USP 70%	Hydrox Laboratories
119	Johnsen's 50% Starting Fluid	Technical Chemical Company
120	Johnsen's Glass Cleaner	Technical Chemical Company
121	Johnsen's Non Cloride Brake Parts Cleaner	Technical Chemical Company
122	Johnsen's Power Steering Fluid	Technical Chemical Company
123	Johnsens's Non Chlorinated Brake Parts	Technical Chemical Company
124	Krown Extreme Duty Chain Lube	Empack Spraytech Inc.
125	Krown Fast Acting Penetrant (Aerosol)	Empack Spraytech Inc.
126	Krown t40 Rust Protection and Lubricant	SIA KROWN FACTORY
127	Krylon Quik Mark Invert White	Krylon Products Group
128	KRYLON® Industrial QUIK MARK™ Solvent Based Inverted Marking Paint (APWA)	Krylon Products
129	KRYLON® QUIK MARK™ Water Based Inverted Marking Paint (APWA)	Kyrlon Products Group
130	Kul Therm Liquid Gel	Partsmaster
131	Liquefied Petroleum Gas (LPG)	Messer Canada Inc.
132	Liquid Oxygen	Josef Gas
133	Liquid Wrench Penetrant	Radiator Specialty Co
134	Loctite 262	Henkel Canada Corporation
135	Low Sulfur Diesel Fuel Conditioner	Kleen Flo Tumbler Ind. Ltd.
136	LPS PreSolve (Aerosol)	ITW Pro Brands
137	Lucas Air Tool LubeLucas Tool Box Buddy	Lucas Oil Products, Inc
138	Lysol All Purpose Cleaner	Reckitt Benckiser (Canada) Inc
139	Lysol Disinfectant Spay All Scents	Reckitt Benckiser (Canada) Inc
140	Lysol Disinfectant Spray	Reckitt Benckiser (Canada) Inc
141	Lysol Disinfectant Wipes	Reckitt Benckiser (Canada) Inc
142	Masters Pro Dope	G.F. THOMPSON CO. LTD.

143	Mastic Remover For Concrete - BEAN-e-doo®	Franmar Chemical Inc
144	MB ActiveCleaner (GB)	URIMAT Schweiz AG
145	MB ActiveCube (GB)	URIMAT Schweiz AG
146	Mediclean Disinfectant Spray II	Legend Brands ProRestore Products
147	MEDIUM STRENGTH THREADLOCKER BLUE 6 ML	Permatex
148	Metal Arc Welding Solid Wire	HOBART BROTHERS COMPANY
149	Methyl Hydrate	Ostrem Chemical Co
150	Methyl Hydrate	Radiator Specialty Co
151	Mineral Spirits Reg.10	Canada Colours & Chemicals LTD.
152	MOBIL 1 0W	East Coast Lubes Pty Ltd.
153	Molyslip Gear Oil Supplement	Molyslip (Canada) Inc.
154	Mr. Clean disinfectant multisurface, summer citrus PROCTER & GAMBLE	Fabric and Home Care Division
155	Muffler Cement	Kleen Flo Tumbler Ind. Ltd.
156	Nashua 357 Spray Adhesive	Berry Global Inc
157	Nason fulThane 2K Urethane	Axalta Coating Systems Australia Pty Limited
158	Natural Degreaser™ Citrus Based Degreaser	CRC Industries, Inc.
159	Nitrogen	Josef Gas
160	Nitrogen Compressed	Messer Canada Inc
161	Overal SSPR 6PK Gloss Orange	Rust Oleum Corporation
162	Oxygen	Messer Canada Inc
163	Oxygen Refrigerated Liquid	Messer Canada Inc
164	Palmolive Ultra Colgate	Palmolive Canada Inc
165	Peel Away 1 | Heavy DUTY Paint Remover	Dumond Inc
166	Perfect Field Athletic Stripping Paint (water based) Aerosol	Aervoe Industries Incorporated
167	PF 224 Urethane Sealer Adhesive Black	Pro Form Products Ltd.
168	PF656C 2.1 Voc 2k Urethane Primer Surfacer Gray	Pro Form Products Ltd.
169	PolyClens	Henkel Consumer Adhesives
170	Power Hammer and Chisel Paste	LUBRIPLATE® Lubricants Co.
171	Power Steering Fluid	Radiator Specialty Co., of Canada
172	Power Steering Stop Leak	Lucas Oil Products, Inc
173	Pro Finish Aerosol	Dover Finishing Products, Inc.
174	Propane	Worthington Cylinder Corporation
175	Proseal 12 Red Tek	Thermofluid Technologies, Inc.
176	Protecto Lube(A.K.A.Airolene Oil)	Chicago Pneumatic Tool Company
177	Puncture Seal Non Flammable	Radiator Specialty Co., of Canada
178	PVC S 40 Solvent Cement (Clear)	Sluyter Company Ltd
179	Quaker State HP Gear Oil SAE 80W	SOPUS Products
180	RESOLVE® formerly SPRAYN WASH® Laundry Stain Remover	Reckitt Benckiser (Canada) Inc.
181	Rocker Panel Coating	3M
182	S.O.S® Steel Wool Soap Pads	The Clorox Company of Canada Ltd.
183	Safe T Brake	Kleen Flo Tumbler Ind. Ltd.
184	SafeTSorb	EP Minerals, LLC
185	SHUR STIK 66, VINYL TO VINYL BORDER AND SEAM ADHESIVE	GH INTERNATIONAL SEALANTS ULC
186	Solid STRIKE 110 MSS and Solid STRIKE 115 MSS Carbon Steel Covered Electrodes	Messer Canada Inc.
187	Speedy 500 Solvent Degreaser and Adhesive remover	Kent Automotive
188	Spirax S4 TXM	Viva Energy Australia Pty Ltd
189	Spray Nine	ITW Permatex Canada
190	Sprayable Paint Stripper	Pro Form Products Ltd.
191	Sprayon products	Zinc Rich Galvanizing Compound Aerosol
192	SS 25 Plus II Solvent Degreaser	Chemsearch Australia
193	Start Strating Fluid	Kleen Flo Tumbler Ind. Ltd.
194	Super Surface Primer Red Oxide	Kleen Flo Tumbler Ind. Ltd.
195	Super Water Wetter	Abatement Technologies
196	SXPP24 Adesion Promoter Aerosol 480 g 16.9 oz	Dominion Sure Seal Ltd
197	Synthetic SAE 20W 50MC	Lucas Oil Products, Inc
198	Tef Lube 2000	Kleen flo Tumbler Ind. Ltd.
199	TIP GUARD PASTE	Linde
200	Titan Heavy Duty Degreaser	Shrader Canada Limited
201	Top Gun Conc cleaner	Radiator specialty Co
202	Transmission Conditioner with Sealer	Kleen Flo Tumbler Ind. Ltd.
203	Tree & Log Marking Paint	Nelson Paint Company of Canada
204	Tremco Tremclad Rust paint glass white	Rust Oleum Consumer Brands Canada
205	TRMCLD 6X237ML Rust Paint Aluminum	Rust oleum Consumer Brands Canada
206	Valve Grinding Compound	Permatex
207	Valvoline Fuel Injector Cleaner	Ashland
208	Valvoline Valplex EP grease	ITW Permatex
209	Valvoline™ DEXRON VI FULL SYNTHETIC	Ashland
210	Vision X 40 Windshield Washer Fluid	HALL CHEM MFG. INC.
211	WD40	WD40 Company
212	White Grease	Kleen Flo Tumbler Ind. Ltd.
213	Windex Orignal Glass Cleaner	S.C. Johnson and Son, Limited
214	Wood Finish	MINWAX Company
215	Wurth	HSS

216	Wurth	PTFE Pipe Sealant 50gr
217	Wurth	Rust off ice
218	Würth Windshield Adhesive	Würth Windshield Adhesive
219	Zinsser Covers UP™ Aerosol Spray	William Zinsser (UK) Ltd

SAFETY DATA SHEET.

Issuing date 29-Aug-2016 **Revision Date** 29-Aug-2016 **Version** 1.02

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product name 2 IN 1 PRIMER GRAY
Product number 4603

Recommended use of the chemical and restrictions on use For professional and industrial use only. Not for sale to the general public.

Product Type Extremely flammable aerosol
Synonyms None

Recommended Use Primer.
Uses advised against No information available

Manufacturer/Distributer:
Transtar Autobody Technologies
2040 Heiserman Drive, Brighton,
Mi. 48116
800-824-2843

CHEMTREC 24 Hour Emergency Phone Number
: 1-800-424-9300
t ti 1-703- 1 0

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 2
Flammable aerosols	Category 1
Gases under pressure	Compressed Gas

GHS Label elements, including precautionary statements

Emergency Overview

DANGER

Hazard Statements
Causes skin irritation
Causes serious eye irritation
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
Causes damage to organs (Central Nervous System, Peripheral Nervous System, Eyes, Kidney, Liver, Lungs, Respiratory System, Reproductive System, Skin, Central Vascular System and Gastrointestinal Tract.)

May cause damage to organs (Central Nervous System, Peripheral Nervous System, Central Vascular System, Eyes, Kidney, Liver, Lungs, Respiratory System, Reproductive System and Skin) through prolonged or repeated exposure.
Extremely flammable aerosol
Contains gas under pressure; may explode if heated

Appearance opaque **Physical state** Aerosol **Odor** Solvent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

Precautionary Statements - Response
IF exposed: Call a POISON CENTER or doctor/physician
Specific treatment (see first aid on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse.

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Store in a well-ventilated place
Do not expose to temperatures exceeding 122°F (50°C)

Precautionary Statements - Disposal
Dispose of contents/container in accordance with local, regional, national and international regulations. Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)
None

Other information

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %*
ACETONE	67-64-1	30-40
PROPANE/ISOBUTANE/N-BUTANE	68476-86-8	20-30
METHYL ISOBUTYL KETONE	108-10-1	1-10
TOLUENE	108-88-3	1-10
1-METHYOXY-2-PROPANOL ACETATE	108-65-6	1-10
TITANIUM DIOXIDE	13463-67-7	1-10
TALC	14807-96-6	1-10
NITROCELLULOSE RESIN	9004-70-0	1-10
XYLENE	1330-20-7	1-10
METHANOL	67-56-1	1-10
MALEIC MODIFIED ROSIN RESIN	PROPRIETARY	1-10
ISOPROPYL ALCOHOL	67-63-0	1-10
BUTYL ACETATE	123-86-4	1-10
ETHYL BENZENE	100-41-4	0.1-1.0
ZINC OXIDE	1314-13-2	0.1-1.0
CARBON BLACK	1333-86-4	0.1-1.0
ETHANOL	64-17-5	<0.1

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice Avoid contact with eyes, skin, and clothing. Avoid breathing vapors mist, or gas.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Artificial respiration and/or oxygen may be necessary. If breathing has stopped, contact emergency medical services immediately.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

Main Symptoms Causes skin and eye irritation . May cause respiratory irritation. May be harmful if swallowed and enters airways.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Water fog. Dry chemiclal. Carbon Dioxide (CO2). Cool containers/tanks with water spray.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
Flammable or Extremely Flammable aerosol. Container may burst in fire.

Explosion Data
Sensitivity to Mechanical Impact none.
Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use with adequate ventiliation to keep the exposure levels below the OELS.

Environmental precautions

Environmental precautions Report spills as required by local and federal regulations. Prevent product from entering drains.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.

Methods for cleaning up Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Clean contaminated surface thoroughly. After cleaning, flush away traces with water. Ground and bond containers when transferring material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Avoid skin contact. Use with adequate ventilation. Keep container away from heat, flames, and all other sources of ignition. Keep can away from all sources of electricity such as electric motors and batteries. Do not spray on hot surfaces.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep in properly labeled containers. Keep out of the reach of children. Store locked up.

Incompatible products Store away from strong oxidiziers and acids.

Aerosol Level 2

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ACETONE 67-64-1	STEL: 500 ppm TWA: 250 ppm	TWA: 1000 ppm TWA: 2400 mg/m³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m³ (vacated) STEL: 2400 mg/m³ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m³
PROPANE/ISOBUTANE/N-BUTANE 68476-86-8	74-98-6: TWA: 1000 ppm 106-97-8: STEL: 1000 ppm 75-28-5: STEL: 1000 ppm	74-98-6:TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³ 106-97-8: (vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³	74-98-6:IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³ 106-97-8:TWA: 800 ppm TWA: 1900 mg/m³ 75-28-5:TWA: 800 ppm TWA: 1900 mg/m³
METHYL ISOBUTYL KETONE 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m³ (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m³ (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m³	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m³ STEL: 75 ppm STEL: 300 mg/m³
TOLUENE 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³
TALC 14807-96-6	TWA: 2 mg/m³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	(vacated) TWA: 2 mg/m³ respirable dust <1% Crystalline silica, containing no Asbestos TWA: 20 mppcf if 1% Quartz or more, use Quartz limit	IDLH: 1000 mg/m³ TWA: 2 mg/m³ containing no Asbestos and <1% Quartz respirable dust
XYLENE 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m³	-

METHANOL 67-56-1	STEL: 250 ppm TWA: 200 ppm Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 200 ppm TWA: 260 mg/m^3 (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m^3 (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m^3 (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m^3 STEL: 250 ppm STEL: 325 mg/m^3
ISOPROPYL ALCOHOL 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m^3 (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m^3 (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m^3	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m^3 STEL: 500 ppm STEL: 1225 mg/m^3
BUTYL ACETATE 123-86-4	STEL: 150 ppm TWA: 50 ppm	TWA: 150 ppm TWA: 710 mg/m^3 (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m^3 (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m^3	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m^3 STEL: 200 ppm STEL: 950 mg/m^3
ETHYL BENZENE 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m^3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m^3 (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m^3	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m^3 STEL: 125 ppm STEL: 545 mg/m^3
ZINC OXIDE 1314-13-2	STEL: 10 mg/m^3 respirable fraction TWA: 2 mg/m^3 respirable fraction	TWA: 5 mg/m^3 fume TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 5 mg/m^3 fume (vacated) TWA: 10 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction (vacated) STEL: 10 mg/m^3 fume	IDLH: 500 mg/m^3 Ceiling: 15 mg/m^3 dust TWA: 5 mg/m^3 dust and fume STEL: 10 mg/m^3 fume
CARBON BLACK 1333-86-4	TWA: 3 mg/m^3 inhalable fraction	TWA: 3.5 mg/m^3 (vacated) TWA: 3.5 mg/m^3	IDLH: 1750 mg/m^3 TWA: 3.5 mg/m^3 TWA: 0.1 mg/m^3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
ETHANOL 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m^3 (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m^3	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m^3

ACGIH: (American Conference of Governmental Industrial Hygienists)
OSHA: (Occupational Safety & Health Administration)
NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Exposure controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and body protection Chemical resistant apron. Protective gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state	Aerosol		
Appearance	opaque	**Odor**	Solvent
Color	gray	**Odor Threshold**	

Property	**Values**	**Remarks • Methods**
pH	No information available	
Melting/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash Point	-96.4 °C / -141 °F	Based on propellant
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
upper flammability limit	No information available	
lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	0.894	
Water solubility	Practically insoluble	
Partition coefficient: n-octanol/water		
Autoignition temperature	No information available	Not applicable
Decomposition temperature		
Viscosity	No information available	
Explosive properties		

Other information

VOC Content(%)	50.11
MIR Value	0.93
MIR Coating Category	ABP (Auto body primers) MIR <1.55 ABP MIR CHANGES TO <0.95 1/1/17.

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
Store away from strong oxidiziers and acids.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Avoid inhaling vapors or mists. Vapors may irritate throat and respiratory system. May cause drowsiness and dizziness based on components.

Eye contact Irritating to eyes.

Skin contact Irritating to skin . Prolonged skin contact may defat the skin and produce dermatitis.

Ingestion May be fatal if swallowed and enters airways. Aspiration into the lungs during swallowing may cause serious lung damage which may be fatal.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
ACETONE 67-64-1	= 5800 mg/kg (Rat)	-	= 50100 mg/m³ (Rat) 8 h
METHYL ISOBUTYL KETONE 108-10-1	= 2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 8.2 mg/L (Rat) 4 h
TOLUENE 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
1-METHYOXY-2-PROPANOL ACETATE 108-65-6	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
TITANIUM DIOXIDE 13463-67-7	> 10000 mg/kg (Rat)	-	-
NITROCELLULOSE RESIN 9004-70-0	> 5 g/kg (Rat)	-	-
XYLENE 1330-20-7	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h
METHANOL 67-56-1	= 6200 mg/kg (Rat)	-	= 22500 ppm (Rat) 8 h
ISOPROPYL ALCOHOL 67-63-0	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m³ (Rat) 4 h
BUTYL ACETATE 123-86-4	= 10768 mg/kg (Rat)	> 17600 mg/kg (Rabbit)	= 390 ppm (Rat) 4 h
ETHYL BENZENE 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
ZINC OXIDE 1314-13-2	> 5000 mg/kg (Rat)	-	-
CARBON BLACK 1333-86-4	> 15400 mg/kg (Rat)	-	-
ETHANOL 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms May cause skin, eye, and respiratory irritation. May be harmful if swallowed and enters airways.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Irritating to skin .
Eye damage/irritation Irritating to eyes.
Sensitization no data available.
Germ Cell Mutagenicity Not a germ cell mutagen.
Carcinogenicity The table below indicates whether each agency has evaluated a listed ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
METHYL ISOBUTYL KETONE 108-10-1	A3	Group 2B	-	-
TITANIUM DIOXIDE 13463-67-7	-	2B	-	X

TALC 14807-96-6	-	Group 2B -Talc based body powder for perineal dusting -possibly carcinogenic to humans	-	-
NITROCELLULOSE RESIN 9004-70-0	-	Group 2A	-	X
ETHYL BENZENE 100-41-4	A3	Group 2B	-	-
CARBON BLACK 1333-86-4	A3	Group 2B	-	-

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans
OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive toxicity Product is or contains a chemical which is a known or suspected reproductive hazard.
Specific target organ systemic toxicity (single exposure) Causes damage to Target Organs listed below.
Specific target organ systemic toxicity (repeated exposure) May cause damage to organs through prolonged or repeated exposure.
Chronic toxicity May cause adverse liver effects.
Target Organ Effects Central Nervous System (CNS), Central Vascular System (CVS), Eyes, Gastrointestinal tract (GI), Kidney, Liver, Lungs, Respiratory system, Skin.
Neurological effects Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.
Aspiration hazard Not applicable.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 4303 mg/kg
ATEmix (dermal) 9407 mg/kg
ATEmix (inhalation-dust/mist) 8.9 mg/l
ATEmix (inhalation-vapor) 21435 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
ACETONE 67-64-1	-	4.74 - 6.33 mL/L LC50 Oncorhynchus mykiss 96h 6210 - 8120 mg/L LC50 Pimephales promelas 96h static 8300 mg/L LC50 Lepomis macrochirus 96h	-	10294 - 17704 mg/L EC50 Daphnia magna 48h Static 12600 - 12700 mg/L EC50 Daphnia magna 48h
PROPANE/ISOBUTANE/N-BUTANE 68476-86-8	-	-	-	-
METHYL ISOBUTYL KETONE 108-10-1	400 mg/L EC50 Pseudokirchneriella subcapitata 96h	496 - 514 mg/L LC50 Pimephales promelas 96h flow-through	-	170 mg/L EC50 Daphnia magna 48h

TOLUENE 108-88-3	433 mg/L EC50 Pseudokirchneriella subcapitata 96h 12.5 mg/L EC50 Pseudokirchneriella subcapitata 72h static	15.22 - 19.05 mg/L LC50 Pimephales promelas 96h flow-through 12.6 mg/L LC50 Pimephales promelas 96h static 5.89 - 7.81 mg/L LC50 Oncorhynchus mykiss 96h flow-through 14.1 - 17.16 mg/L LC50 Oncorhynchus mykiss 96h static 5.8 mg/L LC50 Oncorhynchus mykiss 96h semi-static 11.0 - 15.0 mg/L LC50 Lepomis macrochirus 96h static 54 mg/L LC50 Oryzias latipes 96h static 28.2 mg/L LC50 Poecilia reticulata 96h semi-static 50.87 - 70.34 mg/L LC50 Poecilia reticulata 96h static	-	5.46 - 9.83 mg/L EC50 Daphnia magna 48h Static 11.5 mg/L EC50 Daphnia magna 48h
1-METHYOXY-2-PROPANOL ACETATE 108-65-6	-	161 mg/L LC50 Pimephales promelas 96h static	-	500 mg/L EC50 Daphnia magna 48h
TALC 14807-96-6	-	100 g/L LC50 Brachydanio rerio 96h semi-static	-	-
XYLENE 1330-20-7	-	13.4 mg/L LC50 Pimephales promelas 96h flow-through 2.661 - 4.093 mg/L LC50 Oncorhynchus mykiss 96h static 13.5 - 17.3 mg/L LC50 Oncorhynchus mykiss 96h 13.1 - 16.5 mg/L LC50 Lepomis macrochirus 96h flow-through 19 mg/L LC50 Lepomis macrochirus 96h 7.711 - 9.591 mg/L LC50 Lepomis macrochirus 96h static 23.53 - 29.97 mg/L LC50 Pimephales promelas 96h static 780 mg/L LC50 Cyprinus carpio 96h semi-static 780 mg/L LC50 Cyprinus carpio 96h 30.26 - 40.75 mg/L LC50 Poecilia reticulata 96h static	-	3.82 mg/L EC50 water flea 48h 0.6 mg/L LC50 Gammarus lacustris 48h
METHANOL 67-56-1	-	28200 mg/L LC50 Pimephales promelas 96h flow-through 100 mg/L LC50 Pimephales promelas 96h static 19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96h flow-through 18 - 20 mL/L LC50 Oncorhynchus mykiss 96h static 13500 - 17600 mg/L LC50 Lepomis macrochirus 96h flow-through	-	-
ISOPROPYL ALCOHOL 67-63-0	1000 mg/L EC50 Desmodesmus subspicatus 96h 1000 mg/L EC50 Desmodesmus subspicatus 72h	9640 mg/L LC50 Pimephales promelas 96h flow-through 11130 mg/L LC50 Pimephales promelas 96h static 1400000 µg/L LC50 Lepomis macrochirus 96h	-	13299 mg/L EC50 Daphnia magna 48h
BUTYL ACETATE 123-86-4	674.7 mg/L EC50 Desmodesmus subspicatus 72h	100 mg/L LC50 Lepomis macrochirus 96h static 17 - 19 mg/L LC50 Pimephales promelas 96h flow-through	-	-

ETHYL BENZENE 100-41-4	4.6 mg/L EC50 Pseudokirchneriella subcapitata 72h 438 mg/L EC50 Pseudokirchneriella subcapitata 96h 2.6 - 11.3 mg/L EC50 Pseudokirchneriella subcapitata 72h static 1.7 - 7.6 mg/L EC50 Pseudokirchneriella subcapitata 96h static	11.0 - 18.0 mg/L LC50 Oncorhynchus mykiss 96h static 4.2 mg/L LC50 Oncorhynchus mykiss 96h semi-static 7.55 - 11 mg/L LC50 Pimephales promelas 96h flow-through 32 mg/L LC50 Lepomis macrochirus 96h static 9.1 - 15.6 mg/L LC50 Pimephales promelas 96h static 9.6 mg/L LC50 Poecilia reticulata 96h static	-	1.8 - 2.4 mg/L EC50 Daphnia magna 48h
ETHANOL 64-17-5	-	12.0 - 16.0 mL/L LC50 Oncorhynchus mykiss 96h static 100 mg/L LC50 Pimephales promelas 96h static 13400 - 15100 mg/L LC50 Pimephales promelas 96h flow-through	-	9268 - 14221 mg/L LC50 Daphnia magna 48h 2 mg/L EC50 Daphnia magna 48h Static

Persistence and degradability

.

Bioaccumulation

.

Chemical Name	log Pow
ACETONE 67-64-1	-0.24
PROPANE/ISOBUTANE/N-BUTANE 68476-86-8	<=2.8
METHYL ISOBUTYL KETONE 108-10-1	1.19
TOLUENE 108-88-3	2.7
1-METHYOXY-2-PROPANOL ACETATE 108-65-6	0.43
XYLENE 1330-20-7	2.77 - 3.15
METHANOL 67-56-1	-0.77
ISOPROPYL ALCOHOL 67-63-0	0.05
BUTYL ACETATE 123-86-4	1.81
ETHYL BENZENE 100-41-4	3.2
ETHANOL 64-17-5	-0.32

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods Dispose of contents/container in accordance with local, regional, national and international regulations. This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Ground CONSUMER COMMODITY ORM-D
or
LIMITED QUANTITY

IATA UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD. QTY.

IMDG UN1950, AEROSOLS, 2.1,LTD.QTY.

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
ACETONE	X	X	X	X	X	X	X	X
PROPANE/ISOBUTANE/N-BUTANE	X	X	X	Not listed	X	X	X	X
METHYL ISOBUTYL KETONE	X	X	X	X	X	X	X	X
TOLUENE	X	X	X	X	X	X	X	X
1-METHYOXY-2-PROPANOL ACETATE	X	X	X	X	X	X	X	X
TITANIUM DIOXIDE	X	X	X	X	X	X	X	X
TALC	X	X	X	X	X	X	X	X
NITROCELLULOSE RESIN	X	X	Not listed	X	X	X	X	X
XYLENE	X	X	X	X	X	X	X	X
METHANOL	X	X	X	X	X	X	X	X
ISOPROPYL ALCOHOL	X	X	X	X	X	X	X	X
BUTYL ACETATE	X	X	X	X	X	X	X	X
ETHYL BENZENE	X	X	X	X	X	X	X	X
ZINC OXIDE	X	X	X	X	X	X	X	X
CARBON BLACK	X	X	X	X	X	X	X	X
ETHANOL	X	X	X	X	X	X	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %*	SARA 313 - Threshold Values %
METHYL ISOBUTYL KETONE - 108-10-1	108-10-1	1-10	1.0
TOLUENE - 108-88-3	108-88-3	1-10	1.0
METHANOL - 67-56-1	67-56-1	1-10	1.0
ISOPROPYL ALCOHOL - 67-63-0	67-63-0	1-10	1.0
XYLENE - 1330-20-7	1330-20-7	1-10	1.0
ETHYL BENZENE - 100-41-4	100-41-4	0.1-1.0	0.1
ZINC OXIDE - 1314-13-2	1314-13-2	0.1-1.0	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	Yes
Reactive Hazard	no

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
TOLUENE 108-88-3	1000 lb	X	X	X
XYLENE 1330-20-7	100 lb			X
BUTYL ACETATE 123-86-4	5000 lb			X
ETHYL BENZENE 100-41-4	1000 lb	X	X	X
ZINC OXIDE 1314-13-2		X		

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
ACETONE 67-64-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
METHYL ISOBUTYL KETONE 108-10-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
TOLUENE 108-88-3	1000 lb 1 lb		RQ 1000 lb final RQ RQ 454 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ
XYLENE 1330-20-7	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
METHANOL 67-56-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
BUTYL ACETATE 123-86-4	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
ETHYL BENZENE 100-41-4	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
TITANIUM DIOXIDE - 13463-67-7	Carcinogen
METHANOL - 67-56-1	Developmental

CARBON BLACK - 1333-86-4	Cancer

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ACETONE 67-64-1	X	X	X
METHYL ISOBUTYL KETONE 108-10-1	X	X	X
TOLUENE 108-88-3	X	X	X
TITANIUM DIOXIDE 13463-67-7	X	X	X
TALC 14807-96-6	X	X	X
NITROCELLULOSE RESIN 9004-70-0	X	X	X
XYLENE 1330-20-7	X	X	X
METHANOL 67-56-1	X	X	X
ISOPROPYL ALCOHOL 67-63-0	X	X	X
BUTYL ACETATE 123-86-4	X	X	X
ETHYL BENZENE 100-41-4	X	X	X
ZINC OXIDE 1314-13-2	X	X	X
CARBON BLACK 1333-86-4	X	X	X
ETHANOL 64-17-5	X	X	X

EPA Pesticide Registration Number Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

16. OTHER INFORMATION

NFPA **Health Hazard** 2 **Flammability** 4 **Instability** 0 **Physical and chemical hazards** -

HMIS **Health Hazard** 2* **Flammability** 4 **Physical Hazard** 1 **Personal protection** B

Chronic Hazard Star Legend *Chronic Health Hazard Repeated or prolonged exposure may cause central nervous system damage*

Prepared By Transtar Autobody Technologies

Issuing date
Revision Date 29-Aug-2016
Revision Note 29-Aug-2016

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

Permatex, Inc.
10 Columbus Blvd.
Hartford, CT 06106 USA
Telephone: 1-87-Permatex
(877) 376-2839
Emergency: 800-255-3924
International Emergency: 813-348-0585

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: **78E HYDRAULIC JACK OIL 1QT CN**
Item No: **80054**
Product Type: **Lubricant**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percent	ACGIH 8 Hr. TWA:	OSHA 8 Hr. TWA:
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC 64742-52-5	90-100	5 mg/m^3 mist	5 mg/m^3 mist
POLYMETHACRYLATE DISPERSION MIXTURE	1-10	Not Listed	Not Listed

3. HAZARDS IDENTIFICATION

Toxicity: May cause eye, skin and respiratory irritation. Prolonged skin contact may result in dermatitis in sensitive individuals. Aspiration hazard if swallowed.

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation.

Signs and Symptoms of Exposure: Overexposure may cause eye and skin redness. Inhaling may cause mild irritation to the nose, throat and respiratory tract and may result in central nervous system (CNS) depression.

Medical Conditions Recognized as Being Aggravated by Exposure: Preexisting pulmonary and dermatological disorders

4. FIRST AID MEASURES

Ingestion: If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention..

Skin Contact: Remove contaminated clothing. Wash area with soap and water. If irritation persists, seek medical attention.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point (°F/C): Greater than 200 degrees F.

Recommended Extinguishing Media: Carbon Dioxide, Dry Chemicals, Foam.

Special Fire-Fighting Procedures: Firefighters should wear self-contained breathing apparatus.

Hazardous Products Formed by Fire or Thermal Decomposition: Carbon monoxide, Carbon dioxide,

Unusual Fire/Explosion Hazards: Closed containers may rupture or explode when exposed to extreme heat.

Lower Explosive Limit: Not determined.

Upper Explosive Limit: Not determined.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal. Residues may be cleaned up with soap and water.

7. HANDLING AND STORAGE

Storage: Store away from heat, sparks or open flame. Do not store at temperatures above 120 degrees F.

Handling: Avoid prolonged skin contact. Keep away from eyes. Do not inhale vapors.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Oil resistant neoprene or plastic gloves.
Ventilation:	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product.
Respiratory Protection:	An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid
Odor:	Mild petroleum odor.
Boiling Point (°F):	More than 500 degrees F.
pH:	Does not apply
Solubility in Water:	Nil
Specific Gravity:	0.905 @ 15 degrees C.
VOC Content(Wt.%):	21.6% by weight; 195 g/l
Vapor Pressure:	Less than 5 mm Hg
Vapor Density (Air=1):	Greater than 1
Evaporation Rate:	<1 (butyl acetate = 1)

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable at normal conditions
Hazardous Polymerization:	WILL NOT OCCUR
Incompatabilities:	Strong oxidizers.
Conditions to Avoid:	High temperatures.
Hazardous Products Formed by Fire or Thermal Decomposition:	Carbon monoxide, Carbon dioxide,

11. TOXICOLOGICAL INFORMATION

See Section 3

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended Method of Disposal:	Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number:	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49CFR 172)

Domestic Ground Transport

DOT Shipping Name:	Unrestricted
Hazard Class:	NONE
UN/ID Number:	None
Marine Pollutant:	None

IATA

Proper Shipping Name:	Unrestricted
Class or Division:	None
UN/NA Number:	None

IMDG

Proper Shipping:	Unrestricted
Hazard Class:	None
UN Number:	None

15. REGULATORY INFORMATION

SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.

SARA 313 Information
NONE

CALIFORNIA PROP 65:
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA Inventory Status:
Listed on Inventory: YES All components of this product are listed (or exempt) on the EPA TSCA inventory.

16. OTHER INFORMATION

Estimated NFPA Rating: HEALTH 1, FLAMMABILITY 1 , REACTIVITY 0
Estimated HMIS Classification: HEALTH 1, FLAMMABILITY 1, PHYSICAL HAZARD 0

Prepared By: Denise Boyd, Health and Safety Manager
Company: Permatex. Inc. 10 Columbus Blvd. Hartford, CT USA 06106
Telephone Number: 1-87-Permatex (877) 376-2839

Revision Date: 03/03/2004
Revision Number: 2

Revision Number: 005.0

Issue date: 10/06/2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **565 Thread Sealant Controlled Strength PST® Pipe Sealant with PTFE**
Product type: Anaerobic Sealant
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 234438
Item number: 56507
Region: United States
Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
WARNING:	CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	2

PICTOGRAM(S)

Precautionary Statements

Prevention: Do not breathe vapors, mist, or spray. Wash affected area thoroughly after handling. Wear protective gloves, eye protection, and face protection.

Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if you feel unwell. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Ethene, tetrafluoro-, homopolymer	9002-84-0	1 - 5
Titanium dioxide	13463-67-7	1 - 5
Treated fumed silica	67762-90-7	1 - 5
Saccharin	81-07-2	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Ethylene glycol	107-21-1	0.1 - 1
Cumene	98-82-8	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Remove contaminated clothing and footwear. Wash clothing before reuse. Immediately flush skin with plenty of water (using soap, if available). Get medical attention.

Eye contact: Get medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Ingestion: Never give anything by mouth to an unconscious person. Do not induce vomiting. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Toxic fluorine compounds. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Keep container closed. Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Refer to Section 8.

Storage: For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Ethene, tetrafluoro-, homopolymer	None	None	None	10 mg/m3 TWA Total dust. 5 mg/m3 TWA Respirable fraction.
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 PEL Total dust. 15 MPPCF TWA Respirable fraction. 15 mg/m3 TWA Total dust. 50 MPPCF TWA Total dust. 5 mg/m3 TWA Respirable fraction.	None	None
Treated fumed silica	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	15 mg/m3 TWA Total dust. 5 mg/m3 TWA Respirable fraction.	None	None
Saccharin	None	None	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Ethylene glycol	25 ppm TWA Vapor fraction 50 ppm STEL Vapor fraction 10 mg/m3 STEL Aerosol, inhalable.	None	None	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene, Butyl-rubber, or nitrile-rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid, Paste
Color:	White
Odor:	Mild
Odor threshold:	Not available.
pH:	Not applicable
pH:	Not applicable
Vapor pressure:	< 5 mm hg (27 °C (80.6 °F))
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available.
Specific gravity:	1.1
Vapor density:	Not available.
Flash point:	> 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available.
VOC content:	0.11 %; 1.06 g/l Method 40 CFR Part 63 Appendix A to Subpart PPPP
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.
Hazardous decomposition products:	Oxides of carbon. Toxic fluorine compounds. Oxides of nitrogen. Oxides of sulfur. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents.
Reactivity:	Not available.
Conditions to avoid:	Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: Causes skin irritation.
Eye contact: Causes serious eye irritation.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Ethene, tetrafluoro-, homopolymer	None	No Target Organs
Titanium dioxide	None	Irritant, Respiratory, Some evidence of carcinogenicity
Treated fumed silica	None	Irritant
Saccharin	Oral LD50 (Mouse) = 17 g/kg	No Target Organs
Cumene hydroperoxide	Inhalation LC50 (Mouse, 4 h) = 200 mg/l	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Ethylene glycol	Oral LD50 (Rat) = 5.89 g/kg Oral LD50 (Mouse) = 14.6 g/kg Dermal LD50 (Rabbit) = 9,530 mg/kg	Blood, Bone Marrow, Central nervous system, Developmental, Eyes, Irritant, Kidney, Liver, Metabolic
Cumene	Oral LD50 (Rat) = 2.91 g/kg Oral LD50 (Rat) = 1,400 mg/kg Inhalation LC50 (Rat, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Ethene, tetrafluoro-, homopolymer	No	No	No
Titanium dioxide	No	Group 2B	No
Treated fumed silica	No	No	No
Saccharin	No	No	No
Cumene hydroperoxide	No	No	No
Ethylene glycol	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)
Proper shipping name: RQ, Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
DOT Hazardous Substance(s): alpha,alpha-Dimethylbenzylhydroperoxide

International Air Transportation (ICAO/IATA)

Proper shipping name:	RQ, Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III

Water Transportation (IMO/IMDG)

Proper shipping name:	RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification:	Ethene, tetrafluoro-, homopolymer (CAS# 9002-84-0).
CERCLA/SARA Section 302 EHS:	None above reporting de minimis.
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA Section 313:	This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity:	Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: 2

Prepared by: Product Safety and Regulatory Affairs

Issue date: 10/06/2017

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SAFETY DATA SHEET

Revision date 12-Jul-2016 **Version** 8 **Supersedes Date:** 06-May-2016

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name **8057382 FLAT BLACK 6UC**

Product Code **479.8057382.076**

UN/ID no UN1950

Recommended Use Aerosol, Paint

Details of the supplier of the safety data sheet
See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

Valspar Industries, Inc.
1915 Second St. W.
Cornwall, Ontario K6H 5R6

E-mail address msds@valspar.com

Emergency telephone number 1-888-345-5732

Section 2: HAZARDS IDENTIFICATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

HAZARD STATEMENTS
Flammable aerosol Contains gas under pressure; may explode if heated
Causes serious eye irritation May cause drowsiness or dizziness May be fatal if swallowed and enters airways Causes skin irritation

WHMIS Hazard Class
B5 - Flammable aerosol
A Compressed gases
D2B - Toxic materials

Signal word **DANGER**

PREVENTION
Avoid breathing dust/fume/gas/mist/vapors/spray Do not spray on an open flame or other ignition source Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection Pressurized container: Do not pierce or burn, even after use Use only outdoors or in a well-ventilated area

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Skin
IF ON SKIN: Wash with plenty of soap and water Take off contaminated clothing and wash before reuse If skin irritation occurs: Get medical advice/attention

Inhalation
Call a POISON CENTER or doctor/physician if you feel unwell IF INHALED: Remove person to fresh air and keep comfortable for breathing

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do NOT induce vomiting

STORAGE
Store in a well-ventilated place Protect from sunlight. Store in a well-ventilated place Do not expose to temperatures exceeding 122 °F (50 °C) Store locked up

DISPOSAL
Dispose of contents/containers in accordance with local regulations

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%
Acetone	67-64-1	10 - 25
Propane	74-98-6	10 - 25
Butane	106-97-8	10 - 25
Petroleum distillates, hydrotreated light	64742-47-8	5 - 10
Limestone	1317-65-3	5 - 10
Isobutyl acetate	110-19-0	5 - 10
Isopropyl alcohol	67-63-0	3 - 5
Solvent naphtha, petroleum, light aliphatic	64742-89-8	1 - 3
Naphtha, petroleum, hydrotreated light	64742-49-0	1 - 3
Carbon black	1333-86-4	0.3 - 1

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
Get medical advice/attention if you feel unwell.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Skin Contact
IF ON SKIN: Wash with plenty of soap and water Take off contaminated clothing and wash before reuse If skin irritation occurs: Get medical advice/attention

Inhalation
Call a POISON CENTER or doctor/physician if you feel unwell IF INHALED: Remove person to fresh air and keep comfortable for breathing

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do NOT induce vomiting

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Flammable properties Flammable liquid.

flash point -31 °F / -35 °C

Upper flammability limit: No information available

Lower flammability limit: No information available

Autoignition temperature No information available

Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO2).

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

Section 7: HANDLING AND STORAGE

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Protect from sunlight. Store in a well-ventilated place.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	Alberta	British Columbia	Ontario TWA	Quebec	OSHA PEL
Acetone 67-64-1	STEL: 500 ppm TWA: 250 ppm	TWA: 500 ppm TWA: 1200 mg/m³ STEL: 750 ppm STEL: 1800 mg/m³	TWA: 250 ppm STEL: 500 ppm	TWA: 500 ppm STEL: 750 ppm	TWA: 500 ppm TWA: 1190 mg/m³ STEL: 1000 ppm STEL: 2380 mg/m³	TWA: 1000 ppm TWA: 2400 mg/m³
Propane 74-98-6	TWA: 1000 ppm See Appendix F: Minimal Oxygen Content	TWA: 1000 ppm	TWA: 1000 ppm	TWA: 1000 ppm See Appendix F: Minimal Oxygen Content	TWA: 1000 ppm TWA: 1800 mg/m³	TWA: 1000 ppm TWA: 1800 mg/m³
Butane 106-97-8	STEL: 1000 ppm	TWA: 1000 ppm	TWA: 600 ppm STEL: 750 ppm	TWA: 800 ppm STEL: 1000 ppm	TWA: 800 ppm TWA: 1900 mg/m³	
Petroleum distillates, hydrotreated light 64742-47-8			TWA: 200 mg/m³ S*			
Limestone 1317-65-3		TWA: 10 mg/m³	TWA: 10 mg/m³ TWA: 3 mg/m³ STEL: 20 mg/m³		TWA: 10 mg/m³	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction
Isobutyl acetate 110-19-0	TWA: 150 ppm	TWA: 150 ppm TWA: 713 mg/m³	TWA: 150 ppm	TWA: 150 ppm	TWA: 150 ppm TWA: 713 mg/m³	TWA: 150 ppm TWA: 700 mg/m³
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 492 mg/m³ STEL: 400 ppm STEL: 984 mg/m³	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm	TWA: 400 ppm TWA: 985 mg/m³ STEL: 500 ppm STEL: 1230 mg/m³	TWA: 400 ppm TWA: 980 mg/m³
Carbon black 1333-86-4	TWA: 3 mg/m³ inhalable fraction	TWA: 3.5 mg/m³	TWA: 3 mg/m³	TWA: 3 mg/m³	TWA: 3.5 mg/m³	TWA: 3.5 mg/m³

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Skin and body protection
Wear suitable protective clothing. Personnel should wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber.
Respiratory protection
In case of inadequate ventilation wear respiratory protection

Thermal Protection
No information available

Environmental exposure controls
Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Aerosol
Appearance	No information available
Odor	Solvent
Color	black
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	No information available °C / °F
flash point	-35 °C / -31 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	6.3
specific gravity	No information available
Solubility(ies)	Not Determined
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Incompatible materials	Strong bases. Strong oxidizing agents. Strong acids. Acids.
Conditions to avoid	Heat, flames and sparks.
Hazardous Decomposition Products	Carbon monoxide. Carbon dioxide (CO2).
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	None under normal processing.

Section 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Information on likely routes of exposure

Eye contact
Causes serious eye irritation
Skin Contact
Causes skin irritation
Ingestion
May be fatal if swallowed and enters airways
Inhalation
May cause drowsiness or dizziness

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone	= 5800 mg/kg (Rat)	-	= 50100 mg/m³ (Rat) 8 h
Propane	-	-	= 658 mg/L (Rat) 4 h
Butane	-	-	= 658 g/m³ (Rat) 4 h
Petroleum distillates, hydrotreated light	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Limestone	-	-	-
Isobutyl acetate	= 15400 mg/kg (Rat)	> 17400 mg/kg (Rabbit)	-
Isopropyl alcohol	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m³ (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic	-	= 3000 mg/kg (Rabbit)	-
Naphtha, petroleum, hydrotreated light	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 73680 ppm (Rat) 4 h
Carbon black	> 15400 mg/kg (Rat)	> 3 g/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes skin irritation
Serious eye damage/eye irritation Causes serious eye irritation
Skin sensitization Not applicable
Respiratory sensitization Not applicable
Germ cell mutagenicity Not applicable
Carcinogenicity Not applicable
Reproductive Toxicity Not applicable
Specific target organ toxicity (single exposure) May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Not applicable
Aspiration hazard Not applicable

Carcinogenicity
According to IARC, Volume 93, no significant exposure to primary particles of carbon black is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Carbon black	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Environmental precautions Prevent product from entering drains.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetone	-	6210 - 8120 mg/L Pimephales promelas 96h LC50 = 8300 mg/L Lepomis macrochirus 96h LC50 4.74 - 6.33 mL/L Oncorhynchus mykiss 96h LC50	12600 - 12700 mg/L Daphnia magna 48h EC50 10294 - 17704 mg/L Daphnia magna 48h EC50
Propane	-	-	-
Butane	-	-	-
Petroleum distillates, hydrotreated light	-	= 2.2 mg/L Lepomis macrochirus 96h LC50 = 45 mg/L Pimephales promelas 96h LC50 = 2.4 mg/L Oncorhynchus mykiss 96h LC50	= 4720 mg/L Den-dronereides heteropoda 96h LC50
Limestone	-	-	-
Isobutyl acetate	-	101 - 123 mg/L Leuciscus idus melanotus 48h LC50 = 101 mg/L Leuciscus idus melanotus 48h LC50	= 168 mg/L Daphnia magna 24h EC50
Isopropyl alcohol	> 1000 mg/L Desmodesmus subspicatus 72 h EC50 > 1000 mg/L Desmodesmus subspicatus 96 h EC50	= 9640 mg/L Pimephales promelas 96h LC50 > 1400000 µg/L Lepomis macrochirus 96h LC50 = 11130 mg/L Pimephales promelas 96h LC50	= 13299 mg/L Daphnia magna 48h EC50
Solvent naphtha, petroleum, light aliphatic	= 4700 mg/L Pseudokirchneriella subcapitata 72 h EC50	-	-
Naphtha, petroleum, hydrotreated light	-	-	= 2.6 mg/L Chaetogammarus marinus 96h LC50
Carbon black	-	-	> 5600 mg/L Daphnia magna 24h EC50

Persistence and degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

Chemical Name	Partition Coefficient (n-octanol/water)
Acetone	-0.24
Propane	2.3
Butane	2.89
Petroleum distillates, hydrotreated light	-
Limestone	-
Isobutyl acetate	1.72
Isopropyl alcohol	0.05
Solvent naphtha, petroleum, light aliphatic	-
Naphtha, petroleum, hydrotreated light	-
Carbon black	-

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging Improper disposal or reuse of this container may be dangerous and illegal.

Section 14: TRANSPORT INFORMATION

TDG **IMDG** **IATA**

UN/ID no	UN1950	UN1950	UN1950
Proper shipping name	Aerosols, flammable	Aerosols, flammable	Aerosols, flammable
Hazard Class	2.1	2.1	2.1
Packing Group			
Environmental hazard	Not applicable		
Special Provisions			
		EmS-No	
		F-D, S-U	
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code			No information available

The supplier may apply one of the following exceptions: Combustible Liquid (49 CFR 173.150(f)); Consumer Commodity (49 CFR 173.150(c), ICAO/IATA SP A112); Limited Quantity (49 CFR 173.150(b), ICAO Part 3 Chapter 4, IATA 2.7, IMDG Chapter 3.4); Viscous Liquid (49 CFR 173.121(b), IMDG 2.3.2.2, IATA 3.3.3.1.1, ICAO 3.2.2, ADR 2.2.3.1.5); Does Not Sustain Combustion (49 CFR 173.120(a), IATA 3.3.1.3, ICAO 3.1.3, IMDG 2.3.1.3, ADR 2.2.3.1.1 Note 1); or others as allowed under hazardous materials/dangerous goods regulations.

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	All components are listed or exempt from listing
DSL - Canadian Domestic Substances List	All components are listed or exempt from listing

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class
B5 - Flammable aerosol
A Compressed gases
D2B - Toxic materials

Chemical Name	Canada - NPRI (National Pollutant Release Inventory)
Acetone	Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)
Propane	Part 5, Individual Substances
Butane	Part 5, Isomer Groups Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)
Petroleum distillates, hydrotreated light	Part 5, Other Groups and Mixtures
Isobutyl acetate	Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)
Isopropyl alcohol	Part 1, Group A Substance; Part 5, Individual Substances
Solvent naphtha, petroleum, light aliphatic	Part 5, Other Groups and Mixtures

GHS - Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Aspiration toxicity	Category 1
Flammable aerosols	Category 2
Gases under pressure	Liquefied gas

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Flammable aerosol
Contains gas under pressure; may explode if heated
Causes skin irritation
Causes serious eye irritation
May cause drowsiness or dizziness
May be fatal if swallowed and enters airways

PREVENTION
Wash face, hands and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wear protective gloves/protective clothing/eye protection/face protection.

RESPONSE
Get medical advice/attention if you feel unwell.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

STORAGE
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 122 °F (50 °C).

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Propellant is classified as a simple asphyxiant if released in large quantities: May displace oxygen and cause rapid suffocation.

OTHER HAZARDS
Not applicable.
UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 16: OTHER INFORMATION

HMIS

Health hazards	3
Flammability	4
Physical hazards	0
Personal Protection	X

Supplier Address

Valspar Consumer Headquarters
8725 W. Higgins Rd. Suite 1000
Chicago, IL 60631
773-628-5500

The Valspar Corporation
4999 36th St.
Grand Rapids, MI 49512
800-253-3957

Valspar Plasti-Kote
1636 Shawsone Dr.
Mississauga, Ontario L4W 1N7
905-671-8333

Prepared By Product Stewardship

Revision date 12-Jul-2016
Revision Note No information available

Disclaimer

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

SAFETY DATA SHEET

A6B550

Section 1. Identification

Product name : A-100® Exterior Acrylic Latex Flat
Tricorn Black

Product code : A6B550

Other means of identification : Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Paint or paint related material.

Manufacturer : THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

Emergency telephone number of the company : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: 1-800-474-3794
Mexico: Not Available

Regulatory Information Telephone Number : US / Canada: (216) 566-2902
Mexico: Not Available

Transportation Emergency Telephone Number : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 21.6% (oral), 21.6% (dermal), 21.6% (inhalation)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May cause cancer.
Causes damage to organs through prolonged or repeated exposure. (respiratory tract)

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response : IF exposed or concerned: Get medical advice or attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Adequate ventilation required when sanding or abrading the dried film. If Adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Abrading or sanding of the dry film may release Crystalline Silica which has been shown to cause lung damage and cancer under long term exposure.

Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Crystalline Silica, respirable powder	≥10 - ≤25	14808-60-7
Cristobalite, respirable powder	≤3	14464-46-1
Hydroxyethylcellulose	≤3	9004-62-0
Carbon Black	≤1	1333-86-4
Heavy Paraffinic Oil	≤1	64742-65-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Crystalline Silica, respirable powder	14808-60-7	**OSHA PEL Z3 (United States, 6/2016).** TWA: 250 mppcf / (%SiO2+5) 8 hours. Form: Respirable TWA: 10 mg/m³ / (%SiO2+2) 8 hours. Form: Respirable **OSHA PEL (United States, 5/2018). [Silica, crystalline]** TWA: 50 µg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 1/2022). [Silica, crystalline]** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2020). [SILICA, CRYSTALLINE]** TWA: 0.05 mg/m³ 10 hours. Form: respirable dust
Cristobalite, respirable powder	14464-46-1	**OSHA PEL Z3 (United States, 6/2016).** TWA: 250 mppcf / 2 x (%SiO2+5) 8 hours. Form: Respirable TWA: 10 mg/m³ / 2 x (%SiO2+2) 8 hours. Form: Respirable TWA: 30 mg/m³ / 2 x (%SiO2+2) 8 hours. Form: Total dust **OSHA PEL (United States, 5/2018). [Silica, crystalline]** TWA: 50 µg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 1/2022). [Silica, crystalline]** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2020). [SILICA, CRYSTALLINE]** TWA: 0.05 mg/m³ 10 hours. Form: respirable dust
Hydroxyethylcellulose	9004-62-0	None.
Carbon Black	1333-86-4	**ACGIH TLV (United States, 1/2022).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2020).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours.

Section 8. Exposure controls/personal protection

Heavy Paraffinic Oil	64742-65-0	**OSHA PEL (United States, 5/2018).** TWA: 3.5 mg/m³ 8 hours. **OSHA PEL (United States, 5/2018). [Oil mist, mineral]** TWA: 5 mg/m³ 8 hours. **ACGIH TLV (United States, 1/2022). [Mineral Oil, pure, highly and severely refined]** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2020). [OIL MIST MINERAL]** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Quartz	14808-60-7	**CA British Columbia Provincial (Canada, 3/2022). [Silica, Crystalline - alpha quartz and Cristobalite]** TWA: 0.025 mg/m³ 8 hours. Form: Respirable **CA Quebec Provincial (Canada, 6/2021). [Silica Crystalline -Quartz]** TWAEV: 0.1 mg/m³ 8 hours. Form: Respirable dust. **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 0.025 mg/m³ 8 hours. Form: Respirable particulate **CA Ontario Provincial (Canada, 6/2019). [Silica, Crystalline (Quartz/Tripoli)]** TWA: 0.1 mg/m³ 8 hours. Form: Respirable particulate matter. **CA Saskatchewan Provincial (Canada, 7/2013).** TWA: 0.05 mg/m³ 8 hours. Form: respirable fraction
Cristobalite	14464-46-1	**CA British Columbia Provincial (Canada, 3/2022). [Silica, Crystalline - alpha quartz and Cristobalite]** TWA: 0.025 mg/m³ 8 hours. Form: Respirable **CA Quebec Provincial (Canada, 6/2021).** TWAEV: 0.05 mg/m³ 8 hours. Form: Respirable dust. **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 0.025 mg/m³ 8 hours. Form: Respirable particulate **CA Ontario Provincial (Canada, 6/2019).** TWA: 0.05 mg/m³ 8 hours. Form: Respirable particulate matter. **CA Saskatchewan Provincial (Canada, 7/2013).** TWA: 0.05 mg/m³ 8 hours. Form: respirable fraction
Carbon black	1333-86-4	**CA British Columbia Provincial (Canada,**

		3/2022). TWA: 3 mg/m³ 8 hours. Form: Inhalable **CA Ontario Provincial (Canada, 6/2019).** TWA: 3 mg/m³ 8 hours. Form: Inhalable particulate matter. **CA Quebec Provincial (Canada, 6/2021).** TWAEV: 3 mg/m³ 8 hours. Form: inhalable dust **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 3.5 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 7 mg/m³ 15 minutes. TWA: 3.5 mg/m³ 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
Crystalline Silica, respirable powder	14808-60-7	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction
Cristobalite, respirable powder	14464-46-1	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 9.5

Melting point/freezing point : Not available.

Boiling point, initial boiling point, and boiling range : 100°C (212°F)

Flash point : Closed cup: Not applicable.

Evaporation rate : 0.09 (butyl acetate = 1)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : 2.3 kPa (17.5 mm Hg)

Relative vapor density : 1 [Air = 1]

Relative density : 1.19

Solubility(ies) :

Media	Result
cold water	Partially soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm^2/s (>20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Heat of combustion : 0.746 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
Heavy Paraffinic Oil	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Crystalline Silica, respirable powder	-	1	Known to be a human carcinogen.
Cristobalite, respirable powder	-	1	Known to be a human carcinogen.
Carbon Black	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Crystalline Silica, respirable powder	Category 1	inhalation	-
Cristobalite, respirable powder	Category 1	inhalation	respiratory tract

Aspiration hazard

Section 11. Toxicological information

Name	Result
Heavy Paraffinic Oil	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

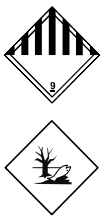
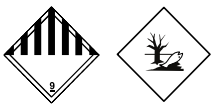
Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	Not regulated.	Not regulated.	Not regulated.	UN3082	UN3082
UN proper shipping name	-	-	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc Pyrithione, Octylphenoxypoly (ethoxy)ethanol)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc Pyrithione, Octylphenoxypoly (ethoxy)ethanol). Marine pollutant (Zinc Pyrithione, Octylphenoxypoly (ethoxy)ethanol)

Section 14. Transport information

Transport hazard class(es)	-	-	-	9 	9 
Packing group	-	-	-	III	III
Environmental hazards	No.	No.	No.	Yes.	Yes.
Additional information	-	-	-	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Emergency schedules** F-A, S-F

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

TSCA 5(a)2 proposed significant new use rules: 2-Methyl-4-isothiazolin-3-one; 5-Chloro-2-methylisothiazolinone

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

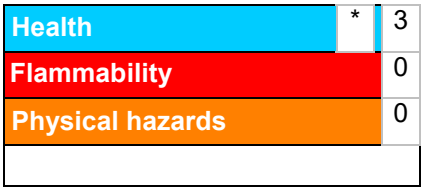
Section 15. Regulatory information

International regulations

International lists : **Australia inventory (AIIC)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (CSCL): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Classification	Justification
CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method Calculation method

History

Date of printing : 11/27/2022

Date of issue/Date of revision : 11/27/2022

Date of previous issue : 11/25/2022

Version : 23.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

MATERIAL SAFETY DATA SHEET

by Tyco Fire Suppression & Building Products

ABC Fire Extinguisher

Issue Date: 04-13-2011

1. Product and Company Identification

Material name	**ABC Fire Extinguisher**
Version #	02
Revision date	04-13-2011
CAS #	Mixture
Product use	Fire Extinguisher
Manufacturer / Importer / Supplier	
Name	Tyco Fire Protection Products
Address	One Stanton Street Marinette, WI 54143-2542
Phone	715-735-7411
Internet	http://www.ansul.com
Emergency Phone Number	CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Emergency overview	WARNING Irritating to eyes and skin.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Eye contact. Skin contact. Inhalation. Ingestion.
Eyes	Avoid contact with eyes. Contact with eyes may cause irritation.
Skin	Avoid contact with the skin. May cause skin irritation.
Inhalation	Inhalation of dusts may cause respiratory irritation.
Ingestion	Not a likely route of entry.
Target organs	Eyes. Respiratory system. Skin.
Signs and symptoms	Irritation of eyes and mucous membranes.

3. Composition / Information on Ingredients

Hazardous components	**CAS #**	**Percent**
CALCIUM CARBONATE	471-34-1	1 - 2.5
Non-hazardous components	**CAS #**	**Percent**
Ammonium Sulfate	7783-20-2	10 - 20
Ammonium Phosphate	7722-76-1	60 - 80
Other components below reportable levels		2.5 - 10

4. First Aid Measures

First aid procedures	
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.
Skin contact	Wash off with warm water and soap. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. Get medical attention, if needed.
Ingestion	Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Notes to physician	Symptoms may be delayed.

General advice If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties No unusual fire or explosion hazards noted.

Extinguishing media

Suitable extinguishing media This product is not flammable. Use extinguishing agent suitable for type of surrounding fire.

Protection of firefighters

Specific hazards arising from the chemical None known.

Hazardous combustion products Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions Local authorities should be advised if significant spillages cannot be contained. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dust formation. Following product recovery, flush area with water.

Other information Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling Keep formation of airborne dusts to a minimum. Do not breathe dust. Avoid contact with eyes. Do not use in areas without adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling.

Storage Keep container tightly closed. Guard against dust accumulation of this material. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
CALCIUM CARBONATE (471-34-1)	PEL	5.0000 mg/m3	Respirable fraction.
		15.0000 mg/m3	Total dust.
	TWA	5.0000 mg/m3	Respirable fraction.
		15.0000 mg/m3	Total dust.

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye / face protection Do not get in eyes. Chemical goggles are recommended.

Skin protection No special protective equipment required.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General hygiene considerations Do not get in eyes.

9. Physical & Chemical Properties

Appearance

Form Powder.

Color Yellow.

Odor Odorless.

Physical state Solid.

pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
VOC	Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Incompatible materials	Strong acids.
Hazardous decomposition products	Carbon oxides.

11. Toxicological Information

Toxicological information The toxicity of this product has not been tested.

Toxicological data

Components	Test Results
CALCIUM CARBONATE (471-34-1)	Acute Oral LD50 Rat: 6450 mg/kg

Local effects	Components of the product may be absorbed into the body through the skin. Contact may irritate or burn eyes.
Chronic effects	Hazardous by OSHA criteria. Prolonged inhalation may be harmful.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. Ecological Information

Ecotoxicological data

Components	Test Results
CALCIUM CARBONATE (471-34-1)	LC50 Western mosquitofish (Gambusia affinis): > 56000 mg/l 96.00 Hours
Ammonium Sulfate (7783-20-2)	EC50 Water flea (Ceriodaphnia dubia): 52 - 67 mg/l 48.00 hours
	LC50 Pink salmon (Oncorhynchus gorbuscha): 0.068 mg/l 96.00 hours

Ecotoxicity	This material is not expected to be harmful to aquatic life.
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions
This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Waste from residues / unused products
Dispose of in accordance with local regulations.

14. Transport Information

DOT

Basic shipping requirements:

UN number UN1044
Proper shipping name Fire extinguishers
Hazard class 2.2
Additional information:
Special provisions 18, 110
Packaging exceptions 309
Packaging non bulk 309
Packaging bulk None
ERG number 126

DOT

15. Regulatory Information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ammonium Phosphate (CAS 7722-76-1)	1.0 %
Ammonium Sulfate (CAS 7783-20-2)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ammonium Phosphate (CAS 7722-76-1)	Listed.
Ammonium Sulfate (CAS 7783-20-2)	Listed.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Acute Health - Yes
Chronic Health - Yes
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ammonium Sulfate (CAS 7783-20-2)	Listed.
CALCIUM CARBONATE (CAS 471-34-1)	Listed.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 1*
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date 04-13-2011

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: ACDELCO DEXOS1 5W-30
Product Description: Base Oil and Additives
Product Code: 20201020B510, 479436-00, 97BU26
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1900.1200.

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS
No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	< 2.5%	H315, H319(2A)
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	50 - < 60%	H304

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 225°C (437°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5

mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.851 [ASTM D4052]
Flammability (Solid, Gas): N/A
Flash Point [Method]: 225°C (437°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 63.3 cSt (63.3 mm2/sec) at 40 °C | 10.9 cSt (10.9 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -39°C (-38°F) [ASTM D97]
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1)	Dermal Lethality: LD50 > 2000 mg/kg (Rabbit); Oral Lethality: LD50 > 2000 mg/kg (Rat)

(ZDDP)	

OTHER INFORMATION

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

	--REGULATORY LISTS SEARCHED--	
1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	< 2.5%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	13, 15, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Updates made in accordance with implementation of GHS requirements.

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Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7108629XUS (1018099)

SAFETY DATA SHEET

SE TI IDE TIFI ATI

Product identifier used on the label

: **ACE METHYL ALCOHOL**

Stock No. : 984/985/986/989

Recommended use of the chemical and restrictions on use

: Gasoline Antifreeze
Recommended restrictions: None known.

Name, address, and telephone number of the manufacturer:

Kleen-Flo Tumbler Ind. Ltd.

75 Advance Blvd.

Brampton, ON,
L6T 4N1

Telephone # : 905-793-4311

24 Hr. Emergency Tel # : CANUTEC: 613-996-6666

SE TI HA ARDS IDE TIFI ATI

Classification of the chemical

Clear colourless liquid. Alcohol odour.

OSHA: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification :
Flammable liquid - Category 2
Acute toxicity - Oral - Category 3
Acute toxicity - Dermal - Category 3
Acute toxicity - Inhalation - Category 3
Eye irritation - Category 2A
Reproductive toxicity - Category 2
Specific target organ toxicity, single exposure - Category 1

Label elements

Hazard pictogram(s)

Signal Word

DANGER!

Hazard statement(s)

Highly flammable liquid and vapour
Toxic if swallowed, in contact with skin or if inhaled.
Causes serious eye irritation.
Suspected of damaging the unborn child if inhaled.
Causes damage to the optic nerve and central nervous system.

Precautionary statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks and open flame. - No smoking.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical and ventilating equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/clothing and eye/face protection.
Wash hands and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Do not breathe fumes, mists or vapours.
In case of fire: Use water fog, dry chemical, CO2 or 'alcohol' foam for extinction.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Get medical attention/advice if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
Rinse mouth.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTRE or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists, get medical advice/attention.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
May cause mild skin irritation. May be harmful if absorbed through the skin. May be harmful if inhaled. Prolonged or repeated overexposure could cause adverse liver effects. Burning produces obnoxious and toxic fumes.

Environmental precautions: Avoid release to the environment.

SE TI M SITI I F RMATI I REDIE TS

Pure substance

Chemical name	Common name and synonyms	CAS #	Concentration
Methanol	Carbinol Methyl hydrate Methyl alcohol	67-56-1	100

SE TI FIRST AID MEAS RES

Description of first aid measures

Ingestion : Call a physician or poison control centre immediately. Do not induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

Inhalation : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Get medical attention.

Skin contact : Immediately flush skin with running water for at least 15 minutes, while removing contaminated clothing. Get medical attention. Wash contaminated clothing before re-use.

Eye contact : Immediately flush eyes with running water for at least 20 minutes. Remove contact lenses if present and easy to do. Get medical attention.

Most important symptoms and effects, both acute and delayed

: Toxic if swallowed. Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. Suspected of damaging the unborn child. May cause fetotoxic (toxic to the fetus during the latter stages of pregnancy, often through the placenta) and teratogenic effects (causing malformations of the fetus), based on animal information. Causes damage to the optic nerve and central nervous system. May be harmful if inhaled. May be harmful if absorbed through the skin. May cause mild skin irritation.
Prolonged or repeated overexposure could cause adverse liver effects.

Indication of any immediate medical attention and special treatment needed

: Treat symptomatically. Immediate medical attention is required. This product is a CNS depressant.
Contains methanol. Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Medical supervision for minimum 48 hours. Symptoms and signs are usually limited to the Central Nervous System (CNS), eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

Administration of ethanol can slow the metabolism of methanol, thus reducing the potential for harmful effects.

SE TI FIRE FI HTI MEAS RES

Extinguishing media

Suitable extinguishing media

: Extinguishing media - small fires: Use water fog or fine spray, foams, carbon dioxide or dry chemical.
Extinguishing media - large fires: AFFF(R) [Aqueous Film Forming Foam (alcohol resistant)] type with either a 3% or 6% foam proportioning system; Water spray (see note in Unsuitable Extinguishing Media).

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire. Water may be ineffective because it may not cool product below the flashpoint.
General purpose synthetic foams or protein foams.

Special hazards arising from the substance or mixture / Conditions of flammability

: Highly flammable liquid and vapour. Will be ignited by heat, sparks, flame, or other ignition sources. Burns with a nearly invisible flame. Vapours are heavier than air and collect in confined and low-lying areas. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

: Flammable liquid - Category 2

Hazardous combustion products

: Carbon oxides; formaldehyde; Other unidentified organic compounds.
.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Fight fires from a safe distance. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SAFETY DATA SHEET

SE TI A IDE TAL RELEASE MEAS RES

Personal precautions, protective equipment and emergency procedures

: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Individuals involved in the cleanup must wear appropriate personal protective equipment. For personal protection see section 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

: Ventilate the area. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required. Do not use combustible absorbents, such as sawdust.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): Methanol. (5000 lbs / 2270 kg)

SE TI HA DLI A D ST RA E

Precautions for safe handling

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only in well-ventilated areas. Wear suitable protective equipment during handling. Do not ingest or swallow. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat, sparks and open flame. - No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid contact with incompatible materials. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not use pressure to empty drums. Do not cut, weld, drill or grind on or near this container. Follow labeled warnings even after container is emptied. For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Tanks must be grounded and vented and should have vapour emission controls. Tanks must be diked. Anhydrous methanol is non-corrosive to most metals at ambient temperatures except lead and magnesium. However coatings of copper (or copper alloys), zinc (including galvanized steel) or aluminum are unsuitable for storage as they are attacked slowly. Mild steel is the recommended construction material.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area. Equip bulk storage tank with overflow protection such as high level alarms or secondary containment. Attacks some elastomers, rubber, plastic and coatings.

Incompatible materials : Acids; Powdered metals; Alkali metals; Isocyanates; Strong oxidizers (e.g. Chlorine, Peroxides, etc.).

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SE TI E S RE TR LS ERS AL R TE TI

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Methanol	200 ppm (skin)	250 ppm (skin)	200 ppm (260 mg/m³)	N/Av

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations): 6000 ppm

Exposure controls

Ventilation and engineering measures

: Ensure adequate ventilation, especially in confined areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Use explosion-proof electrical and ventilating equipment.

Respiratory protection : Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Cartridge type respirators are not recommended. Wear self-contained breathing apparatus with a full face piece operated in the positive pressure mode. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection : Wear impervious gloves, such as butyl rubber. Unsuitable material: Natural rubber; Neoprene.; Nitrile rubber; Polyethylene; polyvinyl alcohol; Polyvinylchloride. Advice should be sought from glove suppliers. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.

Eye / face protection : Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

SE TI HYSI AL A D HEMI AL R ERTIES

Appearance : Clear colourless liquid.

Odour : Alcohol

Odour threshold : 50-100 ppm

pH : N/Av

Melting/Freezing point : - 97.8°C (- 144°F)

Initial boiling point and boiling range

: 64.5°C (148°F)

Flash point : 12°C (53.6°F)

Flashpoint (Method) : closed cup

Evaporation rate (BuAe = 1) : <1

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

: 7.3%

Upper flammable limit (% by vol.)

: 36%

Oxidizing properties	:	None.
Explosive properties	:	Not expected to be sensitive to mechanical impact. May be sensitive to static discharge. Vapours in the flammable range may be ignited by a static discharge of sufficient energy.
Vapour pressure	:	92 mmHg @ 20°C
Vapour density	:	>1.1
Relative density / Specific gravity	:	0.79
Solubility in water	:	Complete
Other solubility(ies)	:	Soluble in all proportions in ethanol, benzene, other alcohols, chloroform, diethyl ether, other ethers, esters, ketones and most organic solvents.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	:	log P (oct) = - 0.8
Auto-ignition temperature	:	464°C (867.2°F)
Decomposition temperature	:	N/Av
Viscosity	:	0.75 cSt @ 20C (68°F)
Volatiles (% by weight)	:	100%
Volatile organic Compounds (VOC's)	:	N/Av
Absolute pressure of container	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical comments	:	Molecular Weight: 32.04 g/mol Molecular formula: C-H4-O

SE TI STA ILITY A D REA TI ITY

Reactivity	:	Not normally reactive. Attacks some elastomers, rubber, plastic and coatings. Anhydrous methanol is non-corrosive to most metals at ambient temperatures except lead and magnesium. Coatings of copper (or copper alloys), zinc (including galvanized steel) or aluminium are attacked slowly.
Chemical stability	:	Stable under the recommended storage and handling conditions prescribed.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	:	Acids; Powdered metals; Alkali metals; Isocyanates; Strong oxidizers (e.g. Chlorine, Peroxides, etc.). .
Hazardous decomposition products	:	None known, refer to hazardous combustion products in Section 5.

SE TI T I L I AL I F RMATI

Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES

SAFETY DATA SHEET

Routes of exposure skin absorption

: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Toxic if inhaled. May cause irritation of the nose, throat, mucous membranes, and respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness. Could also cause convulsions, coma, respiratory arrest and death.

Sign and symptoms ingestion

: Toxic if swallowed. May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. May cause blindness if swallowed - cannot be made non-poisonous. Could also cause convulsions, coma, respiratory arrest and death.

Sign and symptoms skin : Toxic in contact with skin. May cause mild skin irritation. May be absorbed and cause symptoms similar to those for inhalation.

Sign and symptoms eyes : Causes serious eye irritation.

Potential Chronic Health Effects

: Prolonged or repeated skin contact may cause drying and irritation. Prolonged or repeated overexposure could cause adverse liver effects.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification:
Reproductive toxicity - Category 2. Suspected of damaging the unborn child.
Contains Methanol. Methanol may cause fetotoxic and teratogenic effects at doses which are not maternally toxic, based on animal data. May cause fetotoxic (toxic to the fetus during the latter stages of pregnancy, often through the placenta) and teratogenic effects (causing malformations of the fetus), based on animal information.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification:
Specific target organ toxicity - single exposure - Category 1. Causes damage to the optic nerve and central nervous system.

Other hazards which do not result in classification:
Prolonged or repeated overexposure could cause adverse liver effects.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials : Methanol can increase the toxicity of other liver toxins (e.g. Carbon tetrachloride).

Toxicological data : See below for toxicological data on the substance.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50}	R
Methanol	> 5000 ppm/6H (4.1 mg/L/4H (vapour)	5628 mg/kg (rat) The estimated human lethal dose is: 300 - 1000 mg/kg	> 393 mg/kg (Monkey) 15 800 mg/kg (rabbit)

SAFETY DATA SHEET

Other important toxicological hazards

: CNS depression may result from extreme exposures. May cause blindness if swallowed.

SE TI E L I AL I F RMATI

Ecotoxicity : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Methanol	67-56-1	15 400 mg/L (Bluegill sunfish)	446.7 mg/L/28-day (Fathead minnow) (QSAR)	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Methanol	67-56-1	> 10 000 mg/L (Daphnia magna)	208 mg/L (QSAR)	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Methanol	67-56-1	22 000 mg/L/96hr (Green algae)	N/Av	None.

Persistence and degradability

: Methanol is readily biodegradable.

Bioaccumulation potential : Does not accumulate in organisms.

Components	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
Methanol (CAS 67-56-1)	- 0.82 to - 0.64	<10 species: fish

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.
.

SE TI DIS SAL SIDERATI S

Handling for Disposal : See Section 7 (Handling and Storage) for further details. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not cut, weld, drill or grind on or near this container.
.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations. Reuse or recycling should be given priority over disposal. Large volumes may be suitable for re-distillation or, if contaminated, incinerated. Can be disposed of in a sewage treatment facility.
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SAFETY DATA SHEET

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

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SE TI TRA S RTATI I F RMATI F R ST

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group
TDG	UN1230	METHANOL	3(6.1)	II

#984- Limited Quantity

Special precautions for user : Keep away from heat, sparks and open flame. - No smoking. Appropriate advice on safety must accompany the package.

Environmental hazards : See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: This information is not available.

SE TI RE LAT RY I F RMATI

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

SAFETY DATA SHEET

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Methanol	67-56-1	Yes	5000 lbs / 2270 kg	None.	Yes	1%

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Methanol	67-56-1	No	Developmental	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Methanol	67-56-1	200-659-6	Present	Present	(2)-201	KE-23193	Present	HSR001186

SE TI THER I F RMATI

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CNS: Central Nervous System
DOT: Department of Transportation
EmS: Emergency Schedules
EPA: Environmental Protection Agency
ERG: Emergency Response Guidebook
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer

SAFETY DATA SHEET

Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System
.

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2012.
2. International Agency for Research on Cancer Monographs, searched 2012.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2012 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - July 2011 version.
6. California Proposition 65 List - July 20, 2012 version.

Preparation Date (mm/dd/yyyy) : **2/5/2017**

Other special considerations for handling : Provide adequate information, instruction and training for operators.

HMIS Rating : *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health:	*2	*Flammability:*	3	*Reactivity:*	0

NFPA Rating : 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health:	1	*Flammability:*	3	*Instability:*	0	*Special Hazards:*	None

Prepared by: Kleen-Flo Tumbler Ind. Ltd.

FI HES DE D ES DE S RIT

SE TI IDE TIFI ATI

Identificateur du produit utilisé sur l'étiquette

: **ALCOOL MÉTHYLIQUE ACE**

Code(s) du produit : 984/985/986/989

Usage recommandé du produit chimique et restrictions sur l'utilisation

: Antigel pour essence

Restrictions d'emploi recommandées:Aucun à notre connaissance. .

Nom, adresse, et numéro de telephone du fabricant:

Les Entreprises Kleen-Flo Tumbler Limitée
75 Advance Blvd.
Brampton, ON,
L6T 4N1
No. de téléphone du fournisseur

: 905-793-4311

No. de téléphone en cas d'urgence

: CANUTEC: 613-996-6666

SE TI IDE TIFI ATI DES DA ERS

Classification du produit chimique

Liquide transparent incolore. Odeur d'alcool.

OSHA: Ce produit est classé comme dangereux en vertu des règlements américains de l'OSHA (29 CFR 1910.1200) (2012) Hazcom et du règlement SIMDUT canadien (Règlement sur les produits dangereux (SIMDUT) 2015).

Classification de risque :
Liquide inflammable - Catégorie 2
Toxicité aiguë - Oral(e) - Catégorie 3
Toxicité aiguë - Dermale - Catégorie 3
Toxicité aiguë - Inhalation - Catégorie 3
Irritation oculaire - Catégorie 2A
Toxicité pour la reproduction - Catégorie 2
Toxicité spécifique pour certains organes cibles - exposition unique - Catégorie 1

Éléments d'étiquetage

Pictogramme (s) de danger

Mot indicateur

DANGER!

Mentions de danger

Liquide et vapeurs très inflammables
Toxique par ingestion, par contact cutané ou par inhalation.
Provoque une sévère irritation des yeux.
Susceptible de nuire au foetus par inhalation.
Risque avéré d'effets graves pour les nerfs optiques en cas d'ingestion.

Conseils de prudence

Se procurer les instructions avant utilisation.
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité.
Tenir à l'écart de chaleur/étincelles/flamme nue. - Ne pas fumer.
Maintenir le récipient fermé de manière étanche.
Mise à la terre/liaison équipotentielle du récipient et du matériel de réception.
Utiliser du matériel électrique et de ventilation antidéflagrant.
Ne pas utiliser d'outils produisant des étincelles.
Prendre des mesures de précaution contre les décharges électrostatiques.
Porter des gants de protection/vêtements de protection et un équipement de protection des yeux/du visage.
Se laver les mains et le visage soigneusement après manipulation.
Ne pas manger, boire ou fumer en manipulant ce produit.
Utiliser seulement en plein air ou dans un endroit bien ventilé.
Ne pas respirer les fumées, le brouillard ou les vapeurs.
En cas d'incendie: Utiliser eau pulvérisée, poudre chimique, CO2 ou mousse d'alcool pour l'extinction.
EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux) : Enlever immédiatement les vêtements contaminés.
Rincer la peau à l'eau/se doucher.
Consulter un médecin en cas de malaise.
EN CAS D'INGESTION: appeler immédiatement un CENTRE ANTIPOISON ou un médecin.
Rincer la bouche.
EN CAS D'INHALATION: Transporter la victime en plein air et la maintenir au repos dans une position où elle peut confortablement respirer.
Appeler un CENTRE ANTIPOISON ou un médecin.
EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
Si l'irritation oculaire persiste, consulter un médecin.
Stocker dans un endroit bien ventilé. Tenir au frais.
Garder sous clef.
Éliminer le contenu/récipient dans le lieu d'élimination conformément à la réglementation locale.

Autres dangers

Autres dangers qui ne nécessitent pas une classification:
Risque de causer une légère irritation de la peau. Risque d'être nocif en cas d'absorption par la peau. Peut être nocif par inhalation. La surexposition prolongée ou répétée a peux causer des effets défavorables du foie. La combustion produit des fumées nauséabondes et toxiques.

Précautions pour la protection de l'environnement: Éviter le rejet dans l'environnement.

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SE TI M SITI I F RMATI S R LES I R DIE TS

Substance pure

Nom chimique	Nom commun et les synonymes	No CAS	Concentration (% en poids)
Méthanol	Carbinol Hydrate de méthyle Alcool méthylique	67-56-1	**100.00**

SE TI REMIERS S I S

Description des premiers soins

Ingestion **:** Appeler immédiatement un médecin ou un centre AntiPoison. Ne pas provoquer le vomissement. Rincer la bouche. Ne jamais rien faire avaler à une personne inconsciente.

Inhalation **:** En cas d'inhalation, déplacer la personne à l'air frais. Si la respiration est difficile, seul le personnel médical est autorisé à donner de l'oxygène. En cas d'arrêt respiratoire, donner la respiration artificielle. Si les symptômes persistent, consulter un médecin.

Contact avec la peau **:** Rincer immédiatement la peau avec de l'eau courante pendant au moins 15 minutes tout en retirant les vêtements contaminés. Si les symptômes persistent, consulter un médecin. Laver les vêtements contaminés avant une nouvelle utilisation.

Contact avec les yeux **:** Rincer immédiatement les yeux sous l'eau courante pendant au moins 20 minutes. S'il y a lieu, enlever les lentilles cornéennes si cela est facile à faire. Si les symptômes persistent, consulter un médecin.

Principaux symptômes et effets, aigus et différés

: Toxique en cas d'ingestion. Provoque une sévère irritation des yeux. Symptômes peuvent inclure rougeurs, douleur, larmoiement et conjonctivite. Susceptible de nuire au foetus. Peut causer des effets foetotoxiques (toxique pour le foetus pendant les derniers stades de la grossesse, souvent par le placenta) et des effets tératogènes (causant des malformations du fœtus), sur la base des informations animales. Risque avéré d'effets graves pour les nerfs optiques en cas d'ingestion.
Peut être nocif par inhalation. Risque d'être nocif en cas d'absorption par la peau. Risque de causer une légère irritation de la peau.
La surexposition prolongée ou répétée a peux causer des effets défavorables du foie.

Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires

: Traiter de façon symptomatique. Un examen médical immédiat est requis. Ce produit est un dépresseur du SNC.
Contient du méthanol. L'exposition aigue au methanol, que ce soit par l'ingstion ou l'inhalation d'une tres forte concentration de particules aeroportees, peut provoquer des symptomes apparaissant entre 40 minutes et 72 heures apres l'exposition. Surveillance médicale pendant 48 heures au moins. Les symptômes et les signes sont généralement limités au système nerveux central (SNC), aux yeux et au tractus gastro-intestinal. En raison des effets initiaux du CNS de maux de tête, vertiges, léthargie et confusion, il peut y avoir une impression d'intoxication à l'éthanol. Vision brouillée, diminution de l'acuité visuelle et de la photophobie sont des plaintes fréquentes. Le traitement par ipécac ou par lavage est indiqué chez tout patient qui se présente dans les deux heures suivant l'ingestion. Une acidose métabolique profonde se produit dans l'empoisonnement sévère et les niveaux sériques de bicarbonate sont une mesure plus précise de la sévérité que les niveaux sériques de methanol. Des protocoles de traitement sont disponibles dans la plupart des grands hôpitaux et une collaboration précoce avec des hôpitaux appropriés est recommandée.

L'administration d'éthanol peut réduire le métabolisme du méthanol, et par conséquent réduire les effets nocifs potentiels.

SECTION 5. MESURES À PRENDRE EN CAS D'INCENDIE

Agents extincteurs

Agents extincteurs appropriés

: Moyen d'extinction - pour les petits feux: Utiliser de l'eau pulvérisée ou une fine bruine, des mousses, du dioxyde de carbone ou un agent chimique en poudre.
Moyen d'extinction - pour les grands feux: AFFF (R) [Mousse aqueuse de moulage (résistant à l'alcool)] avec un système de dosage de mousse de 3% ou 6%; Eau pulvérisée (Voir la note dans Moyens d'extinction inappropriés).

Agents extincteurs inappropriés

: Ne pas utiliser un jet d'eau concentré, qui pourrait répandre le feu. L'eau pourrait ne pas être efficace puisqu'elle ne refroidira pas le produit à une température inférieure à son point d'éclair.
Mousses synthétiques ou mousses de protéines à usage général.

Dangers particuliers résultant de la substance ou du mélange / Conditions d'inflammabilité

: Liquide et vapeurs très inflammables. S'enflammera par la chaleur, les étincelles, les flammes ou toutes autres sources d'inflammation. Brûle avec une flamme pratiquement invisible. Les vapeurs sont plus lourdes que l'air et s'accumuleront dans les endroits fermés et plus bas. Les contenants fermés risquent d'éclater si exposé à une chaleur excessive ou aux flammes à cause de l'accumulation de la pression interne.

Classification d'inflammabilité (OSHA 29 CFR 1910.106)

: Liquide inflammable - Catégorie 2

Produits de combustion dangereux

: Oxydes de carbone; formaldéhyde; Autres composés organiques non identifiés.
.

Équipement de protection spécial et précautions pour les pompiers

Équipement de protection pour les pompiers

: Les pompiers devraient porter un équipement de protection approprié et un appareil respiratoire autonome muni d'un élément facial complet à pression positive.

Méthodes spéciales de lutte contre l'incendie

: Combattre les incendies à partir d'une distance sécuritaire. Déplacer les contenants des lieux d'incendie s'il n'y a pas de danger. L'eau pulvérisée peut être utile pour refroidir l'équipement exposé à la chaleur et aux flammes.

SE TI MES RES RE DRE E AS DE D ERSEME T A IDE TEL

Précautions individuelles, équipement de protection et procédures d'urgence

: Restreindre l'accès aux lieux jusqu`à ce que le nettoyage soit terminé. S'assurer que le nettoyage est effectué par un personnel qualifié. Toutes les personnes mises en cause lors du nettoyage doivent porter un équipement de protection approprié.
Équipement de protection individuel: voir section 8.

Précautions pour la protection de l'environnement

: S'assurer que le produit déversé s'infiltre dans les drains, les égouts, les étendues d'eau ou les espaces fermés. Pour les gros déversements, endiguer le secteur afin de prévenir l'étalement.

Méthodes et matériel de confinement et de nettoyage

: Ventiler la zone. Utiliser uniquement des outils et de l'équipement antiétincelants durant le processus de nettoyage. Contenir et absorber le liquide déversé avec une matière inerte non combustible (ex: du sable), ensuite placer la matière contaminée dans un contenant pour élimination ultérieure (voir Section 13). La matière absorbante contaminée peut présenter les mêmes dangers que le produit déversé. Aviser les autorités compétentes tel qu'exigé. Ne pas utiliser d'absorbants combustibles comme la sciure.

Méthodes spéciales d'intervention antidéversement

: Si la quantité déversée dans l'environnement excède la quantité rapportable par EPA, il faut immédiatement communiquer avec le National Response Center aux Etats-Unis (Tél: 1-800-424-8802).
Quantité rapportable (RQ) US CERCLA: Méthanol (5000 lbs / 2270 kg)

SE TI MA I LATI ET ST A E

Précautions relatives à la sûreté en matière de manutention

: Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité. Utiliser seulement dans des zones bien ventilées. Porter l'équipement de protection adéquat durant la manutention. Ne pas avaler ou ingérer. Éviter de respirer les vapeurs. Éviter le contact avec la peau, les yeux et les vêtements. Laver soigneusement après manipulation. Tenir à l'écart de chaleur/étincelles/flamme nue. - Ne pas fumer. Mise à la terre/liaison équipotentielle du récipient et du matériel de réception. Utiliser du matériel électrique et de ventilation antidéflagrant. Ne pas utiliser d'outils produisant des étincelles. Prendre des mesures de précaution contre les décharges électrostatiques. Éviter le contact avec les matières incompatibles. Garder les contenants hermétiquement fermés lorsqu'ils ne sont pas utilisés. Les contenants vides contiennent des résidus (liquide et/ou vapeur) et peuvent être dangereux. Ne pas utiliser la pression pour vider les fûts. Ne pas couper, souder, percer ou affûter sur le contenant ou près de celui-ci. Suivre les directives de l'étiquette même lorsque le contenant est vide. Utiliser un appareil de protection respiratoire autonome lors des opérations de sauvetage et d'entretien dans les cuves de stockage. Les reservoirs doivent etre mis a la terre et aeres et devraient etre munis de dispositifs de controle des emissions de vapeur. Les reservoirs doivent etre endigues. Le methanol anhydre est non-corrosif pour la plupart des metaus a la temperature ambiante, a l'exception du plomb et du magnesium. Cependant les enduits a base de cuivre (ou d'alliages de cuivre), de zinc (y compris l'acier galvanise) ou d'aluminium sont impropres a l'entreposage car ils sont attaques petit a petit. L'aicer doux est le materiau de construction recommande.

Conditions d'un stockage sûr

: Entreposer dans un endroit frais, sec et bien ventilé. Entreposer à l'écart des matières incompatibles. Garder sous clef. Les lieux d'entreposage doivent être identifiés clairement, libres de toute obstruction et accessibles au personnel qualifié et autorisé seulement. Inspecter régulièrement les contenants pour vérifier s'ils sont endommagés ou s'ils fuient. Interdiction de fumer dans le secteur. Les extincteurs adéquats ainsi que le matériel absorbant nécessaire aux déversements doivent être rangés prêt du secteur d'entreposage de ces produits. Équiper les réservoirs de vrac avec un dispositif de trop-plein comme des avertisseurs de haut niveau ou de confinement secondaire. Attaque certains élastomères, le caoutchouc, le plastique et les revêtements.

Substances incompatibles : Acides; Poudres métalliques; Métaux alcalins; Isocyanates; Oxydants forts (ex :Chlore, Peroxydes, etc..).

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SE TI TR LE DE L E SITI R TE TI I DI ID ELLE

Limites d'exposition:

Nom chimique	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Méthanol	200 ppm (peau)	250 ppm (peau)	200 ppm (260	P/D mg/m³)

NIOSH IDLH (Concentrations Immédiatement Dangereuses pour la Vie et la Santé): 6000 ppm

Contrôles de l'exposition

Ventilation et mesures d'ingénierie

: Assurer une ventilation adéquate, surtout dans les endroits clos. Utiliser une ventilation générale ou à la source pour maintenir les concentrations dans l'air sous les limites d'exposition recommandées. Utiliser du matériel électrique et de ventilation antidéflagrant.

Protection respiratoire : Une protection respiratoire est exigée si les concentrations excèdent les limites TLV. Respirateurs homologués NIOSH sont recommandés.
Les appareils de protection respiratoire de type à cartouche ne sont pas recommandés.
Porter un appareil respiratoire autonome avec un masque complet fonctionnant en mode à pression positive.
Obtenir l'avis de votre fournisseur de protection respiratoire. Choisir les appareils respiratoires selon la forme et la concentration des contaminants dans l'air et conformément à OSHA (29 CFR 1910.134) ou CSA Z94.4-02.

Protection de la peau : Porter des gants imperméables comme le butylcaoutchouc.
Matière non-appropriée: Caoutchouc naturel; Néoprène; Caoutchouc nitrile; Polyéthylène; polyalcool de vinyle; Chlorure de polyvinyle.
Advice should be sought from glove suppliers. Utiliser des vêtements résistants comme une combinaison, un tablier et des bottes, s'il y a risque d'exposition au produit afin d'éviter tout contact.

Protection des yeux/du visage

: Des lunettes à coques antiéclaboussures sont recommandées. Un écran facial complet peut également être nécessaire.

Autre équipement de protection

: Un poste de douche oculaire et une douche d'urgence devront être à proximité du secteur de travail. D'autres équipments peuvent être exigés dépendant des normes du lieu de travail.

Considérations générales d'hygiène

: Éviter de respirer les vapeurs ou les buées. Éviter le contact avec la peau, les yeux et les vêtements. Ne pas manger, boire ou fumer en manipulant ce produit. Bien laver les mains après la manipulation du produit avant de manger, de boire, de fumer ou d'utiliser les toilettes. Enlever les vêtements souillés et bien les laver avant de les porter à nouveau. À manipuler conformément aux bonnes pratiques d'hygiène industrielle et aux consignes de sécurité.

SE TI R RI T S HYSI ES ET HIMI ES

Apparence : Liquide transparent incolore.

Odeur : Alcool

Seuil olfactif : 50-100 ppm
pH : P/D
Point de fusion/point de congelation : - 97.8°C (- 144°F)
Point initial d'ébullition et domaine d'ébullition: 64.5°C (148°F)
Point d'éclair : 12°C (53.6°F)
Point d'éclair, méthode : coupelle fermée
Taux d'évaporation (acétate n-butylique = 1) : <1
inflammabilité (solide, gaz) : Non applicable.
Limite inférieure d'inflammabilité (% en vol.) : 7.3%

Limite supérieure d'inflammabilité (% en vol.) : 36%

Propriétés comburantes : Aucun(e).

Propriétés explosives : N'est pas sensé être sensible aux impacts. Risque d'être sensible aux décharges électrostatiques. Les vapeurs de la catégorie inflammable peuvent être allumées par une décharge d'électricité statique assez forte.
Tension de vapeur : 92 mmHg @ 20°C
Densité de vapeur : >1.1

Densité relative / Poids spécifique : 0.79

Solubilité dans l'eau : Complet
Autres solubilité(s) : Soluble en toutes proportions dans l'éthanol, le benzène, d'autres alcools, le chloroforme, l'éther de diéthyle, d'autres éthers, les esters, les cétones et la plupart des solvants organiques.
Coefficient de partage: n-octanol/eau / Coefficient de répartition eau/huile
: log P (oct) = - 0.8
Température d'auto-inflammation : 464°C (867.2°F)
Température de décomposition:
P/D

Viscosité : 0.75 cSt @ 20C (68°F)
Matières volatiles (% en poids) :
100%
Composés organiques volatils (COV)
: P/D
Pression absolue du récipient
: S/O
Distance de projection de la flamme
: S/O
Autres observations physiques/chimiques
: Poids moléculaire: 32.04 g/mol Formule moléculaire C-H4-O

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Date de préparation de la FS (mm/jj/aaaa): 07/21/2015

FI HES DE D ES DE S RIT

SE TI STA ILIT ET R A TI IT

Réactivité : N'est normalement pas réactif.
Attaque certains élastomères, le caoutchouc, le plastique et les revêtements.
Le méthanol anhydre est non corrosif pour la plupart des métaux à température ambiante, sauf le plomb et le magnésium. Les revêtements de cuivre (ou d'alliages de cuivre), de zinc (y compris l'acier galvanisé) ou d'aluminium sont attaqués lentement.

Stabilité chimique : Stable dans les conditions recommandées et prescrites de manutention et d'entreposage.

Risque de réactions dangereuses
: Une polymérisation dangereuse ne se produit pas.

Conditions à éviter : Tenir à l'écart d'une chaleur excessive, des flammes nues, des étincelles ou autres sources possibles d'inflammation. Éviter le contact avec les matières incompatibles. Ne pas utiliser dans des zones sans ventilation adéquate.

Matériaux incompatibles : Acides; Poudres métalliques; Métaux alcalins; Isocyanates; Oxydants forts (ex :Chlore, Peroxydes, etc..).

Produits de décomposition dangereux
: Aucun connu, se réferer aux produits de combustion dangereux à la Section 5.

SE TI D ES T I L I ES

Information sur les voies d'exposition probables:

Voies d'entrée - inhalation : OUI

Voies d'entrée - peau et yeux : OUI

Voies d'entrée - ingestion : OUI

Voies d'exposition - absorption cutanée : OUI

EFFETS ÉVENTUELS POUR LA SANTÉ:

Symptômes d'exposition de courte durée (aiguë)

Signes et symptômes - Inhalation

: Toxique par inhalation. Risque de causer une irritation du nez, de la gorge, des muqueuses et de la voie respiratoire. Les symptômes peuvent inclure douleur, maux de tête, nausée, vomissement, somnolence, étourdissements et autres effets sur le système nerveux central. La personne affectée peut pendant une certaine période ne ressentir aucun symptôme, pour ensuite avoir une vision floue et possiblement une cécité. Peut également causer des convulsions, le coma, un arrêt respiratoire et le décès.

Signes et symptômes - ingestion

: Toxique en cas d'ingestion. Risque de causer une irritation de la bouche, de la gorge et de l'estomac. Les symptômes peuvent inclure douleur, maux de tête, nausée, vomissement, somnolence, étourdissements et autres effets sur le système nerveux central. Risque de causer la cécité, à l'ingestion - ne peut pas être rendu non-toxique. Peut également causer des convulsions, le coma, un arrêt respiratoire et le décès.

Signes et symptômes - peau : Toxique par contact avec la peau. Risque de causer une légère irritation de la peau. Risque d'être absorbé et de causer des symptômes semblables à ceux pour l'inhalation.

Signes et symptômes - yeux : Provoque une sévère irritation des yeux.

Risque d'effets chroniques sur la santé
: Le contact continu ou à répétition avec la peau risque de causer l'assèchement et l'irritation de la peau. La surexposition prolongée ou répétée a peux causer des effets défavorables du foie.

Mutagénicité : N'est pas sensé être mutagène chez les humains.

Cancérogénicité : Aucun des composants sont inscrits comme étant cancérogènes par ACGIH, IARC, OSHA ou NTP.

Effets sur la reproduction & Tératogénicité

: Cette matière est considérée dangereuses en vertu des règlements de l'OSHA (29CFR 1910.1200) (Hazcom 2012). Classification:
Toxicité pour la reproduction - Catégorie 2. Susceptible de nuire au foetus.
Contient du méthanol. Le méthanol peut entraîner des effets fœtotoxiques et tératogènes à des doses qui ne sont pas toxiques pour la mère, basé sur des données animales. Peut causer des effets foetotoxiques (toxique pour le foetus pendant les derniers stades de la grossesse, souvent par le placenta) et des effets tératogènes (causant des malformations du fœtus), sur la base des informations animales.

Sensibilisation à la matière : N'est pas sensé être un sensibilisateur respiratoire ou cutané.

Effets spécifiques sur organes cibles

: Cette matière est considérée dangereuses en vertu des règlements de l'OSHA (29CFR 1910.1200) (Hazcom 2012). Classification:
Toxicité spécifique pour certains organes cibles - exposition unique - Catégorie 1.
Risque avéré d'effets graves pour les nerfs optiques en cas d'ingestion.

Autres dangers qui ne nécessitent pas une classification:
La surexposition prolongée ou répétée a peux causer des effets défavorables du foie.

Maladies aggravées par une surexposition

: L'exposition à ce produit peut aggraver des maladies pulmonaires, oculaires, cutanées ou du système nerveux central déjà existantes.

Substances synergiques : Le méthanol peut augmenter la toxicité d'autres toxines du foie (par exemple le tétrachlorure de carbone).

Données toxicologiques : Voir les données toxicologiques de cette substance ci-dessous.

Nom chimique	CL50(4hr) inh, rat	DL50	(cutané, lapin)
Méthanol	> 5000 ppm/6H (4.1 mg/L/4H (vapeur)	5628 mg/kg (rat) La dose létale pour l'humain est estimé à: 300 - 1000 mg/kg	> 393 mg/kg (Singe) 15 800 mg/kg (lapin)

Autres dangers toxicologiques importants

: La dépresssion du SNC risque de se produire suivant des expositions à l'extrême. Peut provoquer la cécité en cas d'ingestion.

SE TI D ES L I ES

Écotoxicité : Le produit ne doit pas s'infiltrer dans les drains ou les cours d'eau, ou être déposé là où cela pourrait affecter les eaux de surface ou souterraines.

Données Écotoxicité:

Composants	No CAS	Toxicité pour les poissons		
		CL50 / 96h	NOEL / 21 jour	Facteur M
Méthanol	67-56-1	15 400 mg/L (Crapet arlequin)	446.7 mg/L/28 jours (Vairon à grosse tête) (QSAR)	Aucun(e).

Composants	No CAS	Toxicité pour les daphnias		
		CE50 / 48h	NOEL / 21 jours	Facteur M
Méthanol	67-56-1	> 10 000 mg/L (daphnie magna)	208 mg/L (QSAR)	Aucun(e).

Composants	No CAS	Toxicité pour les algues		
		EC50 / 96h or 72h	NOEC / 96h or 72h	Facteur M
Méthanol	67-56-1	22 000 mg/L/96hr (algues vertes)	P/D	Aucun(e).

Persistance et dégradabilité

: Le méthanol est facilement biodégradable.

Potentiel de bioaccumulation

: Ne s'accumule pas dans les organismes.

Composants	Coefficient de partage: n-octanol/eau (log Kow)	Facteur de bioconcentration (FBC)
Méthanol (CAS 67-56-1)	- 0,82 à - 0,64	<10 species: fish

Mobilité dans le sol **:** Il n'existe pas d'information disponible pour le produit lui même.

Effets nocifs divers sur l'environnement

: Il n'existe pas d'information disponible pour le produit lui même.

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SE TI D ES S R L LIMI ATI

Manipulation en vue de l'élimination

: Voir Section 7 (Manutention et entreposage) pour plus de détails. Les contenants vides contiennent des résidus (liquide et/ou vapeur) et peuvent être dangereux. Ne pas couper, souder, percer ou affûter sur le contenant ou près de celui-ci.

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Méthodes d'élimination **:** Les contenants doivent être éliminés conformément à tous les règlements fédéraux, provinciaux et locaux applicables. Communiquer avec les agences locales, fédérales, provinciales pour connaître la réglementation spécifique. La réutilisation ou le recyclage devrait être priorisé par rapport à l'élimination. Des volumes importants peuvent être appropriés pour une nouvelle distillation ou, s'ils sont contaminés, ou incinérés. Peut être éliminé dans une installation de traitement des eaux usées.

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RCRA (Resource Conservation and Recovery Act/Loi sur la conservation et la remise en état des ressources)

: Si ce produit, tel que fourni, devient un déchet aux Etats-Unis, il pourrait respecter les critères de classification d'un déchet dangereux tel que défini par RCRA, Title 40 CFR 261. Le générateur des déchets a la responsabilité de déterminer l'identification adéquate du déchet et de la méthode d'élimination.

FI HES DE D ES DE S RIT

SE TI I F RMATI S RELATI ES A TRA S RT DE ST

Information sur la réglementation	Numéro ONU	Nom d'expédition des ONU	Classe(s) de danger pour le transport	Groupe d'emball -age
Canada (TMD)	UN1230	METHANOL	3(6.1)	II

#984- quantité limitée

Précautions particulières à prendre par l'utilisateur

: Tenir à l'écart de chaleur/étincelles/flamme nue. - Ne pas fumer. Des conseils de prudence adéquats doivent accompagner l'emballage.

Dangers pour l'environnement

: Consulter Section 12 pour plus de renseignements environnementaux.

Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC

: Ces informations ne sont pas disponibles.

SE TI I F RMATI S R LA R LEME TATI

Renseignement fédéral É.-U :

Les composants inscrits ci-dessous sont présents sur les listes de produits chimiques fédérales américaines suivantes

Composants	No CAS	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic chimique	concentration de minimis
Méthanol	67-56-1	Oui	5000 lbs / 2270 kg	Aucun.	Oui	No

SARA TITLE III: Sec. 311 et, 312, Exigences Fiches signalétiques, 40 CFR 370 Hazard Classes: Risque d'incendie; Danger immédiat (aigu) pour la santé; Danger chronique pour la santé. Selon SARA Sections 311 et 312 , EPA a établi la quantité critique pour le rapport de produits chimiques dangereux. La quantité critique actuellement est de 500 livres pour « Threshold Planning Quantity (TPQ) », lequel sera le moins élevé, pour les substances « extremely hazardous) et de 10 000 livres pour tous les autres produits chimiques dangereux.

.

Lois É.-U. "State Right to Know":

Les produits chimiques suivants sont inscrits par chacun de ces états:

Composants	No CAS	California Proposition 65		Liste d'état "Right to Know"					
		Inscrit	Type de toxicité	CA	MA	MN	NJ	PA	RI
Méthanol	67-56-1	Non	Développemental e	Oui	Oui	Oui	Oui	Oui	Oui

Canadian Information:

Renseignements SIMDUT: Se référer à la Section 2 pour la classification SIMDUT de ce produit.

Renseignements Loi canadienne sur la protection de l'environnement (CEPA): Tous les ingrédients énumérés apparaissent sur la Liste intérieure des substances (DSL).

Renseignement international:

Les composants inscrits ci-dessous sont présents sur la liste d'inventaire internationale suivante:

Composants	N CAS	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Méthanol	67-56-1	200-659-6	Present	Présent	(2)-201	KE-23193	Present	HSR001186

SE TI A TRES I F RMATI S

Légende **:** ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
SNC: Système nerveux central
DOT: Department of Transportation
EmS: Intervention d'urgence
EPA: Environmental Protection Agency
GMU: Guide des mesures d'urgence
HMIS (Hazardous Materials Information System/Système d'information sur les matières dangereuses)
HSDB: Hazardous Substances Data Bank

CIRC: Centre international de recherche sur le cancer
Inh: Inhalation
CL: Concentration létale
DL: Dose létale
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
S/O: Sans objet
P/D: Pas disponible
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program / Programme national de toxicologie
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit (Limite d'exposition permise)
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments & Reauthorization Act
STEL: Limite d'exposition à court terme (Short Term Exposure Limit)
TMD: Loi et Règlement sur le transport des marchandises dangereuses au Canada
TLV: Valeurs seuils (Threshold Limit Values)
TSCA: Toxic Substance Control Act
TWA: Moyenne pondérée dans le temps
SIMDUT: Système d'information sur les matières utilisées au travail
.

Références **:**

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2012.
2. International Agency for Research on Cancer Monographs, searched 2012.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2012 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - July 2011 version.
6. California Proposition 65 List - July 20, 2012 version.

Date de la préparation (mm/jj/aaaa)

: 07/21/2015

Autres considérations spéciales pour une manipulation

: Mise à disposition d'informations, d'instructions et de mesures de formation appropriées à l'intention des opérateurs.

Classification SIMD * - Risque chronique 0- Aucun risque 1- Mineur 2- Modéré 3- Grave 4- Menace pour la vie

Santé * 2 Inflammabilité 3 *Reactivity:* 0

Évaluation NFPA **:**

0- Aucun risque 1- Mineur 2- Modéré 3- Grave 4- Menace pour la vie

Santé *:* 1 Inflammabilité *:* 3 *Instabilité:* 0 *Autres dangers: aucun.*

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFIER:	**ACETYLENE**		
Product Name(s):	ACETYLENE	Formula:	C2H2
Synonym(s):	ETHYNE, ETHINE	Chemical Family:	HYDROCARBON
PRODUCT USE(S):	WELDING, CUTTING CHEMICAL SYNTESIS	W.H.M.I.S. Classification Class(es):	A, B, F

HAZARDOUS INGREDIENTS:

INGREDIENT PARAMETERS	C.A.S. / P.I.N. NUMBER(S)	CONC. % VOL./VOL.	L.D. 50 (Species & Route)	L.C. 50 (Species & Route)
ACETYLENE	74862/1001	APPR. 100	NOT APPL.	NOT APPL.
Note: LCLo 50% inhl-man/5min, TCLo 33% inhl-man/7min (Anaesthesia)				

PHYSICAL DATA

PHYSICAL STATE:	Gas @ N.T.P.
ODOUR AND APPEARANCE:	Colourless with garlic-like odour
ODOUR THRESHOLD:	565 ppm
SPECIFIC GRAVITY (air=1):	0.908 (@0°C and 1 atm.)
VAPOUR PRESSURE:	1,724 kPa/250 psig (@21.1 °C/70 °F)
VAPOUR DENSITY:	1.175 kg/m3
EVAPORATION RATE:	Not Appl.
BOILING POINT:	-75.0°C (@ 170kPa)
FREEZING POINT:	-82.2°C (-116°F)
pH:	Not Applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION:	Not Available
SOLUBILITY IN WATER:	1.1 (vol./vol.)
% VOLATILES:	100

FOR TRANSPORT EMERGENCY CALL COLLECT CANUTEC TEL: 1-613-996-6666

FIRE OR EXPLOSION HAZARDS

CONDITIONS OF FLAMMABILITY:	Highly flammable. Acetylene may be ignited by static electricity and all common sources of ignition. Gas escaping in the air may ignite due to friction. When undissolved Acetylene may decompose if subject to pressures above 15 psig.
MEANS OF EXTINCTION:	Cool containers with water spray from maximum distance. Do not aim at source: gas may reignite easily. Evacuate area. Shut off gas if it can be done without risk. Containers may rupture when subject to localized heating. Cylinders may have fusible Safety Relief Devices near the valve and on the bottom.
FLASH POINT:	Flammable Gas
UPPER FLAMMABLE LIMIT: 82.0%	LOWER FLAMMABLE LIMIT: 2.5%
AUTOIGNITION TEMPERATURE:	305^{o}C (581 ^{o}F)
HAZARDOUS COMBUSTION PRODUCTS:	CO2, CO, Hydrocarbons.
SENSITIVITY TO MECHANICAL IMPACT:	Decomposition may occur.
SENSITIVITY TO STATIC DISCHARGE:	Ignitable by static electricity when within the flammability range.
SPECIAL PROCEDURES:	Evacuate areas where a leak or a spill is present. Fight the surrounding fires at the case may be. Cylinders have fusible Safety Relief Devices that melt if the temperature reaches 100 ^{o}C. rupturing cylinders may send debris over 100 metres (300feet) away.

REACTIVITY DATA

CONDITIONS OF CHEMICAL UNSTABILITY:	Stable when dissolved (in cylinders the solvent is commonly acetone). Unstable if the pressure is above 15psig.
INCOMPATIBILITY:	Air, Oxidizers, Alkali Metals, Halogens, Hydries.
CONDITIONS OF REACTIVITY:	Acetylene may form explosive compounds with COPPER (alloys over 65%), MERCURY, SILVER.
HAZARDOUS DECOMPOSITION PRODUCTS:	H2, CO, Hydrocarbons.

TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN (CONTACT):	NO
SKIN (ABSORPTION):	NO
EYE CONTACT:	YES
INHALATION:	YES
INGESTION:	NO

EFFECTS OF ACUTE EXPOSURE:
May displace air in enclosed spaces. If oxygen concentration falls below 18% symptoms of asphyxia may develop. Acetylene at concentrations above 10% may act as a general anaesthetic. Concentrations to 33% may cause unconsciousness in 7 minutes.

EFFECTS OF CHRONIC EXPOSURE:	NONE KNOWN
EXPOSURE LIMITS:	2500 ppm Ceiling (OSHA)
IRRITANCY:	Lung irritant when PURE and at pressures higher than atmospheric.
SENSITIZATION:	NONE
CARCINOGENICITY:	NONE
REPRODUCTIVE TOXICITY:	NONE
TERATOGENICITY:	NONE
MUTAGENICITY:	NONE
TOXIC SYNERGISTIC PRODUCTS:	NONE

FIRST AID

EYE:	Acetylene may harm the unprotected eye if delivered at pressures higher than atmospheric.
INGESTION:	Not applicable
INHALATION:	Move victim to fresh air if possible. Administer C.P.R. if breathing has stopped. If breathing is difficult give oxygen. Obtain medical attention.
SKIN:	Treat burns from fires.

PREVENTIVE MEASURES

PERSONAL PROTECTION

EYE:	Safety glasses or goggles to protect from accidental deliveries (leaks) under pressure.
HAND:	Not applicable.
FEET:	Safety footwear where applicable.
CLOTHING:	Long sleeves, trousers recommended.
RESPIRATOR:	Not applicable where oxygen concentration is kept above 18%.

ENGINEERING CONTROLS: Provide good ventilation. Keep away from all sources of ignition. Use only electrical equipment designed for a flammable atmosphere. Specific design considerations may be necessary for piping and vessels.

SPILL AND LEAK PROCEDURE: Remove all sources of ignition. Clear the area. Shut off the source if without risk. Use SCBA to enter confined spaces after monitoring for flammable conditions. Leave the danger area. Try to stop the leak at source if without risk. Gas will dissipate depending on the site/area ventilation. Verify oxygen concentration prior to re-entry.

WASTE DISPOSAL: Do not discard empty cylinders. Acetone may still be present. Return the cylinder where applicable. Waste cylinders may have to be disposed in accordance to Federal, Provincial and Municipal requirements.

HANDLING PROCEDURES & EQUIPMENT: Keep away from ALL SOURCES OF IGNITION. Ensure good ventilation. Use appropriate carts for moving containers. Secure container when in use. Close the container valve when NOT in use, or when empty. Secure (restrain) during transportation or use. Use backflow preventive devices (checkvalves) on piping & tubing (including hoses). Use only with equipment designed for Acetylene use. Always keep containers upright.

STORAGE REQUIREMENTS: Store in well ventilated areas. Keep away from sources of ignition. Store at temperatures below 52^{o}C (125 ^{o}F).

SPECIAL SHIPPING INFORMATION: Transport upright in well-ventilated vehicle. Do not transport in trunk of enclosed vehicle. Commercial (cylinders) quantities may NOT be transported in passenger compartments. Secure containers during transportation and ensure that valve protection is in place.

T.D.G. SHIPPING NAME:	Acetylene	T.D.G. CLASSIFICATION CLASS(ES):	2.1
T.D.G. P.I.N. / U.N. :	1001		

PREPARED BY: **Josef Gas**
TEL: (416) 658-1212
EFFECTIVE DATE: JANUARY 1 2016

ACETYLENE
Safety Data Sheet

1. IDENTIFICATION

Product identifier
Product Name ACETYLENE

Other means of identification
Safety data sheet number LIND-P001
UN/ID no. UN1001
Synonyms Ethine, Ethyne

Recommended use of the chemical and restrictions on use
Recommended Use Industrial and professional use. Welding.
Uses advised against Consumer use

Details of the supplier of the safety data sheet
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500
Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359

Emergency telephone number
Company Phone Number +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. HAZARDS IDENTIFICATION

Flammable gases	Category 1
Gases under pressure	Dissolved gas
Simple asphyxiants	Yes / Category 1

Label elements

Signal word **Danger**

Hazard Statements
Extremely flammable gas
May react explosively even in the absence of air at elevated pressure and/or temperature
May displace oxygen and cause rapid suffocation

Contains gas under pressure; may explode if heated
May form explosive mixtures with air

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Keep away from heat, sparks, open flames, hot surfaces. — No smoking
Use and store only outdoors or in a well ventilated place
Use a backflow preventive device in piping
Fusible plugs in top, bottom, or valve melt at 98 °C to 107 °C (208° F to 224° F). Do not discharge at pressures above 15 psi (103 kPa)
Close valve after each use and when empty
Do not open valve until connected to equipment prepared for use
Never put cylinders into unventilated areas of passenger vehicles

Precautionary Statements - Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention/advice.
Leaking gas fire: do not extinguish, unless leak can be stopped safely. In case of fire, do not use water. Use AFFF alcohol compatible foam to extinguish.
Eliminate all ignition sources if safe to do so.

Precautionary Statements - Storage
Store in a well-ventilated place
Protect from sunlight. Store in a well-ventilated place

Precautionary Statements - Disposal
Dispose of contents/containers in accordance with container supplier/owner instructions

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure Gas

Chemical Name	Common names/synonyms	CAS No.	Volume %	Chemical Formula
ACETYLENE	Not available	74-86-2	>99	C_2H_2

For safety reasons, acetylene gas is dissolved in acetone in the gas cylinder.

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Skin contact Wash off immediately with soap and plenty of water. Contaminated clothing presents a fire hazard and should be removed immediately. Get medical attention if irritation develops and/or persists.

Eye contact Consult a physician if direct contact with pressurized material occurs. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.

Ingestion Not an expected route of exposure.

Self-protection of the first aider Remove all sources of ignition. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Most important symptoms and effects, both acute and delayed

Symptoms Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death. Symptoms of overexposure are dizziness, headache, tiredness, nausea, vomiting, unconsciousness, cessation of breathing. High concentrations may cause asphyxia from lack of oxygen or act as a narcotic causing central nervous system depression. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. Dry chemical or CO2. Water spray (fog).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific extinguishing methods
If possible, stop the flow of gas. Do not extinguish the fire until supply is shut off as otherwise an explosive-ignition may occur. If the fire is extinguished and the flow of gas continues, use increased ventilation to prevent build-up of explosive atmosphere. Ventilation fans must be explosion proof. Use non-sparking tools to close container valves.

Use water spray to cool surrounding containers. Be cautious of a Boiling Liquid Evaporating Vapor Explosion, BLEVE, if flame is impinging on surrounding containers. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Damaged cylinders should be handled only by specialists. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not direct water at source of leak or safety devices; icing may occur. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Continue to cool fire exposed cylinders until flames are extinguished.

Specific hazards arising from the chemical
GASEOUS ACETYLENE IS SPONTANEOUSLY COMBUSTIBLE IN AIR AT PRESSURES ABOVE 15 PSI (270 kPa). Pure acetylene is shock sensitive. It requires a very low ignition energy so that fires which have been extinguished without stopping the flow of gas can easily re-ignite with possible explosive force. Extremely flammable gas. May form explosive mixtures with air. Will be easily ignited by heat, sparks or flames.

Fires involving acetylene occur occasionally at fusible metal pressure relief plugs at the tops and bottoms of cylinders, commonly due to hot metal or slag dropped on the fusible plugs. When the fusible plug releases a large volume of acetylene creating a "roaring" sound. The flame may extend a foot or two away from the cylinder until the pressure is reduced. In most cases, the other end of the cylinder may develop a coating of frost. Vapors may travel to source of ignition and flash back. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Cylinders may rupture under extreme heat.

If the flame is large, burning from a fusible plug, DO NOT try to put it out unless the cylinder is outdoors or in a very well ventilated area free from sources of ignition. Usually it is very difficult to exinguish large fires because the escaping acetylene may be re-ignited by adjacent ignition sources, thereby possibly creating confined space explosion. Keep containers cool with water spray. Vapors may travel to source of ignition and flash back. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO_2).

Protective equipment and precautions for firefighters
Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear. As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. If the fire is extinguished and the flow of gas continues, GET AWAY!

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Consider the risk of potentially explosive atmospheres. Monitor oxygen level. All equipment used when handling the product must be grounded. Use non-sparking tools and equipment. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Do not touch or walk through spilled material.

Other Information Gas/vapor is heavier than air. Prevent from entering sewers, basements and workpits, or

any place where accumulation may be dangerous.

Environmental precautions

Environmental precautions Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent spreading of vapors through sewers, ventilation systems and confined areas. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location. DO NOT ATTEMPT TO REMOVE CYLINDERS THAT HAVE BEEN EXPOSED TO HEAT.

Methods for cleaning up Return cylinder to Messer or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Never use copper piping for acetylene service. Only steel or wrought iron pipe should be used. Open cylinder valve minimum amount required (no more than 1-1.5 turns) to deliver acceptable flow to enable the cylinder to be closed quickly in an emergency situation. Acetylene is shipped in a cylinder packed with a porous mass material, and a liquid solvent, commonly acetone. Acetylene is dissolved in the acetone solution and dispersed throughout the porous medium. When the valve of a charged acetylene cylinder is opened, the acetylene comes out of the solution and passes out in the gaseous form. IT IS CRUCIAL THAT FUSE PLUGS IN THE TOPS AND BOTTOMS OF ALL ACETYLENE CYLINDERS BE THOROUGHLY INSPECTED WHENEVER HANDLED. REMOVE AND QUARANTINE IN SAFE LOCATION ANY DEFECTIVE CYLINDER.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof "NO SMOKING" signs should be posted in storage and use areas. Use equipment purged with inert gas or evacuated prior to discharge from cylinder Avoid contact with pure copper, mercury, silver and brass with greater than 65% copper Solvent (acetone) may accumulate in piping system. For maintenance use appropriate resistant gloves, eye goggles Operating pressure should be limited to 15 psig (103 kPa) or less. Consider the use of flashback arrestors Unless oxygen and acetylene are separated, there should be a non-combustible partition of at least 5 ft. high with a fire-resistance rating of one-half hour between cylinders. In the U.S. cylinders stored inside a building near user locations must be limited to total capacity of 2500 ft^3 of gas, exclusive of in-use or attached for use cylinders. Separate flammable gas cylinders from oxygen and other oxidizers by a minimum distance of 20 ft. or by a 5 ft. high barrier with a minimum fire resistance rating of a half an hour.

Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar,etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure.

Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers.

Conditions for safe storage, including any incompatibilities

Storage Conditions Outside or detached storage is preferred. Do not store cylinders on their side. This makes the acetylene less stable and less safe, and increases the likelihood of solvent loss resulting in decomposition. If rough handling or other occurrences should cause any fusible plug to leak, move the cylinder to an open space well away from an possible source of a sign on the cylinder warning of "Leaking Flammable Gas". Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregrated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage.

Incompatible materials Oxidizing agents. Halogenated compounds. Halogens. Copper. Silver. Mercury. Brasses containing >65% copper and brazing materials containing silver or copper.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ACETYLENE 74-86-2	: See Appendix F: Minimal Oxygen Content	None	Ceiling: 2500 ppm Ceiling: 2662 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Provide general ventilation, local exhaust ventilation, process enclosure or other engineering controls to maintain airborne levels below recommended exposure limits and to maintain oxygen levels above 19.5%. Explosion proof ventilation systems. Oxygen detectors should be used when asphyxiating gases may be released. Consider installation of leak detection systems in areas of use and storage. Systems under pressure should be regularly checked for leakages.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders. Wear fire/flame resistant/retardant clothing. Take precautionary measures against static discharge.

Respiratory protection Use positive pressure airline respirator with escape cylinder or self contained breathing apparatus for oxygen-deficient atmospheres (<19.5%).

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Gas

Appearance	Colorless
Odor	Slight garlic
Odor threshold	Not available
pH	Not applicable
Melting/freezing point	-80.6 °C / -113 °F
Boiling point / boiling range	Not available
Evaporation rate	Not applicable
Flammability (solid, gas)	Flammable Gas
Lower flammability limit:	2.5%
Upper flammability limit:	82%
Flash point	Not applicable
Autoignition temperature	296 °C / 565 °F
Decomposition temperature	Not available
Water solubility	Soluble in water.
Partition coefficient	Not available
Kinematic viscosity	Not applicable

Component Level Information:

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m³@20°C	Critical Temperature
ACETYLENE	26.03	-84.2 °C	4378kPa@ 4378°C	0.91	1.72	36 °C

10. STABILITY AND REACTIVITY

Reactivity
Forms explosive acetylides with copper, silver and mercury. Do not use alloy containing more than 65% copper

Chemical stability
Do not allow free gas (outside of cylinder) to exceed 15 psig. Do not expose cylinders to sudden shock or heat. Acetylene will decompose violently with cylinder failure. Do not discharge at pressures above 15 psi (103 kPa).

Explosion data

Sensitivity to Mechanical Impact Self-decomposition or self ignition may be triggered by heat, chemical reaction, friction or impact.

Sensitivity to Static Discharge Yes.

Possibility of Hazardous Reactions
May react explosively even in absence of air at elevated pressure and/or temperature. May form explosive mixtures with air. May react violently with oxidizers.

Hazardous polymerization Temperatures as low as 250°F (121°C) at high pressure, or at low pressure in the presence of a catalyst are sufficient to initiate a polymerization reaction. The hazard is that the polymerization normally liberates heat and may lead to ignition and decomposition of acetylene if conditions permit.

Conditions to avoid
Heat, flames and sparks. Heat, flames and sparks.

Incompatible materials
Oxidizing agents. Halogenated compounds. Halogens. Copper. Silver. Mercury. Brasses containing >65% copper and brazing materials containing silver or copper.

Hazardous Decomposition Products
Hydrogen gas. Carbon monoxide. Carbon dioxide (CO_2).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	High concentrations (10-20% in air) cause symptoms similar to that of being intoxicated. As a narcotic gas or intoxicant, it causes hypercapnia (an excessive amount of carbon dioxide in the blood). Repeated exposures to tolerable levels has not shown deleterious effects. TCLo, human-inhalation of 20 pph inhaled has been shown to cause headaches and dyspnea.
Skin contact	May cause skin irritation and/or dermatitis
Eye contact	May cause slight irritation
Ingestion	Not an expected route of exposure.

Information on toxicological effects

Symptoms	High concentrations may cause asphyxia from lack of oxygen or act as a narcotic causing central nervous system depression. Symptoms of overexposure are dizziness, headache, tiredness, nausea, vomiting, unconsciousness, cessation of breathing

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	May cause skin and eye irritation.
Sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
Reproductive toxicity	Not classified.
Developmental Toxicity	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Chronic toxicity	None known.
Target Organ Effects	Central nervous system (CNS). Respiratory system.
Aspiration hazard	Not applicable.

Numerical measures of toxicity

Product Information	
Oral LD50	Not available
Dermal LD50	Not available
Inhalation LC50	Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity
No known acute aquatic toxicity.

Persistence and degradability
Not available.

Bioaccumulation
Will not bioconcentrate.

Chemical Name	Partition coefficient
ACETYLENE 74-86-2	0.32

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

14. TRANSPORT INFORMATION

TDG

UN/ID no.	UN1001
Proper shipping name	Acetylene, dissolved
Hazard Class	2.1
Description	UN1001, Acetylene, dissolved, 2.1

IATA

UN/ID no.	UN1001
Proper shipping name	Acetylene, dissolved
Hazard Class	2.1
ERG Code	10L
Special Provisions	A1

IMDG

UN/ID no.	UN1001
Proper shipping name	Acetylene, dissolved
Hazard Class	2.1
EmS-No.	F-D, S-U

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

16. OTHER INFORMATION

NFPA **Health hazards** 2 **Flammability** 4 **Instability** 2 **Physical and Chemical Properties** -

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA Recommended Hazard Ratings for Compressed Gases, 4th Edition.

Revision Date 27-Mar-2023
Revision Note: SDS sections updated; 1

LIND-P001

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

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End of Safety Data Sheet

ACÉTYLÈNE, DISSOUS
Fiche signalétique

1. IDENTIFICATION

Identificateur de produit
Nom du produit ACÉTYLÈNE, DISSOUS

Autres moyens d'identification
Numéro de la fiche signalétique LIND-P001
N° ID/ONU UN1001
Synonymes Ethine, Ethyne

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation
Utilisation recommandée Utilisation industrielle et professionnelle. Soudage.
Utilisations contre-indiquées Utilisation par le consommateur

Renseignements concernant le fournisseur de la fiche de données de sécurité
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Téléphone: 905-501-2500
Email: service@messer-ca.com
Site Web: www.messer-ca.com

Service à la clientèle: 888-256-7359

Numéro d'appel d'urgence
Téléphone de l'entreprise +1 905-501-0802
POUR TRANSPORT D'URGENCE SEULEMENT: CANUTEC +1 613-996-6666 OU+1-888-226-8832

2. IDENTIFICATION DES DANGERS

Gaz inflammables	Catégorie 1
Gaz sous pression	Gaz dissous
Asphyxiants simples	Oui / Catégorie 1

Éléments d'étiquetage

Mention d'Avertissement **Danger**

Mentions de danger
Gaz extrêmement inflammable
Peut exploser même en l'absence d'air à une pression et/ou température élevé(e)

Peut déplacer l'oxygène et causer une suffocation rapide
Contient un gaz sous pression; peut exploser sous l'effet de la chaleur
Peut former des mélanges explosifs avec l'air

Conseils de prudence - Prévention
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer
Utiliser et stocker seulement en plein air ou dans un endroit bien ventilé
Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie
Fusibles supérieurs, inférieurs ou dans le robinet fondent entre 98 °C et 107 °C (208° F à 224° F). Ne pas évacuer à une pression supérieure à 15 psig
Fermer le détendeur après chaque utilisation et lorsque la bouteille est vide
Ne pas ouvrir le robinet avant de brancher à l'équipement prêt à l'emploi
Ne jamais mettre des bouteilles à gaz dans des endroits non ventilés d'un véhicule de tourisme

Conseils de prudence - Intervention
EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Consulter un médecin.
Fuite de gaz enflammé : Ne pas éteindre si la fuite ne peut pas être arrêtée sans danger. En cas d'incendie, ne pas utiliser de l'eau. Utiliser une mousse extinctrice anti-alcool AFFF.
Éliminer toutes les sources d'ignition si cela est faisable sans danger.

Conseils de prudence - Entreposage
Stocker dans un endroit bien ventilé
Protéger du rayonnement solaire. Stocker dans un endroit bien ventilé

Conseils de prudence - Élimination
Éliminer le contenu/les récipients conformément aux instructions du fournisseur/propriétaire

HNOC (danger non classé autrement)
Non applicable

3. COMPOSITION/INFORMATIONS SUR LES INGRÉDIENTS

Gaz pur

Nom chimique	Common names/synonyms	No. CAS	% en volume	Formule Chimique
ACÉTYLÈNE	Non disponible	74-86-2	>99	C_2H_2

Pour des raisons de sécurité, l'acétylène est dissous dans l'acétone dans la bouteille à gaz

4. PREMIERS SOINS

Description des premiers soins

Conseils généraux Présenter cette fiche signalétique au médecin traitant.

Inhalation Transporter la victime à l'air frais et la garder au repos dans une position où elle peut confortablement respirer. Administrer de l'oxygène si la respiration est difficile. Pratiquer la respiration artificielle si la victime ne respire plus. Obtenir immédiatement des soins médicaux.

Contact avec la peau Laver immédiatement avec du savon et beaucoup d'eau. Les vêtements contaminés présentent un danger d'incendie et devraient être immédiatement retirés. Obtenir des soins médicaux en cas d'irritation ou si l'irritation persiste.

Contact avec les yeux	Consulter un médecin si un contact direct avec une substance sous pression s'est produit. Rincer immédiatement avec une grande quantité d'eau, y compris sous les paupières, pendant au moins quinze minutes. Demander immédiatement des soins/conseils médicaux.
Ingestion	Pas une voie d'exposition prévue.
Équipement de protection individuelle pour les intervenants en premiers soins	Éliminer toutes les sources d'inflammation. LE PERSONNEL D'INTERVENTION D'URGENCE DOIT PORTER UN APPAREIL RESPIRATOIRE AUTONOME.

Les plus importants symptômes et effets, aigus ou retardés

Symptômes	Asphyxiant simple. Peut causer une suffocation en déplaçant l'oxygène dans l'air. Une exposition à une atmosphère à faible teneur en oxygène (moins de 19,5 %) peut causer des vertiges, de la somnolence, des nausées, des vomissements, une salivation excessive, une diminution de la vivacité d'esprit, une perte de conscience et la mort. Une exposition à des atmosphères contenant de 8 à 10 % ou moins d'oxygène entraînera une perte de conscience sans avertissement et si rapide que les personnes ne peuvent s'aider ou se protéger elles-mêmes. Un manque d'oxygène suffisant peut causer une grave blessure ou la mort. Les symptômes d'une surexposition comprennent des vertiges, des maux de tête, de la fatigue, des nausées, une perte de conscience et un arrêt respiratoire. Des concentrations élevées peuvent entraîner une asphyxie causée par le manque d'oxygène ou agir comme un narcotique qui provoque une dépression du système nerveux central. Peut entraîner une dépression du système nerveux central accompagnée de nausées, de maux de tête, de vertiges, de vomissements et d'une incoordination.

Indication des éventuels besoins médicaux immédiats et traitements particuliers nécessaires

Note aux médecins	Traiter en fonction des symptômes.

5. MESURES À PRENDRE EN CAS D'INCENDIE

Moyens d'extinction appropriés
NE PAS ÉTEINDRE UN FEU PROVENANT D'UNE FUITE DE GAZ, SAUF SI LA FUITE PEUT ÊTRE ARRÊTÉE. Poudre chimique sèche ou CO2. Eau pulvérisée (brouillard).

Moyens d'extinction inappropriés Ne pas utiliser un jet d'eau solide pour éviter la dispersion et la propagation du feu.

Méthodes d'extinction particulières
Si possible, couper le débit de gaz. Fermer l'alimentation du gaz avant d'éteindre le feu; sinon une inflammation explosive peut se produire. Si l'incendie est éteint et que le débit de gaz continue, augmenter la ventilation pour empêcher la création d'une atmosphère explosive. Les ventilateurs doivent être antidéflagrants. Utiliser des outils antiétincelles pour fermer les robinets du contenant.

Pulvériser de l'eau sur les contenants environnants pour les refroidir. Attention au risque d'explosions des vapeurs d'un liquide en ébullition (BLEVE/ Boiling liquid expanding vapour explosions) si les flammes détériorent les contenants environnants. Pour des incendies majeurs, utilisez des boyaux fixes ou des buses contrôlées; si cela n'est pas possible, éloignez-vous de la zone d'incendie et laisser le feu se consumer. Les bouteilles endommagées doivent être manipulées que par des spécialistes. Combattre le feu à une distance maximale ou utiliser des lances sur affût télécommandées ou des canons à eau. Ne pas diriger d'eau vers la source de la fuite ou les dispositifs de sécurité; il peut se produire un givrage. Pour des incendies majeurs, utilisez des boyaux fixes ou des buses contrôlées; si cela n'est pas possible, éloignez-vous de la zone d'incendie et laisser le feu se consumer. Continuer à refroidir les bouteilles exposées à un feu jusqu'à ce que les flammes soient éteintes.

Dangers particuliers associés au produit chimique
L'ACÉTYLÈNE GAZEUX EST SPONTANÉMENT INFLAMMABLE DANS L'AIR À DES PRESSIONS SUPÉRIEURES À 15 PSI (270 kPa). L'acétylène pur est sensible aux chocs. Il nécessite une très faible énergie d'allumage de sorte que les incendies qui ont été éteints sans couper le débit du gaz peuvent facilement s'enflammer de nouveau avec une force explosive possible. Gaz extrêmement inflammable. Peut former des mélanges explosifs avec l'air. S'enflammera facilement lorsqu'exposé à la chaleur, à des étincelles ou à des flammes.

Des incendies impliquant l'acétylène se produisent à l'occasion aux bouchons fusibles inférieurs et supérieurs de protection contre la surpression des bouteilles, le plus souvent causés par les éclaboussures de métal chaud ou laitier sur les bouchons fusibles. Lorsque le bouchon fusible libère un volume important d'acétylène, cela crée un son « assourdissant ». Les flammes peuvent se propager jusqu'à 30 à 60 cm (1 à 2 pi) de la bouteille, et se dissiperont lorsque la pression sera réduite. Dans la plupart des cas, une couche de givre se formera sur l'autre extrémité de la bouteille. Les vapeurs peuvent remonter jusqu'à la source d'ignition et causer un retour de flammes. Les vapeurs provenant d'un gaz liquéfié sont initialement plus lourdes que l'air et se répandent le long du sol. Dans une zone confinée (cave, réservoir, wagon-trémie ou citerne, etc.), les vapeurs sont susceptibles de s'accumuler. Les bouteilles peuvent se rompre sous une chaleur extrême.

Si les flammes sont larges, brûlant à partir d'un bouchon fusible, NE PAS essayer de l'éteindre sauf si la bouteille est à l'extérieur ou dans un endroit très bien ventilé exempt de sources d'ignition. Habituellement, il est très difficile d'éteindre de grands incendies, car la fuite d'acétylène peut être allumée de nouveau par des sources d'ignition adjacentes, pouvant ainsi créer une explosion dans un espace confiné. Garder les contenants froids avec une pulvérisation d'eau. Les vapeurs peuvent remonter jusqu'à la source d'ignition et causer un retour de flammes. Les vapeurs provenant d'un gaz liquéfié sont initialement plus lourdes que l'air et se répandent le long du sol. Les vapeurs peuvent s'accumuler dans des zones confinées (sous-sol, réservoirs, wagon-trémie, wagon-citerne, etc.).

Produits de combustion dangereux Monoxyde de carbone. Dioxyde de carbone (CO_2).

Équipement de protection et précautions pour les pompiers
S'éloigner immédiatement en cas d'un son croissant qui provient de l'évacuation d'air des dispositifs de sécurité ou d'une décoloration du réservoir. Comme pour tout incendie, porter un respirateur à air comprimé, NIOSH (approuvé ou équivalent), ainsi qu'une combinaison complète de protection. Par mesure de prévention immédiate, isoler dans un rayon minimum de 100 mètres autour du site du déversement ou de la fuite. Si l'incendie est éteint et que l'écoulement de gaz continue, ÉLOIGNEZ-VOUS!

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTEL

Précautions individuelles, équipement de protection et procédures d'urgence

Précautions personnelles	ÉLIMINER du site toute source d'allumage (ex: cigarette, fusée routière, étincelles et flammes). Évacuer le personnel vers des endroits sécuritaires. Vérifier que la ventilation est adéquate, en particulier dans des zones confinées. Considérer le risque d'atmosphères potentiellement explosives. Vérifier la teneur en oxygène. Tout équipement utilisé lors de la manutention du produit doit être mis à la terre. Utiliser des outils et de l'équipement anti-étincelles. Porter un appareil respiratoire autonome lors de l'entrée dans un secteur, sauf s'il a été démontré que l'atmosphère est sûre. Ne pas toucher ni marcher dans le produit déversé.
Autres informations	Les gaz/vapeurs sont plus lourds que l'air. Prévenir l'écoulement dans les égouts, sous-sols et fossés, ou tous autres endroits où l'accumulation peut être dangereuse.

Précautions pour le protection de l'environnement

Précautions pour le protection de l'environnement	Utiliser une pulvérisation d'eau pour réduire les vapeurs ou pour détourner la direction du nuage de vapeurs. Empêcher la propagation des vapeurs par les égouts, les systèmes de ventilation et les zones confinées. Voir la section 12 pour des renseignements supplémentaires sur les données écologiques.

Méthodes et matériel de confinement et de nettoyage

Méthodes de confinement	Couper le débit de gaz ou déplacer la bouteille à l'extérieur si cela peut être fait sans risque. Si le contenant ou le robinet fuit, composer le numéro de téléphone d'urgence approprié indiqué à la Section 1 ou appeler la succursale de Messer la plus proche. NE PAS ESSAYER DE RETIRER LES BOUTEILLES QUI ONT ÉTÉ EXPOSÉES À LA CHALEUR.
Méthodes de nettoyage	Retourner les contenants de gaz et d'air comprimé au distributeur agréé ou au point de collecte pour une élimination adéquate.

7. MANUTENTION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger

Conseils sur la manutention sécuritaire	Ne jamais utiliser une tuyauterie en cuivre pour la manutention de l'acétylène. Seules des conduites en acier ou en fer forgé devraient être utilisées. Ouvrir le robinet de la bouteille au minimum (pas plus de 1 à 1,5 tour), suffisamment pour laisser couler un débit acceptable tout en permettant de refermer le robinet rapidement en cas d'urgence. L'acétylène est expédié dans une bouteille remplie d'une masse poreuse et d'un solvant liquide, généralement de l'acétone. L'acétylène est dissous dans la solution d'acétone et dispersé dans le milieu poreux. Lorsque le robinet d'une bouteille chargée d'acétylène est ouvert, l'acétylène sort de la solution et s'écoule sous forme gazeuse. IL EST ESSENTIEL QUE LES BOUCHONS FUSIBLES EN HAUT ET EN BAS DE TOUTES LES BOUTEILLES D'ACÉTYLÈNE SOIENT BIEN INSPECTÉS CHAQUE FOIS QUE LES BOUTEILLES SONT MANIPULÉES. RETIRER ET METTRE EN QUARANTAINE TOUTE BOUTEILLE DÉFECTUEUSE DANS UN LIEU SÉCURITAIRE. Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer Mettre à la terre et fixer toutes les conduites et l'équipement associés au système du produit. Tout l'équipement doit être anti-étincelles et antidéflagrant Des panneaux « DÉFENSE DE FUMER » doivent être affichés dans les endroits d'entreposage et d'utilisation. Utiliser équipement purgé avec un gaz inerte ou vidangé avant d'évacuer le gaz de la bouteille Éviter le contact avec le cuivre pur, le mercure, l'argent et le laiton avec une teneur en cuivre supérieure à 65 % Le solvant (acétone) peut s'accumuler dans le système de tuyauterie. Pour la maintenance, porter une protection des yeux et des gants résistants adéquats La pression de service devrait être limitée à 15 lb/po2 (psig) (103 kPa) ou moins Considérer l'utilisation de dispositifs anti-retour de flammes. Sauf si l'oxygène et l'acétylène sont séparés, une cloison non combustible d'une hauteur d'au moins 1,5 m (5 pi) avec une durée de résistance au feu d'une demi-heure devrait séparer les bouteilles. Aux États-Unis, la capacité totale des bouteilles entreposées à l'intérieur d'un bâtiment, à proximité des zones des utilisateurs, ne

doit pas dépasser 71 m3 de gaz (2500 pi3), à l'exclusion des bouteilles en service ou attachées pour utilisation. Prévoir une distance de séparation minimale de 6 m (20 pi) entre les bouteilles de gaz inflammables et les boutielles d'oxygène et autres comburants ou une barrière de 1,5 m (5 pi) de haut avec une durée de résistance au feu minimale d'une demi-heure

Protéger les bouteilles des dommages physiques; ne pas traîner, rouler, glisser ou laisser tomber. Lors du déplacement des bouteilles, même sur une courte distance, utiliser un chariot conçu pour le transport de bouteilles. Ne jamais tenter de soulever une bouteille par le chapeau de protection du détendeur. Ne jamais insérer un objet (par ex., une clé, un tournevis, un levier, etc.) dans les ouvertures du chapeau du détendeur. Utiliser une clé à courroie réglable pour retirer les chapeaux trop serrés ou rouillés. Utiliser uniquement avec une ventilation adéquate. Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie. Utiliser uniquement avec un équipement prévu pour la pression de la bouteille. Fermer le détendeur après chaque utilisation et lorsque la bouteille est vide. Si l'utilisateur éprouve des difficultés à faire fonctionner le robinet de la bouteille, cesser l'utilisation et appeler le fournisseur. Vérifier que le système de gaz complet a été vérifié pour détecter les fuites avant de l'utiliser.

Ne jamais mettre des bouteilles à gaz dans le coffre d'une voiture ou dans des lieux non ventilés d'un véhicule de tourisme. Ne jamais tenter de remplir de nouveau une bouteille de gaz comprimé sans le consentement écrit du propriétaire. Ne jamais amorcer un arc sur une bouteille de gaz comprimé ou faire d'une bouteille une partie d'un circuit électrique.

Uniquement des personnes expérimentées et adéquatement formées devraient manipulées des gas sous pression. Toujours entreposer et manipuler les bouteilles de gaz comprimé conformément à la publicacion CGA-P1 « Safe Handling of Compressed Gases in Containers » (Manutention sécuritaire des gaz comprimés dans des contenants), de la Compressed Gas Association.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Conditions d'entreposage

Un entreposage extérieur ou détaché est préféré. Ne pas entreposer les bouteilles sur le côté. Ceci rend l'acétylène moins stable et moins sécuritaire et augmente la probabilité d'une perte de solvant et, par conséquent, d'une décomposition. Si une manutention brutale ou d'autres évènements devaient causer une fuite du bouchon fusible, déplacer la bouteille vers un espace ouvert bien éloigné d'une source possible d'un signe sur la bouteille avertissant « Fuite de gaz inflammable ». Entreposer dans un endroit frais, sec et bien ventilé d'une construction non combustible éloigné des zones de circulation intense et des sorties d'urgence. Garder à des températures inférieures à 52 °C / 125 °F. Les bouteilles doivent être entreposées en position verticale avec le chapeau de protection du détendeur en place et bien attachées pour éviter toute chute. Les bouteilles pleines et vides doivent être séparées. Utiliser un système d'inventaire « premier entré, premier sorti » pour éviter d'entreposer les bouteilles pleines pour une durée excessive. Les contenants devraient être régulièrement vérifiés pour déterminer leur état général et détecter les fuites.

Matières incompatibles

Oxydants. Composés halogénés. Halogènes. Cuivre. Argent. Mercure. Laitons contenant plus de 65 % de cuivre et de produits d'apport de brasage contenant de l'argent ou du cuivre.

8. CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition

Nom chimique	ACGIH TLV	OSHA PEL	NIOSH IDLH
ACÉTYLÈNE 74-86-2	: See Appendix F: Minimal Oxygen Content	Aucun	Ceiling: 2500 ppm Ceiling: 2662 mg/m^3

ACGIH TLV : Conférence américaine des hygiénistes industriels gouvernementaux - valeur limite d'exposition. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits (Administration de la sécurité et de la santé professionnelle - limites d'exposition admissibles) NIOSH IDLH : Dangereux immédiatement pour la santé ou la vie

Autres informations Limites annulées révoquées par la décision de la cour d'appel dans AFL-CIO v. OSHA, 965 F.2d 962 (11e Cir., 1992).

Contrôles techniques appropriés

Mesures d'ingénierie Assurer une ventilation générale, une ventilation par aspiration à la source, une enceinte d'isolement ou autres mesures d'ingénierie afin de maintenir les niveaux de concentration de particules en suspension dans l'air sous les limites d'exposition recommandées et de maintenir les niveaux d'oxygène au-dessus de 19,5 %. Systèmes de ventilation antidéflagrants. Les détecteurs d'oxygènes devraient être utilisés lorsque des gaz asphyxiants pourraient être libérés. Considérer l'installation de systèmes de détection des fuites dans les zones d'utilisation et de stockage. Les systèmes sous pression devraient être régulièrement vérifiés pour détecter les fuites.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection des yeux/du visage Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques)

Protection de la peau et du corps Des gants de travail et des souliers de sécurité sont recommandés lors de la manutention de bouteilles. Porter des vêtements résistant au feu/aux flammes/ignifuges. Prendre des mesures de précaution contre les décharges électrostatiques.

Protection respiratoire Utiliser un respirateur à adduction d'air à pression positive avec bouteille d'évacuation d'urgence ou un appareil respiratoire autonome pour des atmosphères à faible teneur en oxygène (moins de 19,5 %).

Considérations générales sur l'hygiène Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle. Éviter tout contact avec les yeux, la peau ou les vêtements.

9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Informations sur les propriétés physiques et chimiques essentielles

État physique	Gaz
Aspect	Incolore
Odeur	Ail léger
Seuil olfactif	Non disponible
pH	Non applicable
Point de fusion/congélation	-80.6 °C / -113 °F
Point d'ébullition / intervalle d'ébullition	Non disponible
Taux d'évaporation	Non applicable
Inflammabilité (solide, gaz)	Gaz inflammable
Limite inférieure d'inflammabilité:	2.5%
Limite supérieure d'inflammabilité:	82%
Point d'éclair	Non applicable
Température d'auto-inflammation	296 °C / 565 °F
Température de décomposition	Non disponible
Solubilité dans l'eau	Soluble dans l'eau
Coefficient de partage	Non disponible
Viscosité cinématique	Non applicable

Information sur les composants

Nom chimique	Masse moléculaire	Point/gamme d'ébullition	Pression de vapeur	Densité de vapeur (air =1)	Densité du gaz kg/m³ à 20 °C	Température critique
ACÉTYLÈNE	26.03	-84.2 °C	4378kPa@ 4378°C	0.91	1.72	36 °C

10. STABILITÉ ET RÉACTIVITÉ

Réactivité

Forme des acétylures explosifs avec le cuivre, l'argent et le mercure. Ne pas utiliser d'alliages contenant plus de 65 % de cuivre

Stabilité chimique
Ne pas laisser le gaz libre (à l'extérieur de la bouteille) excéder 15 psig. Ne pas exposer les bouteilles à un choc soudain ou à la chaleur. L'acétylène se décomposera de façon violente lors d'une rupture de la bouteille. Ne pas évacuer à une pression supérieure à 15 psig.

Données sur les risques d'explosion

Sensibilité aux chocs	La chaleur, une réaction chimique, une friction ou un choc peuvent déclencher une autodécomposition ou une auto-inflammation.
Sensibilité aux décharges électrostatiques	Oui.

Possibilité de réactions dangereuses
Peut exploser même en l'absence d'air à une pression et/ ou température élevée(s). Peut former des mélanges explosifs avec l'air. Peut réagir violemment avec les oxydants.

Polymérisation dangereuse	Des températures aussi basses que 121 °C (250 °F) à une pression élevée, ou à une faible pression en présence d'un catalyseur, sont suffisantes pour amorcer une réaction de polymérisation. Le danger est que la polymérisation libère normalement de la chaleur et peut mener à l'inflammation et la décomposition de l'acétylène si les conditions le permettent.

Conditions à éviter
Chaleur, flammes et étincelles. Chaleur, flammes et étincelles.

Matières incompatibles
Oxydants. Composés halogénés. Halogènes. Cuivre. Argent. Mercure. Laitons contenant plus de 65 % de cuivre et de produits d'apport de brasage contenant de l'argent ou du cuivre.

Produits de décomposition dangereux
Hydrogène gazeux. Monoxyde de carbone. Dioxyde de carbone (CO_2).

11. DONNÉES TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Inhalation	Des concentrations élevées (10 à 20 % dans l'air) causent des symptômes semblables à ceux d'une intoxication. Sous forme de gaz narcotique ou de substance toxique, il cause une hypercapnie (une quantité excessive de dioxyde de carbone dans le sang). Des expositions répétées à des niveaux tolérables n'ont pas montré d'effets nuisibles. Une CTmin, une inhalation humaine de 20 ppc inhalées s'est avérée être la cause de maux de tête et de dyspnée.
Contact avec la peau	Peut causer une irritation de la peau ou une dermatite
Contact avec les yeux	Peut causer une légère irritation
Ingestion	Pas une voie d'exposition prévue

Informations sur les effets toxicologiques

Symptômes	Des concentrations élevées peuvent entraîner une asphyxie causée par le manque d'oxygène ou agir comme un narcotique qui provoque une dépression du système nerveux central. Les symptômes d'une surexposition comprennent des vertiges, des maux de tête, de la fatigue, des nausées, une perte de conscience et un arrêt respiratoire

Effets retardés et immédiats et effets chroniques d'une exposition de courte et de longue durée

Irritation	Peut causer une irritation de la peau et des yeux.
Sensibilisation	Non classé.
Mutagénicité sur les cellules germinales	Non classé.
Cancérogénicité	Ce produit ne contient aucun agent cancérogène ou potentiellement cancérogène inscrit par l'OSHA, le CIRC ou le NTP.
Toxicité pour la reproduction	Non classé.
Toxicité pour le développement	Non classé.
STOT - exposition unique	Non classé.
STOT - exposition répétée	Non classé.
Toxicité chronique	Stéarates.
Effets sur les organes cibles	Système nerveux central (SNC). Appareil respiratoire.
Danger par aspiration	Non applicable.

Mesures numériques de la toxicité

Renseignements sur le produit	
DL50 par voie orale	Non disponible
DL50 par voie cutanée	Non disponible
CL50 par inhalation	Non disponible

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Aucune toxicité aquatique aiguë connue.

Persistance et dégradabilité
Non disponible.

Bioaccumulation
Ne mènera pas à une bioconcentration.

Nom chimique	Coefficient de partage
ACÉTYLÈNE 74-86-2	0.32

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets

Élimination des déchets	Ne pas tenter d'éliminer les résidus ou les quantités inutilisées. Retourner à Messer, dans le contenant d'expédition CORRECTEMENT ÉTIQUETÉ, AVEC TOUS LES BOUCHONS DE SORTIE DU ROBINET ET PROTECTEURS DE ROBINET EN PLACE, pour une élimination adéquate.

14. INFORMATIONS RELATIVES AU TRANSPORT

TMD

N° ID/ONU	UN1001
Nom officiel d'expédition	Acétylène dissous
Classe de danger	2.1
Désignation	UN1001, ACÉTYLÈNE DISSOUS, 2.1

IATA

N° ID/ONU	UN1001

Nom officiel d'expédition	Acétylène dissous
Classe de danger	2.1
Code ERG	10L
Dispositions particulières	A1

IMDG

N° ID/ONU	UN1001
Nom officiel d'expédition	Acétylène dissous
Classe de danger	2.1
EmS-N°	F-D, S-U

15. INFORMATIONS SUR LE RÉGLEMENTATION

Inventaires internationaux

TSCA	Est conforme à (aux)
LIS/LES	Est conforme à (aux)
EINECS/ELINCS	Est conforme à (aux)

Légende :

TSCA - États-Unis - Section 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES - liste intérieure des substances/liste extérieure des substances pour le Canada
EINECS/ELINCS - Inventaire européen des substances chimiques commercialisées existantes /Liste européenne des substances chimiques modifiées

16. AUTRES INFORMATIONS

NFPA **Risques pour la santé** 2 **Inflammabilité** 4 **Instabilité** 2 **Propriétés physiques et chimiques** -

Note : Les classes sont assignées conformément aux directives de la Compressed Gas Association (CGA) telles que publiées dans la brochure P-19-2019 de la CGA, « CGA Recommended Hazard Ratings for Compressed Gases » (Classes de danger recommandées par la CGA pour les gaz comprimés), 4e édition.

Date de révision	27-mars-2023
Note de révision:	Sections de la FS mises à jour; 1

LIND-P001

Avis de non-responsabilité

Pour les conditions, y compris les limites de la responsabilité, veuillez consulter la convention d'achat en vigueur entre l'acheteur et Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. ou Messer Canada Inc. (ou l'une ou l'autre de leurs sociétés affiliées et filiales).

AVIS DE NON-RESPONSABILITÉ DE GARANTIES EXPRESSES ET TACITES

Bien que les précautions raisonnables aient été prises pour préparer ce document, nous ne présentons aucune recommandation et n'accordons aucune garantie que les renseignements fournis sont exacts ou complets, et nous n'assumons aucune responsabilité concernant l'appropriation à l'usage de ces renseignements ou les conséquences de leur utilisation. Il relève de la responsabilité de chaque utilisateur de s'assurer que les renseignements conviennent à l'usage projeté.

Fin de la fiche signalétique

MATERIAL SAFETY DATA SHEET
Lloyds Laboratories Inc.

AIR MOTOR OIL (LIQUID) PART # 62004, 62008, 62016, 67020, 67045

WHMIS NON CONTROLLED

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Air Motor Oil	**PRODUCT USE:**	Air Tool Lubricant
MANUFACTURER:	Lloyds Laboratories Inc.	**SUPPLIER:**	Lloyds Laboratories Inc.
ADDRESS:	613 Neal Drive Peterborough Ontario K9K 6X7	**ADDRESS:**	613 Neal Drive Peterborough Ontario K9K 6X7
EMERGENCY:	1 800 361 6766	**EMERGENCY:**	1 800 361 6766

SECTION II: INFORMATION ON INGREDIENTS

Ingredients	CAS#	Wt%	OSHA-TWA	ACGIH-TWA	LD_{50}

ALL INGREDIENTS: WHMIS NON CONTROLLED
OSHA NON CONTROLLED

SECTION III: HAZARDOUS IDENTIFICATION

Route of Entry: Eye, skin contact, ingestion.

Potential Health Effects:

Eye Contact: May cause irritation to eyes.

Skin Contact: May cause irritation upon repeated/prolonged contact.

Inhalation: May cause slight nose, throat and respiratory tract irritation.

Ingestion: May cause irritation to mouth, esophagus and stomach. May cause gastric tract upset and/or damage.

Chronic Effects:

Carcinogenicity: No ingredients listed IARC or NTP or ACGIC. Non hazardous by WHMIS/OSHA criteria.

Teratogenicity, Mutagenicity, Reproductive Effects: The ingredients in this product were found not to be mutagenic when tested by the Ames Assay, (OECD Guidelines for chemical testing, sec.471).

Skin: Repeated or prolonged exposures to dilutions can cause drying, defatting and dermatitis.

MATERIAL SAFETY DATA SHEET
Lloyds Laboratories Inc.

AIR MOTOR OIL (LIQUID) PART # 62004, 62008, 62016, 67020, 67045

SECTION IV: FIRST AID MEASURES

Eye Contact:	Immediately flush with water for 15 minutes. Holding eyelids open during flushing. If irritation persists, repeat flushing and obtain medical attention immediately.
Skin Contact:	Flush with water. Remove contaminated clothing and launder before reuse.
Inhalation:	Move victim to fresh air. If conscious, have victim take deep, slow breaths. Seek medical attention if symptoms persist.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth with water, and then drink one glass of water. Seek medical attention. Do not give anything to victim if unconscious or convulsing.

SECTION V: FIRE FIGHTING MEASURES

Flammability:	Non flammable. Product may burn if sprayed under pressure and atomized onto surface heated above combustion temperature.
Flash Point deg (C,TCC):	>200 F.
Means of Extinction:	As appropriate for surrounding fire. Use water, dry chemical, carbon dioxide or foam.
Special Fire Hazards:	Fire fighters should wear self contained breathing apparatus as for surrounding fire.
Autoignition temperature:	Not applicable.
Flame propagation or burning rate of solid:	Not applicable.
Sensitivity to static discharge:	Not applicable.
Unusual Fire and Explosion Hazards:	None expected. As per surrounding fire.
Hazardous decomposition products:	Oxides of carbon, oxides of nitrogen.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures:	Before attempting clean up, refer to the hazard data provided above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled container. For large quantities, dispose of in accordance with local, provincial/state or federal regulations. For large spills prevent from entering sewers and waterways. For large spills provide diking to prevent spreading.

SECTION VII: HANDLING AND STORAGE

Storage Requirements:	KEEP OUT OF REACH OF CHILDREN. Store in a closed container away from incompatible materials which include acids, alkalies, reducing materials, reducing sugars and Ammonia Salts. Storage temperature C Ambient to 40º C. Transport temperature C Ambient to 40º C. Keep container closed. Handle and open container with care. Store in a well ventilated place away from incompatible materials. Do not store near open flame. Do not reuse empty containers.

MATERIAL SAFETY DATA SHEET
Lloyds Laboratories Inc.

AIR MOTOR OIL (LIQUID) PART # 62004, 62008, 62016, 67020, 67045

SECTION VIII: EXPOSURE CONTROL/PERSONAL PROTECTION

Gloves:	Not normally required. Use Viton or Nitrile gloves to avoid prolonged or skin contact repeated.
Eye Protection:	Not normally required, if eye contact is possible chemical spash goggles are recommended.
Respiratory Protection:	Not normally required if good ventilation is maintained.
Other Protective Equipment:	As required by employer code. Eye bath, safety shower, protective clothing.
Engineering Controls:	General ventilation normally required.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	**Odour and Appearance: Odourless, Clear with slight yellow or fluorescent pink tint.**		**Odour Threshold:**	Not applicable
Vapour Pressure (mm Hg):	Not applicable	**Vapour Density (Air=1):**	Not applicable	**Boiling Point (ºC):**	450ºC
% Volatile (Wt %):	0%	**Solubility in water(20ºC):**	None	**Freezing Point (ºC):**	-50ºC
pH:	Not applicable	**Specific Gravity:**	.8548	**Evaporation Rate (nBuAc=1)**	Not applicable
Coeff. Water/Oil Dist.:	Not applicable				

SECTION X: STABILITY AND REACTIVITY

Conditions for Chemical Instability:	Stable under normal conditions. Excessive heat or contamination could cause decomposition.
Incompatible Materials:	Reducing agents, strong acids, strong caustics, iron and other metals.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of Nitrogen when heated.

SECTION XI: TOXICOLOGICAL INFORMATION

LD 50 values for individual components see section II.
Skin Sensitization (OECD Sec. 406) Non sensitizing.

SECTION XII: ECOLOGICAL INFORMATION

No data available on the adverse effects of this product on the environment.

SECTION XIII: DISPOSAL CONSIDERATIONS

Dispose of in accordance to all local, provincial/state and federal regulations.

MATERIAL SAFETY DATA SHEET
Lloyds Laboratories Inc.

AIR MOTOR OIL (LIQUID) PART # 62004, 62008, 62016, 67020, 67045

SECTION XIV: TRANSPORTATION

T.D.G. Classification: Not regulated.
D.O.T. Classification: Not regulated.

SECTION XV: REGULATORY INFORMATION

Occupational Health and Safety Regulations:	
WHMIS Class:	Not regulated.
OSHA & WHMIS:	MSDS prepared pursuant to the Hazard Communication Standard (CFR29.1920.1200) and Canadian WHMIS regulations
Environmental Regulatory Lists:	
SARA – Section 313 (Toxic Chemical Release Reporting) 40 CFR 372:	None of these ingredients are listed.
CERCLA – Section 102 (Reportable Quantity) 40 CFR 302:	None of the ingredients are listed.
RCRA 40 CFR 261 (Subpart D)	None of the ingredients are listed.
CLEAN WATER ACT – Section 311 (Reportable Qty) 40 CFR 116:	None of these ingredients are listed.
CLEAN AIR ACT – Section 312 (List of Hazardous Pollutants) 40 CFR 63 (Subpart C):	None of these ingredients are listed.
National Pollutant Release Inventory:	None of these ingredients are listed.
Toxic Substances Control Act (TSCA):	All ingredients are registered on the Chemical Substances Inventory.
Canadian Domestic Substance List (DSL):	All ingredients are registered on the DSL.

SECTION XVI: OTHER INFORMATION

Date:	January 28, 2009	**Prepared By:**	Technical Services Group	**Telephone:**	1 800 361 6766

Disclaimer:
Information for this material safety data sheet was obtained from sources considered tehnically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond the control of supplier, it is assumed that users of this material; have been fully trained according to the mandatory requirements of WHMIS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries for consequential damages, which may result from the use or reliance on any information contained in this form. If user requires independent information on ingredients in this or other material, we recommend contact with the Canadian Centre for Occupational Health and Safety (CCOHS) in Hamilton, Ontario (905-572-4400) or CSST in Montreal, Quebec (514-873-3990).

SAFETY DATA SHEET

Revision Date 27-Oct-2016 **Version** 5

1. IDENTIFICATION

Product identifier
Product Name 133K ANTI-SEIZE LUBRICANT 8OZ

Other means of identification
Product Code 80078
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Lubricant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufactured and Distributed by:
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

May Also Be Distributed by:
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839
24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4

Label elements

Emergency Overview

Warning

Harmful if swallowed

Appearance Silver	**Physical state** Paste	**Odor** Petroleum

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Precautionary Statements - Response
Get medical advice/attention if you feel unwell

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- The classification as a carcinogen 1 need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances in Annex I

Unknown acute toxicity 19.23275 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC	64742-52-5	30 - 60	*
ALUMINIUM POWDER	7429-90-5	5 - 10	*
PARAFFIN OILS (PETROLEUM), CATALYTIC DEWAXED LIGHT	64742-71-8	3 - 7	*

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
Water.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents, Acids, Alkalis, Amines

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ALUMINIUM POWDER 7429-90-5	TWA: 1 mg/m³ respirable fraction	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ Al Aluminum	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust TWA: 5 mg/m³ Al

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Paste
Appearance Silver
Odor Petroleum
Odor threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	> 93 °C / > 200 °F	Tag Closed Cup
Evaporation rate	< 1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	<5 mm Hg	
Vapor density	>1	Air = 1
Relative density	1.17	
Water solubility	Negligible	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	

Explosive properties No information available
Oxidizing properties No information available

Other Information

Softening point No information available
Molecular weight No information available
VOC Content (%) 0
Density No information available
Bulk density No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents, Acids, Alkalis, Amines

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.

Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

Skin contact May cause skin irritation and/or dermatitis.

Ingestion Harmful if swallowed.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC 64742-52-5	A2	Group 1	Known	X
PARAFFIN OILS (PETROLEUM), CATALYTIC DEWAXED LIGHT	A2	Group 1	Known	X

64742-71-8				

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Target Organ Effects Central Vascular System (CVS), Eyes, Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 1978 mg/kg
ATEmix (inhalation-vapor) 32255 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

32.42995 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ALUMINIUM POWDER 7429-90-5	Ignitable powder

14. TRANSPORT INFORMATION

DOT
Proper shipping name: Not regulated

IATA
Proper shipping name: Not regulated

IMDG

Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
ALUMINIUM POWDER - 7429-90-5	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
CALCIUM OXIDE 1305-78-8	X	X	X
GRAPHITE 7782-42-5	X	X	X
ALUMINIUM POWDER 7429-90-5	X	X	X
PARAFFIN OILS (PETROLEUM),	-	X	-

CATALYTIC DEWAXED LIGHT 64742-71-8			
COPPER 7440-50-8	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 1	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 1	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 27-Oct-2016

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET

DATE: *11/22/2012*

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Anti-Seize Grease

PRODUCT DESCRIPTION: Heavy Duty NLGI 2 Grease

INTENDED USE: Lubricating Grease

COMPANY NAME: Grease Warehouse
ADDRESS LINE 1: P.O. Box 693
ADDRESS LINE 2: Tulsa, OK 74101 - 0693
TELEPHONE NUMBER: 918-584-2671
EMERGENCY TELEPHONE: 918-584-2671

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	TLV/PEL (mg/M3)	Weight (%)
Calcium Sulfonate Thickener	Proprietary	NE	50 - 60 %
Mineral Oil	Mixture	NE	15 - 20 %
Graphite Powder	7782-42-5	NE	10 - 15 %
Proprietary Additives	Mixture	NE	10 - 15 %

The specific chemical names & composition of the components not disclosed is confidential business information & is withheld as permitted by 29CFR 1910.1200 and various Right-to-Know laws. This product is not a WHMIS Controlled Substance.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

This material is not considered to be hazardous according to regulatory guidelines. (See Section 15)

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin or respiratory irritation. Low order of toxicity.
High-pressure injection under skin may cause serious damage.

NFPA Rating: Flammability: 1, Reactivity: 0, Health: 1
HMIS Rating: Flammability: 1, Reactivity: 0, Health: 1

NOTE: This material should not be used for any other purpose than the intended use listed in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks, which may vary from person to person.

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Immediately flush with large quantities of cool water for at least 15 minutes. Get medical attention.

SKIN CONTACT: Wash off with soap and water.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

INGESTION: Do NOT induce vomiting. Get medical attention.

NOTES TO PHYSICIAN: High pressure injection under the skin may have serious consequences & may require urgent treatment.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Appropriate Extinguishing Media: Water Spray (fog), dry chemical, foam, halon, or carbon dioxide. Inappropriate Extinguishing Media: Water stream may splash burning liquid and spread fire.

FIRE FIGHTING: Procedure: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply. Fire fighters should use self-contained breathing apparatus (SCBA) to fight fires. Use water spray to cool fire exposed surfaces and to protect personnel.

HAZARDOUS COMBUSTION PRODUCTS: Smoke, Fume, Sulfur oxides, oxides of carbon.

FLAMMABILITY PROPERITES

Flashpoint (Cleveland Open Cup): 455°F
Flammable Limits (Approximate volume% in Air): LEL: NA UEL: N/A
Auto-ignition Temperature: N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURE: Contain any spills with absorbents to prevent migrations and entry into sewers or streams. Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil.

SPILL MANAGEMENT: ***Land Spill:*** Contain any spills with absorbents to prevent migrations and entry into sewers or streams. Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil.

Water Spill: Confine the spill immediately with booms. Stop leak, if you can do so without risking personal safety. Report spills as required to appropriate authorities. Remove from the surface by skimming or with suitable absorbents.

ENVIRONMENTAL PRECAUTIONS: Large spills should be diked for later recovery or disposal. Spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil. To the best of Grease Warehouse knowledge, this product is not regulated by CERCLA/RCRA as a hazardous waste or material. However, this product has not been tested for the toxicity characteristic via the Toxicity Characteristic Leaching Procedure. Therefore, it may be disposed of as an industrial waste in a manner acceptable to good waste management practice and in compliance with applicable local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING: Avoid contact with skin. Prevent spills and leaks to avoid slipping hazards.

STORAGE: Keep containers sealed until ready for use. Avoid excessive long-term storage temperatures to prolong shelf life. Maximum storage temperature: 120F. Store in well ventilated areas.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur, the following are recommended: 5 mg/m3 – ACGIH TLV, 10mg/m3 – ACGIH STEL, 5 mg/m3 – OSHA PEL

ENGINEERING CONTROLS

The level of protection and types of control necessary will vary depending upon potential exposure conditions. Under normal conditions, no special control required when used in a well-ventilated area with local exhaust ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: None required in normal use. Use only NIOSH/MSHA Organic vapor approved equipment if necessary.
Hand Protection: Chemical resistant gloves are recommended. No protection is required in normal use.
Eye Protection: Goggles or safety glasses with side shields are recommended.
Skin & Body Protection: Chemical / oil resistant clothing if contact with material is likely. NO skin protection is ordinarily required under normal conditions of use.
Special Hygiene Measures: Practice good personal hygiene. Wash hands after use and handling.

ENVIRONMENTAL CONTROLS

See Section 6, 7, 12, 13.

SECTION 9: PHYSIAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE:	Semi-Fluid Gel (Grease)
COLOR:	Moly - Grey
ODOR:	Mild/Faint - Petroleum
SOLUBILITY DESCRIPTION:	Insoluble in water
DENSITY: 0.96	0.96
TEMPERATURE (°C):	15.6 (60°F)
VAPOR DENSITY (air=1):	> 5
VAPOR PRESSURE:	< 0.1 mmHg
TEMPERATURE (°C):	20 (68°F)
EVAPORATION RATE:	< 1
pH-VALUE, CONC. SOLUTION:	N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	Normally stable
CONDITIONS TO AVOID:	Avoid contact with acids and oxidating substances.
HAZARDOUS POLYMERIZATION:	Will not occur
POLYMERIZATION DESCRIPTION:	Not applicable
HAZARDOUS DECOMPOSITION PRODUCT:	Oxides of carbon sulfur

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Product or Ingredients: No data is specifically available for this product and therefore this toxicological information is based on data available for the ingredients.

Routes of Exposure: Exposure will most likely occur through skin contact or form inhalation of mechanically or thermally generated oil mists.

Skin and Eye: This product is not a primary skin irritant after exposure of short duration, is not a skin sensitizer and is not irritating to the eyes.

CHRONIC/OTHER EFFECTS

Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Long term intensive exposure to oil mist may cause benign lung fibrosis.

The following ingredients are cited on the lists below: None

NTP CARC, NTP SUS, IARC 1, IARC 2A, IARC 2B, OSHA CARC

This material is not known to contain any chemical listed as a carcinogen or suspected carcinogen by OSHA Hazard Communication Standard 29CFR 1910.1200, IARC, or the National Toxicology Program (NTP) at a concentration greater than 0.1%.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:	There is no ecological data on the product itself.
ECOTOXICITY:	Material – Not expected to be harmful to aquatic organisms.
MOBILITY:	Base oil component – Low solubility and float and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

BIODEGRADATION: N/E

An enviromental fate analysis is not availablefor this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricanting oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natual atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Therefore, it may be disposed of as an industrial waste in a manner acceptable to good waste management practice and in compliance with applicable local, state, and federal regulations.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

To the best of Grease Warehouse knowledge, this product is not regulated by CERCLA/RCRA as a hazardous waste or material. However, this product has not been tested for the toxicity characteristic via the Toxicity Characteristic Leaching Procedure.

Empty Container Warning: Do not attempt to refill or clean containers since residue is difficult to remove. Empty drums should be completely drained, properly bunged and returned to a drum re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14: TRANSPORT INFORMATION

LAND-DOT: Not Regulated for Land Transportation
LAND-TDG: Not Regulated for Land Transportation
SEA-IMDG: Not Regulated for Sea Transport
AIR-IATA: Not Regulated for Air Transport

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Standard: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

WHMIS: Not a controlled product

Chemical Inventory Listing: TSCA, CEPA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) Reportable Hazards: None

SARA (313) Toxic Release Inventory: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program

TSCA: This material is in compliance with the Toxic Substances Control Act (15USC2601-2629)

CEPA: All components of this product are either on the Domestic Substance List (DSL) or are exempted.

SECTION 16: OTHER INFORMATION

NE = Not Established, ND = Not Determined, NA = Not Applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS: No Revision information is available.

REVISION DATE: 10/8/2013
SUPERSEDES: Any previous versions
PREPARED BY: Denice Miranda (Quality Control Document Administer)

DISCLAIMER

Grease Warehouse believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. No warranty of fitness, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specific product designated product is used and may not be valid where such in combination with any other materials or process. Further, since the conditions and methods of use of this product and of the information referred to herein are beyond our control. We expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

Safety Data Sheet

WeldMark

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: ARCAIR AIR CARBON ARC ELECTRODES
CATALOG NUMBERS: WMK22-, WMK24-, WMK35 series
PRODUCT USE: Arc metal removal
MANUFACTURERS NAME: VICTOR TECHNOLOGIES
STREET ADDRESS: 2800 Airport Road
CITY: Denton STATE: Texas
PREPARED BY: Terry Fulks
DATE PREPARED: October 31, 1990

EMERGENCY PHONE #: (940) 566-2000
terry_fulks@victortechnologies.com
ZIP CODE: 76207
PHONE NUMBER: (940) 566-2000
DATE REVISED: July 2, 2013

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%/RANGE	CAS NUMBER	OSHA PEL	ACGIH TLV
Graphite, Synthetic	66-88*	7782-42-5	--	2mg/m3
Graphite, Natural	66-88*	7782-42-5	15 mppcf	2mg/M3
Copper	10-30	7440-50-8	0.1mg/M3	0.1mg/M3 (fume)
Carbon Black	2-4	1333-86-4	3.5mg/m3	3.5mg/m3

Note: Information for Welding Fume 5mg/M3
HEALTH AND PHYSICAL HAZARDS ASSOCIATED WITH AIR CARBON ARC ELECTRODES ARE ATTRIBUTABLE TO THE FUMES GENERATED WHEN THE ELECTRODES ARE USED AND CONSUMED.
Quantative analysis detected no trace of cadmium or mercury.

SECTION 3 - COMPOSITION

THIS PRODUCT DOES [X] DOES NOT [ ] CONTAIN TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

CAS NUMBER	CHEMICAL NAME	%
7440-50-8	Copper	<30

THIS INFORMATION MUST BE INCLUDED IN ALL SDSs THAT ARE COPIED AND DISTRIBUTED FOR THIS PRODUCT.
*BATCH PERCENTAGES VARY GREATLY DEPENDING UPON AVAILABILITY.

SECTION 4 - EMERGENCY AND FIRST AID PROCEDURES

Remove to fresh air. If breathing impaired, assisted respiration may be required. Treat U.V. exposure similar to severe sunburn, seek medical attention.

SECTION 5 - FIRE AND EXPLOSION DATA

FLAMMABILITY: Yes [ ] No [X] IF YES, MEANS OF EXTINCTION: Not Flammable
FLASHPOINT (F/C) AND METHOD: N/A FLAMMABLE LIMIT: N/A
LEL: N/A UEL: N/A UNUSUAL FIRE AND EXPLOSION HAZARDS: None
N.F.P.A. RATING SYSTEM: 0 - INSIGNIFICANT; 1 - SLIGHT; 2 - MODERATE; 3 - HIGH; 4 - EXTREME
Health = 1 Flammability = 0 Reactivity = 0 Special = none
WHMIS CLASSIFICATION: CLASS "D" DIVISION 2 SUB-DIVISION "B"

SECTION 6 - ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURE: Sweep or pick up. Be alert to "hot ends."
WASTE DISPOSAL METHOD: Solid landfill if local regulations allow

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in dry area. Electrodes exposed to moisture may explode violently if used. Dry moist rods by baking at 300 degrees Fahrenheit for ten hours.
OTHER PRECAUTIONS: Read and understand "American National Standard Z49.1"; subpart Q of OSHA 29 CFR 1910.252; "Safety in Welding and Cutting" by the American Welding Society. CAUTION: Use in confined areas can result in carbon monoxide poisoning/death. Air supplied respirator is recommended when used indoors.

SECTION 8 - EXPOSURE CONTROL MEASURES

RESPIRATORY PROTECTION: Air supplied or fume respirator should be used if ventilation is insufficient GLOVES: Welders RESPIRATOR: See above EYE: Face shield or welders helmet with #12 or darker lens FOOTWEAR: Suitable for metal working CLOTHING: Dark, substantial, aprons, etc. OTHER: See Z49.1 VENTILATION: Local exhaust as required to reduce fumes generated by each specific application below ACGIH TLV. MECHANICAL: See Ventilation OTHER: Air sampling to determine corrective measures WORK/HYGIENIC PRACTICES: Operator trained to avoid electrical shock and U.V.ray exposure.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid ODOR AND APPEARANCE: No notable odor, copper coated black rod VAPOR PRESSURE(mm Hg): N/A VAPOR DENSITY(air=1): N/A EVAPORATION RATE: N/A BOILING POINT (F/C): N/A FREEZING POINT (F/C): N/A pH: N/A SPECIFIC GRAVITY: N/A SOLUBILITY: Not Soluble
Cadmium Content: ND Lead Content: ND Mercury Content: ND Chromium Content: ND

SECTION 10 - STABILITY AND REACTIVITY DATA

CHEMICAL STABILITY: Yes [X] No [ ] IF NO, CONDITIONS TO AVOID: N/A
INCOMPATIBILITY WITH OTHER SUBSTANCES: Yes [ ] No [X] IF YES, WHICH ONES? None known HAZARDOUS POLYMERIZATION: Will Occur [ ] Will Not Occur [X]
CONDITIONS TO AVOID: N/A HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, traces of copper fume (ozone, nitrogen oxide from the electric arc and U.V. rays)

SECTION 11 - TOXICOLOGY INFORMATION

ROUTE OF ENTRY: SKIN CONTACT [ ] SKIN ABSORPTION [ ] EYE CONTACT [ ]
INHALATION [X] INGESTION [ ] U.V. EXPOSURE [X]
EFFECTS OF ACUTE/CHRONIC EXPOSURE TO PRODUCT: FUME: Bronchitis, lung deposits and tissue damage which may be irreversible. Exposure to ultra-violet arc rays can result in keratoconjuncitivitis, causing inflammation, blurred vision, headache - "sunburn."
TOXICITY: CARBON: Intravenous mouse; LD50: 440 Mg/Kg, COPPER(fume): Human, Oral LDLo: 120ug/Kg
REPRODUCTION: CARBON - Subcutaneous rat; TDLo: 167Mg/Kg (8D preg); COPPER - Oral , Rat; TDLo: 1520ug/Kg (22w pre) TDLo: 1210ug/Kg (35w pre)*
CARCINOGENICITY; Not Currently Listed SIGNS AND SYMPTOMS OF EXPOSURE: Breathing difficulty, headache, nausea, dryness or irritation of nose, throat, eyes. Burning sensation of skin or eyes. Unconsciousness.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Respiratory problems, erythmas.

SECTION 12 - ECOLOGICAL INFORMATION

There is no useful information about the environmental influence at the present.

SECTION 13 - DISPOSAL INFORMATION

Packaging and Electrode stubs must be disposed of in accordance with local, state and federal environmental regulations.

SECTION 14 - TRANSPORTATION INFORMATION

No special requirements are necessary in transporting these products.
DOT HAZARD CLASS: NOT REQUIRED

SECTION 15 - REGULATORY INFORMATION

No specific regulations apply.

SECTION 16 - OTHER INFORMATION

N/A: NON APPLICABLE; N.Av.: NOT AVAILABLE; N.Est.: NOT ESTABLISHED

REFERENCES:
"Chemical Guide to OSHA Hazard Communication Standard" First Edition
"Handbook of Toxic and Hazardous Chemicals and Carcinogens" Second Edition
"Registry of Toxic Effects of Chemical Substances"
"NIOSH Pocket Guide to Chemical Hazards" June 1994

THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES. THIS IS NEITHER AN EXPRESSED NOR IMPLIED PRODUCT SPECIFICATION. RECOMMENDED HANDLING PROCEDURES AND HYGIENE ARE BELIEVED TO BE ACCURATE, HOWEVER, THESE RECOMMENDATIONS SHOULD BE REVIEWED IN THE SPECIFIC CONTEXT OF INTENDED USE AND DETERMINED APPROPRIATE BY THE USER.

DISTRIBUTED BY: **Josef Gas.**

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFIER:	**ARGON, COMPRESSED**	
Product Name(s):	Argon, Compressed	Formula: AR
Synonym(s):	NONE	Chemical Family: ELEMENT
PRODUCT USE(S):	Inert Gas Shield for Arc Welding Incandescent lamp industry for the filling of light bulbs.	W.H.M.I.S. Classification Class(es): A

HAZARDOUS INGREDIENTS: INGREDIENT PARAMETERS	C.A.S. / P.I.N. NUMBER(S)	CONC. % VOL./VOL.	L.D. 50 (Species & Route)	L.C. 50 (Species & Route)
ARGON	7440371/1006	APPR. 100	NOT APPL.	NOT APPL.

PHYSICAL DATA

PHYSICAL STATE:	Gas @ N.T.P.
ODOUR AND APPEARANCE:	Colourless and Odourless
ODOUR THRESHOLD:	NONE
SPECIFIC GRAVITY (air=1):	1.39 (@ Boiling Point)
VAPOUR PRESSURE:	Container Rated Pressure
VAPOUR DENSITY:	1.380 @ 101.325 Kpa @ 0°C
EVAPORATION RATE:	Rapid
BOILING POINT:	-185.9°C (-302.9°F)
FREEZING POINT:	-189.4°C (-308.9°F)
pH:	Not Applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION:	Not Applicable
SOLUBILITY IN WATER:	0.0337 (vol./vol.)
% VOLATILES:	100

FOR TRANSPORT EMERGENCY CALL COLLECT CANUTEC TEL: 1-613-996-6666

FIRE OR EXPLOSION HAZARDS

CONDITIONS OF FLAMMABILITY:	NONE. Argon will not support or sustain combustion of other materials.
MEANS OF EXTINCTION:	Cool containers with water spray. Extinguish surrounding fire(s).
FLASH POINT: NONE	
UPPER FLAMMABLE LIMIT: NONE	LOWER FLAMMABLE LIMIT:NONE
AUTOIGNITION TEMPERATURE:	NONE
HAZARDOUS COMBUSTION PRODUCTS:	NONE
SENSITIVITY TO MECHANICAL IMPACT:	NONE
SENSITIVITY TO STATIC DISCHARGE:	NONE
SPECIAL PROCEDURES:	Evacuate areas where a leak or a spill is present. Use SCBA if in an enclosed area. Container may rupture if subjected to localized heating.

REACTIVITY DATA

CONDITIONS OF CHEMICAL UNSTABILITY:	NONE
INCOMPATIBILITY:	NONE
CONDITIONS OF REACTIVITY:	NONE
HAZARDOUS DECOMPOSITION PRODUCTS:	NONE

TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN (CONTACT):	NO
SKIN (ABSORPTION):	NO
EYE CONTACT:	NO
INHALATION:	NO
INGESTION:	NO

EFFECTS OF ACUTE EXPOSURE:
May displace air in enclosed spaces. If oxygen concentration falls below 18% symptoms of asphyxia may develop. Symptoms may include: nausea, dizziness, unconsciousness, convulsions, coma and death.

EFFECTS OF CHRONIC EXPOSURE:	NONE KNOWN
EXPOSURE LIMITS:	Maintain ambient oxygen concentration above 18%
IRRITANCY:	NONE
SENSITIZATION:	NONE
CARCINOGENICITY:	NONE
REPRODUCTIVE TOXICITY:	NONE
TERATOGENICITY:	NONE
MUTAGENICITY:	NONE
TOXIC SYNERGISTIC PRODUCTS:	NONE

FIRST AID

EYE:	Gas may harm the unprotected eye if delivered at pressures higher than atmospheric. Obtain medical attention if damages are suspected or present.
INGESTION:	Not applicable
INHALATION:	Move victim to fresh air if possible. Administer C.P.R. if breathing has stopped. If breathing is difficult give oxygen. Obtain medical attention.
SKIN:	Not applicable

PREVENTIVE MEASURES

PERSONAL PROTECTION

EYE:	Safety glasses or goggles to protect eyes from gas under pressure.
HAND:	Work gloves
FEET:	Safety footwear where applicable.
CLOTHING:	Long sleeves, trousers recommended.
RESPIRATOR:	Not applicable where oxygen concentration is kept above 18%.

ENGINEERING CONTROLS: Provide ventilation. Keep oil, grease, and combustible materials away.

SPILL AND LEAK PROCEDURE:
Leave danger area. Try to stop the leak at source if without risk. Gas will dissipate depending on the site/area ventilation. Verify oxygen concentration prior to re-entry.

WASTE DISPOSAL:
No wastes may be generated other than empty containers. Return empty containers as the case may be. Disposal of waste containers must be done in accordance with Federal, Provincial and Municipal regulations.

HANDLING PROCEDURES & EQUIPMENT:
Use in ventilated areas. Keep away from Oil, Grease, Combustible, Flammable materials.
Use appropriate carts for moving containers. Secure container when in use. Close the container valve when NOT in use, or when empty. Keep away from heat, flames, sparks.

STORAGE REQUIREMENTS:
Store in well ventilated areas. Keep away from sources of ignition. Keep containers upright. Store at temperatures below 52^{o}C.

SPECIAL SHIPPING INFORMATION:
Transport upright in well-ventilated vehicle. Do not transport in trunk of enclosed vehicle. Commercial quantities (cylinders) may NOT be transported in passenger compartments.
Secure containers during transportation and ensure that valve protection is in place.

T.D.G. SHIPPING NAME:	Argon, Compressed	T.D.G. CLASSIFICATION CLASS(ES):	2.2
T.D.G. P.I.N. / U.N. :	1006		

PREPARED BY: **JOSEF GAS**
TEL: (416) 658-1212

EFFECTIVE DATE: JANUARY 1 2016

Safety Data Sheet

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

1. Product And Company Identification

Product Name: ARMOR ALL® Original Protectant

Responsible Party: The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810

Information Phone Number: +1 203-205-2900
Emergency Phone Number:
For Medical Emergencies, call 1-866-949-6465 / +1 303-389-1332 (Outside US and Canada)
For Transportation Emergencies, call 1-800-424-9300 (Chemtrec) +1-703-527-3887 for Outside US and Canada (call collect)
SDS Date Of Preparation: 01/31/2015
Product Use and Uses Advised Against: Automotive maintenance product – For consumer and professional use

2. Hazards Identification

Note: This product is a consumer product and is labeled in accordance with the Consumer Product Safety Commission regulations and not OSHA regulations. The requirements for the labeling of consumer products take precedence over OSHA labeling so the actual product label will differ from the OSHA information shown below.

GHS Classification:

Physical:	**Health:**
Not Hazardous	Not Hazardous

GHS Label Elements: None

Hazards not otherwise specified: None

Percentage of unknown toxicity: N/a

3. Composition/Information On Ingredients

Component	**CAS No.**	**Amount**
Non-Hazardous Ingredients	Mixture	95> - 100%
Mineral Oil	8042-47-5	< 5%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First Aid Measures

Inhalation: If symptoms of exposure develop, remove to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Rinse skin with plenty of water. If skin irritation or redness develops, seek medical attention.

Eye Contact: Flush eyes with plenty of water. If irritation or other symptoms persist, seek medical attention.

Ingestion: Do not induce vomiting unless directed to by doctor or physician. If the victim is fully conscious, have them drink a glass of water. Get medical assistance by calling a doctor or poison center. Never give anything by mouth to a person who is unconscious or drowsy.

Most Important Symptoms: Direct eye contact may cause mild irritation.

Indication of Immediate Medical Attention/Special Treatment: Immediate medical attention should not be required.

5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use dry chemical, carbon dioxide, foam, or water spray.

Specific Hazards Arising from the Chemical: Closed containers may rupture if exposed to extreme heat. Thermal decomposition will generate oxides of carbon and silicon and formaldehyde.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate protective equipment.

Environmental Precautions: Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

Methods for Containment and Clean-Up: Absorb with an inert material. Collect into a suitable container for disposal. Rinse area with water.

7. Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin and clothing. Wash hands after use. Keep out of the reach of children.

Conditions for Safe Storage, Including any Incompatibilities: No special storage required.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

CHEMICAL	EXPOSURE LIMIT
Non-Hazardous Ingredients	None Established
Mineral Oil	5.0 mg/m3 inhalable TWA ACGIH TLV 5.0 mg/m3 TWA OSHA PEL

Engineering Controls: General ventilation should be adequate for all normal use.

Personal Protective Equipment

Respiratory Protection: None required under normal use conditions.

Gloves: None required under normal use conditions.

Eye Protection: None required for normal use. Avoid eye contact.

Other Protective Equipment/Clothing: None required under normal use conditions.

9. Physical and Chemical Properties

Appearance and Odor: Opaque, white viscous liquid with a slight odor.

Physical State: Liquid	**Odor Threshold:** Not available
pH: 7.5 - 9.0	**Specific Gravity:** ~1
Initial Boiling Point/Range: Not determined	**Vapor Pressure:** Not determined
Melting/Freezing Point: Not determined	**Vapor Density:** Not determined
Solubility In Water: Easily soluble	**Percent Volatile:** >80%
Viscosity: ~ 3,000 cP	**Evaporation Rate:** Not determined
Coefficient Of Water/Oil Distribution: Not determined	**VOC Content:** Not determined
Flash Point: >212°F (>100°C)	**Autoignition Temp:** Not determined
Decomposition Temperature: Not determined	**Flammability Limits:** LEL: Not determined UEL: Not determined
Flammability (solid, gas): Not applicable	

10. Stability and Reactivity

Reactivity: Not normally reactive
Chemical Stability: Stable.
Possibility of Hazardous Reactions: None known
Conditions To Avoid: None known
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Thermal decomposition will generate oxides of carbon, silicon dioxide, and formaldehyde.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

Acute Hazards:

Inhalation: No adverse effects expected from the normal use of this product.

Skin Contact: No adverse effects expected from the normal use of this product.

Eye Contact: Direct contact may cause slight eye irritation.

Ingestion: Swallowing may cause gastrointestinal disturbances.

Chronic Hazards: None currently known.

Carcinogenicity Listing: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

No data available for product.
Mineral Oil: LD50 Rat oral > 5,000 mg/kg
LD50 Rabbit dermal > 2,000 mg/ kg
LC50 Rat inhalation > 5,000 mg/L/4 hr.

12. Ecological Information

Ecotoxicity:
No ecotoxicity data is currently available for product.
Mineral Oil: NOEL Oncorhynchus mykiss >= 100 mg/L/96 hr.
NOEL Daphnia magna>= 100 mg/L/96 hr.

Persistence and Degradability: No data available

Bio accumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: No data available

13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations. Offer empty containers for recycling.

14. Transport Information

DOT Hazardous Materials Description: Not Regulated

Canadian TDG Hazardous Materials Description: Not Regulated

IMDG Dangerous Goods Description: Not Regulated

15. Regulatory Information

United States:

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

CERCLA Section 103: This product has no RQ, however, oil spills must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Not hazardous

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Canada:

Canadian WHMIS Classification: Not a controlled product.

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian DSL.

This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.

16. Other Information

NFPA Rating (NFPA 704):	Health: 0	Fire: 0	Instability: 0
HMIS Rating:	Health: 0	Fire: 0	Physical Hazard: 0

REVISION SUMMARY: January 31, 2015 Update to GHS SDS format and name change: Changes to all sections.

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH

Material Safety Data Sheet

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

1. Product And Company Identification

Product Name: ARMOR ALL® Air Freshening Multi-Purpose Spray Auto Cleaner – Cool Mist

Responsible Party: The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810

Information Phone Number: +1 203-205-2900
Emergency Phone Number:
For Medical Emergencies, call 1-866-949-6465 / +1 303-389-1332 (Outside US and Canada)
For Transportation Emergencies, call 1-800-424-9300 (Chemtrec) +1-703-527-3887 for Outside US and Canada (call collect)
MSDS Date Of Preparation: 12/06/12
Product Use: Automotive maintenance product – For consumer and professional use

2. Hazards Identification

EMERGENCY OVERVIEW

CAUTION: Eye irritant. Prolonged skin contact may cause mild irritation and dryness.

3. Composition/Information On Ingredients

Component	CAS No.	Amount
Alkyl dimethyl benzyl ammonium chloride (C12-C16)	68424-85-1	<0.3%
Non-Hazardous Ingredients	Mixture	Balance

4. First Aid Measures

Inhalation: If symptoms of exposure develop, remove to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Wash exposed skin with soap and water. If skin irritation or redness develops, seek medical attention.

Eye Contact: Flush eyes with large amounts of water for 15 minutes. If irritation or other symptoms persist, seek medical attention.

Ingestion: DO NOT induce vomiting. If the victim is fully conscious, have them rinse their mouth with water. Get medical assistance by calling a doctor or poison center. Never give anything by mouth to a person who is unconscious or drowsy.

5. Firefighting Measures

Extinguishing Media: Use any media that is suitable for the surrounding fire. Cool fire exposed containers with water.

Special Fire Fighting Procedures: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Unusual Fire Hazards: Closed containers may rupture if exposed to extreme heat.

Hazardous Combustion Products: None known.

6: Accidental Release Measures

Personal Precautions: Wear appropriate protective equipment.

Environmental Precautions: Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

Methods for Containment and Clean-Up: Absorb with an inert material. Collect into a suitable container for disposal. Rinse area with water.

7. Handling and Storage

Avoid contact with eyes. Avoid prolonged contact with skin and clothing. Rinse exposed skin with water after use. Not for personal cleansing. Not recommended for use on soft vinyl, varnishes, aluminum or styrene. If used on these surfaces, rinse and wipe dry immediately. Keep out of the reach of children.

No special storage required.

8. Exposure Controls / Personal Protection

CHEMICAL	EXPOSURE LIMIT
Alkyl dimethyl benzyl ammonium chloride (C12-C16)	None Established
Non-Hazardous Ingredients	None Established

Ventilation: General ventilation should be adequate for all normal use.

Respiratory Protection: None required under normal use conditions.

Gloves: None normally required. Avoid prolonged skin contact. Impervious gloves such as rubber, neoprene or nitrile can be used if needed to avoid prolonged or repeated skin contact.

Eye Protection: Safety glasses or goggles are recommended if eye contact is possible.

Other Protective Equipment/Clothing: None required under normal use conditions.

9. Physical and Chemical Properties

Appearance And Odor: Clear, colorless liquid with a pleasant odor.

pH: 10.1 – 12.1	**Specific Gravity:** ~1.0
Boiling Point: Not determined	**Vapor Pressure:** Same as water
Freezing Point: Not determined	**Vapor Density:** Same as water
Solubility In Water: Complete	**Percent Volatile:** >98%
Viscosity: Not determined	**Evaporation Rate:** Not determined

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

Coefficient Of Water/Oil Distribution: Not determined		**Autoignition Temp:** Not applicable
Flash Point: >200°F (93.3°C)		
Flammability Limits:	LEL: Not applicable	LEL: Not applicable

10. Stability and Reactivity

Stability: Stable
Conditions To Avoid: None known.
Incompatibility: None known.
Hazardous Decomposition Products: None known

11. Toxicological Information

Acute Hazards:

Inhalation: Inhalation of mists may cause mild upper respiratory tract irritation.

Skin Contact: Prolonged or repeated contact may cause irritation and drying.

Eye Contact: Direct contact may cause eye irritation with redness, tearing and pain.

Ingestion: Swallowing may cause gastrointestinal disturbances.

Chronic Hazards: None currently known.

Medical Conditions Aggravated By Exposure: May aggravate an existing dermatitis.

Carcinogen: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Alkyl dimethyl benzyl ammonium chloride (C12-C16): LD50 Oral Rat: 50-500 mg/kg

12. Ecological Information

No ecotoxicity data is currently available. This product may be harmful to aquatic life if released directly to the environment.

13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations. Offer empty containers for recycling.

14. Transport Information

DOT Hazardous Materials Description: Not Regulated

Canadian TDG Hazardous Materials Description: Not Regulated

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

IMDG Dangerous Goods Description: Not Regulated

15. Regulatory Information

United States:

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA Section 103: This product has no RQ. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Canada:

Canadian WHMIS Classification: Class D - Division 2 - Subdivision B - (Toxic material causing other toxic effects)

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian DSL or NDSL.

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Rating (NFPA 704):	Health: 1	Fire: 0	Instability: 0
HMIS Rating:	Health: 1	Fire: 0	Reactivity: 0

REVISION SUMMARY: Changes to sections 3, 8, and 11.

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH

SAFETY DATA SHEET

Atlas Copco Chisel Paste VP 3537

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation	Atlas Copco Chisel Paste VP 3537
Issued at:	14.12.2010
Use of the substance/preparation	Lubricant for industrial use

Supplier

Atlas Copco Construction Tools AB
SE-105 23 Stockholm
Sweden

Homepage: www.atlascopco.com

Telephone number
+46 (0)8-743 96 00
Fax number
+46 (0)8-743 96 50
Emergency Phone Number
Swedish Poison Centre 112 (acute)
+46-8-33 12 31 (non-acute)

2. HAZARDS IDENTIFICATION

Classification

Classification according to directive (EC) No. 1272/2008, annex VI:
Not classified.

Classification according to directive 67/548/EWG or directive 1999/45/EC:
Not classified.

Additional advice:
None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazard substances:

None.

Ingredients with EC-limits:

None.

4. FIRST-AID MEASURES

General information:
Remove contaminated clothes. In case of indisposition consult a doctor.

In case of inhalation:
Move person into fresh air. In case of irritated airways consult a doctor.

In case of skin contact:
Wash off with soap and plenty of water.

In case of eye contact:
Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes.l Consult a doctor, if necessary.

In case of ingestion:
Clean mouth immediately. Drink water in small sips (dilution effect). Avoid vomiting. No neutralisation. Consult a doctor and show safety data sheet.

Symptoms:
Nausea, vomiting, diarrhoe.

Treatment in case of unconsciousness:

Call a doctor.

5. FIRE-FIGHTING MEASURES

Extinguishing media:
Suitable: Water spray/-mist, foam, carbon dioxide, powder
Unsuitable: Water jet.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:
In case of fire, dangerous fumes/gases might occur: Carbon dioxide, carbon monoxide, sulphur dioxide, sulphur trioxide.

Additional information for fire fighters:
Use recirculated air respirator in danger zone. Use water spray to cool down container. Hunt down fume by using water. Take care for ignition. Avoid contamination of groundwater and soil. Do not let product enter into drains. Use personal protective equipment avoiding skin contact and keep distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Keep away from fire. Remove all sources of ignition. Ensure adequate ventilation. Keep care of persons in danger zone. Consult chapter 7 and 8 for protective measures.

Environmental precautions:
Avoid contamination of groundwater and soil. Do not let product enter into drains. Try to cover drains. For limitation of emissions by volatile organic compounds (VOC), lead extinguishing media vapours to a flue gas cleaning device.

Methods for cleaning up
Bigger amounts: Use pumps. For residues: Try to soak material using neutralising, fire resistant absorbent. Dispose off in accordance with regulations using intended containers. Smaller quantities (up to approx. 1 l): Take up with tissue papers and dispose off. Only use spark-free media in danger zone.

7. HANDLING AND STORAGE

Handling
Keep containers closed. Observe minimum standards according to TRGS 500. This includes general hygiene measures like no eating, drinking, smoking, washing hands after use, remove contaminated clothes before entering areas in which will be eat.

Storage

Advices for safe handling
Fumes are heavier than air. Explosive fumes/gas mixtures might form in case of excessive heat. Keep away from oxidising agents.

Specific requirements on storage
Store at room temperature, not below 0° C or above 60° C. Do not store together with: Pharmaceuticals, food, feed, inflammables, substances forming flammable gas with water. Organic peroxides.

Requirements to store rooms
Store rooms must have solvent resistant floors or collection pans, that in case of leakage the protection of the groundwater is guaranteed. Always store in containers complying with the original containers.

Specific use for consumers
Lubrication of tools and machines.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Preparation does not contain any substances with exposure limit values.

Personal protective equipment

Respiratory protection:
Respiratory protection is not necessary. If protection is wanted, use multi-purpose combined filters of type ABEK (EN 14387). Respiratory protection equipment must be in accordance with national standards like NIOHS (US) or CEN (EU).

Hand protection:
In case of enduring and repeated contact, use protection gloves according to EN 374.

Eye protection:
Protection goggles according to EN 166:2001.

Environmental protection:
See chapter 6 and 7.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties:

Physical state	Pasty.
Colour	Black/coppery.
Odour	Characteristic.

Security relevant data

	Value	Method	Comment
Dropping point	> 250° C	DIN ISO 2176	
Flash point	> 250° C		
Self ignition	The product is not self-igniting.		
Explosion hazard	The product is not self-igniting.		
Density	0,94 – 0,98 g/cm³		
Water	Not resp. less miscible.		

Other information:
Further physical and chemical properties are not reported.

10. STABILITY AND REACTIVITY

Reactivity:
Exothermic reaction with strong oxidising and reducing agents.

Chemical stability:
Preparation remains chemically stable under normal conditions (room temperature).

Possible dangerous reactions:
If used as intented no hazardous reactions are expected.

Materials to avoid:
None known.

Hazardous decomposition products:
Flammable gases/fumes might arise in case of contact with strong oxidising agents.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:
None known.

Irritant and corrosive effects:
None known.

Sensitisation:
None known.

Chronical effects:
No ingredient of this product with concentrations of 0.1 % or more is IRAC listed or has any carcinogenic, mutagenic or reproduction toxic effect known to humans.

Symptoms after exposition:
None known.

Possible health damages:

Inhalation:
Might cause irritations of respiratory airways.

Skin:
Might cause skin irritations at repeated contact.

Eyes:
Might cause eye irritations.

Ingestion:
Might be harmful after ingestion.

Target organs:
Intestine, liver, kidney.

12. ECOLOGICAL INFORMATION

Toxicity:
None known.

Persistency and degradability:
No data available.

PBT potential:
No data available.

Mobility:
No data available.

PBT- and VPvB-Assessment:
No data available.

Other adverse effects:
None known.

13. DISPOSAL CONSIDERATIONS

Procedures of waste handling:
Observe all national and local laws.

Contaminated packaging:
Dispose off like product.

14. TRANSPORT INFORMATION

Proper UN-forwarding labelling ADR/RID Risk class

ADR/RID:
No hazardous material.

IMDG-Code/ICAQ-TI/IATA-DGR:
No hazardous material.

15. REGULATORY INFORMATION

Labelling according to EC-directives:
The product is not subject to declaration according to the particular national laws.
National directives:
Water hazardous class (WGK): 1

16. OTHER INFORMATION

Last changes:
None.

Literature and data sources:
Regulations
Preparation directive (1999/45/EC), at last modified by regulation (EC) No. 1907/2006.
Material guideline (67/548/EWG), at last modified by guideline 2009/2/EG.
Regulation (EC) 1272/2008, at last modified by regulation (EC) No. 790/2009.
Internet:
http://www.baua.de
http://www.arbeitssicherheit.de
http://dguv.de/ifa/de/gestis/stoffdb
http://logkow.cisti.nrc.ca
Hazard notes referred to in chapter 2 and 3
according to regulation (EC) No. 1272/2008: (--)
according to directive 67/548/EWG: (--)

Legend:

ADR	European agreement on the international transport of hazardous goods on roads.
BImSchV	Regulation on implementation of the Federal Immission Control Act
CAS	Chemical Abstracts Service.
DIN	Norm of the German Institut for Standardization.
EC	Effective concentration.
EC	European Community.
EN	European Standard.
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations.
IBC	International Code for the construction and equipment of vessels for transport of hazardous chemicals.
ICAO-TI	International Civil Aviation Organisation – Technical Instructions.
IMDG-Code	International Maritime Code for Dangerous Goods.
ISO	Norm of the International Organization for Standardization.
IUCLID	International Uniform Chemical Information Database.
LC	Lethal concentration.
LD	Lethal Dose.
log Kow	Partition coefficient between octanol and water.
MARPOL	Maritime Pollution Convention = Internation Convention on the Prevention of Pollution from Ships.
OECD	Organisation for Economic Cooperation and Development.

PBT	Persistent, bio-accumulable, toxic
RID	Ordinance for International Carriage of Hazardous Goods by Rail
TRGS	Technical rules for hazardous substances.
UN	United Nations.
VOC	Volatile Organic Compounds.
vPvB	Very persistant and very bio-accumlable.
VwVwS	German administrative regulation regarding water pollutants.
WGK/WHC	Water hazard class.l

Important advice:
All data are based on the current state of knowledge. This safety data sheet is to procure all physical, safety regulating, toxicological and ecological data and recommendations for the use of chemical substances when storing, applying and during transport. It is to support the protection of humans and environment by correct information. These specific statement for occupational safety are for security officers and safety experts as well as for industrial medics, toxicologists and governmental monitoring bodies. Please, pass these information to the responsible department.

SAFETY DATA SHEET

Section 1. Identification

Product name Autran Syn 295

SDS # 464239

Code 464239-US65

Relevant identified uses of the substance or mixture and uses advised against

Product use Automatic transmission fluid.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer

BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: (973) 633-2200
Telecopier: (973) 633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

OTHER PRODUCT INFORMATION

1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

Section 2. Hazards identification

OSHA/HCS status This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Hazards not otherwise classified Defatting to the skin.

Section 3. Composition/information on ingredients

Synthetic base stock. Proprietary performance additives.

Substance/mixture Mixture

Ingredient name	CAS number	%
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	68037-01-4	≥5 - <10
1-Decene, homopolymer, hydrogenated	68037-01-4	≥5 - <10
Base oil - highly refined	Varies	≥1 - <3
Base oil - highly refined	Varies	≥1 - <3
Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.	61791-44-4	≥0.1 - <0.3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Combustion products may include the following:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Base oil - highly refined	**ACGIH TLV (United States).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction **OSHA PEL (United States).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Section 8. Exposure controls/personal protection

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/ manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

Body protection

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Red.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Open cup: >235°C (>455°F) [Cleveland.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	Not available.
Relative density	0.8482
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 37.53 mm^2/s (37.53 cSt) at 40°C Kinematic: 7.396 mm^2/s (7.396 cSt) at 100°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Aspiration hazard

Name	Result
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	ASPIRATION HAZARD - Category 1
1-Decene, homopolymer, hydrogenated	ASPIRATION HAZARD - Category 1
Base oil - highly refined	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Inhalation Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Inhalation May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Not expected to be rapidly degradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other adverse effects No known significant effects or critical hazards.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name		-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b) All components are listed or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 311/312

Classification Not applicable.

SARA 313

Form R - Reporting requirements This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification This product does not contain any hazardous ingredients at or above regulated thresholds.

State regulations

Massachusetts None of the components are listed.

New Jersey None of the components are listed.

Pennsylvania None of the components are listed.

California Prop. 65 **WARNING:** This product contains a chemical known to the State of California to cause cancer.
Ethyl acrylate

Other regulations

Australia inventory (AICS) All components are listed or exempted.

Canada inventory All components are listed or exempted.

China inventory (IECSC) At least one component is not listed.

Japan inventory (ENCS) At least one component is not listed.

Korea inventory (KECI) All components are listed or exempted.

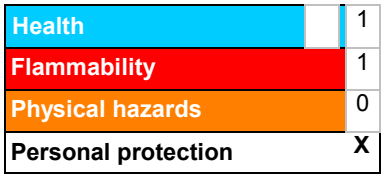
Philippines inventory (PICCS) All components are listed or exempted.

Taiwan inventory (CSNN) All components are listed or exempted.

REACH Status For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.)

History

Date of issue/Date of revision 04/06/2015.

Date of previous issue 04/03/2015.

Section 16. Other information

Key to abbreviations

ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit
TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET

Issue Date 20-Dec-2015 **Revision Date** 20-Dec-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name BAKOR AQUATAC PRIMER

Other means of identification
Product Code BK545
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Coatings
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
HENRY COMPANY
999 N. Sepulveda Blvd., Suite 800
El Segundo, CA 90245-2716
Web Site: www.henry.com www.ca.henry.com

Emergency telephone number
Company Phone Number 800-486-1278
Emergency Telephone CHEMTREC: 800-424-9300
CHEMTREC: 703-527-3887
CANUTEC: 613-966-6666

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Label elements

Emergency Overview

Warning

Hazard statements
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

Appearance viscous cream **Physical state** liquid **Odor** Slight

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

Unknown acute toxicity
28.19223275% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Chemical Name	CAS No	Weight-%
Acrylic polymer *	Proprietary	30 - 60
Water *	7732-18-5	15 - 40
1,2-Propylene glycol *	57-55-6	1 - 5

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact Keep eye wide open while rinsing. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. Wash contaminated clothing

before reuse.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If symptoms persist, call a physician.

Ingestion Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Rinse mouth. Never give anything by mouth to an unconscious person.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Coughing and/ or wheezing. May cause skin irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO2, sand, earth, water spray or regular foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use personal protective equipment as required. Cover liquid spill with sand, earth or other non-combustible absorbent material. Dam up. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible materials Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	viscous cream	**Odor**	Slight
Color	green	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	6-9	
Melting point / freezing point	<= 0 °C / 32 °F	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	> 100 °C / 212 °F	Pensky-Martens Closed Cup (PMCC)
Evaporation rate	>= 1	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	18 mmHg	@ 25 °C
Vapor density	No information available	
Relative density	1.1-1.3	
Water solubility	dispersible	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	

Decomposition temperature	No information available	
Kinematic viscosity	> 100 mm2/s	@ 40 °C
Dynamic viscosity	No information available	
Explosive properties	Not an explosive	
Oxidizing properties	Not applicable	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.
Possibility of Hazardous Reactions
None under normal processing.
Conditions to avoid
Elevated Temperature. Keep from freezing. Incompatible materials.
Incompatible materials
Strong oxidizing agents. Strong acids. Strong bases.
Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin.
Ingestion	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
1,2-Propylene glycol 57-55-6	= 20 g/kg (Rat)	= 20800 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. Coughing and/ or wheezing. May cause skin irritation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	Target Organs. Respiratory system. Eyes.
STOT - repeated exposure	No information available.

Target Organ Effects Eyes, lungs, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 10,348.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
None known

99.58198 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
1,2-Propylene glycol 57-55-6	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Issue Date 20-Dec-2015
Revision Date 20-Dec-2015
Revision Note
No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Material Safety Data Sheet

Revision Date *23-Mar-2011*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code P60478
Product name BATTERY SEALER HD 12.25 OZ NW
Recommended Use Coating

Supplier
Kent Automotive
6200 Oak Tree Blvd.
Independence, OH 44131
(800) 458-3222

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Flammable. Irritant. May be harmful if swallowed.

Aggravated Medical Conditions
None Known.

Principal Routes of Exposure
Inhalation. Eyes. Skin contact.

Potential health effects

Eyes May cause the following effects:. Irritation. Redness. Itching. Burning sensation.

Skin Repeated or prolonged exposure may cause:. Skin Irritation. Redness. Itching. Burning sensation.

Inhalation Repeated or prolonged exposure may cause the following effects. Headaches. Dizziness. Nausea. Upper respiratory tract irritation. Central nervous system effects. Loss of coordination. Extreme overexposure may cause. Cardiac abnormalities. Reproductive system damage. Possible unconsciousness. Death. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Harmful or fatal if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Propane	74-98-6	10-30
Butane	106-97-8	10-30
Carbon Black	1333-86-4	0.1-1
Hexanes	110-54-3	7-13
Isohexane Isomers	107-83-5	1-5
3-Methylpentane	96-14-0	0.5-1.5
2,3-Dimethylbutane	79-29-8	0.5-1.5
Solvent naphtha (petroleum), light aliphatic	64742-89-8	5-10
Toluene	108-88-3	15-40
Calcium Carbonate	471-34-1	1-5

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention.

Skin contact Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use.

Ingestion Do not induce vomiting. Immediate medical attention is required.

Inhalation Remove from exposure. Restore breathing. Keep warm and quiet. Contact physician if breathing difficulty develops.

5. FIRE FIGHTING MEASURES

Flash point °C < -17
Flash point °F < 0
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 9.5
Lower 0.9

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical. Foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards
Containers may vent or burst under extreme or prolonged fire conditions. Keep product and empty container away from heat and sources of ignition. In the event of fire and/or explosion do not breathe fumes. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat .

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment.

Methods for cleaning up
Eliminate all sources of ignition. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Handling
Keep in a well-ventilated place. Turn off other sources of ignition prior to use and until all vapors have dissipated. Vapors may accumulate readily and may ignite explosively. Remove all sources of ignition. Keep away from open flame. Do not smoke. Check to make sure that all equipment is properly grounded and installed to satisfy electrical classification requirements. Contents under pressure. Do not puncture or incinerate. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of reach of children.

Storage
Store in temperatures below 120 degrees F.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Toluene	200 ppm	300 ppm	20 ppm	-
Propane	1000 ppm 1800 mg/m^3	-	1000 ppm	-
Butane	800 ppm	-	1000 ppm	-
Hexanes	1800 mg/m^3 500 ppm	-	50 ppm	-
Solvent naphtha (petroleum), light aliphatic	-	-	-	-
Isohexane Isomers	-	-	-	-
Calcium Carbonate	-	-	-	-
2,3-Dimethylbutane	-	-	-	-
3-Methylpentane	-	-	-	-
Carbon Black	3.5 mg/m^3	-	3.5 mg/m^3	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area. General: as necessary.

Hygiene measures
Wash hands before breaks and immediately after handling the product.

Other precautions
Avoid contact with the skin and the eyes.

Respiratory protection
If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended.

Hand Protection
Gloves are not required in normal use. The following glove(s) are recommended to prevent prolonged or repeated contact:. Chemical resistant gloves.

Eye protection
Avoid contact with eyes. Wear safety glasses with side shields.

Skin and body protection
None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol
Color	Black
Odor	Solvent
Odor Threshold	No information available
pH	No data available
Specific Gravity	0.74
Vapor pressure	No data available
Density	6.18 lb/gal; 740 g/l
Vapor density	>1 (air=1)
Evaporation Rate	>1 (ether = 1)
Water solubility	No data available
VOC Content	75.87% by weight
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	< -18 - 162
Boiling point/range °F	< 0 - 325
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	< -17
Flash point °F	< 0

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatability
None.

Hazardous Decomposition Products
Carbon dioxide. Carbon monoxide.

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Toluene 108-88-3	636 mg/kg	12124 mg/kg 8390 mg/kg	12.5 mg/L 26700 ppm
Propane 74-98-6	-	-	658 mg/L
Butane 106-97-8	-	-	658 mg/L
Hexanes 110-54-3	25 g/kg	3000 mg/kg	48000 ppm
Solvent naphtha (petroleum), light aliphatic 64742-89-8	-	3000 mg/kg	-
Isohexane Isomers 107-83-5	-	-	-
Calcium Carbonate 471-34-1	6450 mg/kg	-	-
2,3-Dimethylbutane 79-29-8	-	-	-
3-Methylpentane 96-14-0	-	-	-
Carbon Black 1333-86-4	15400 mg/kg	3 g/kg	-

Synergistic Products None known

Specific Hazards Hexane has been reported to affect the central nervous system and may damage peripheral nerve tissue.

Potential health effects

Sensitization None known

Chronic toxicity None known

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known .

Target Organ Effects Prolonged or repeated occupational overexposure may affect the following:. Liver. Urinary system. Cardiovascular system. Brain. Nervous system. Reproductive System.

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Toluene	Listed	Not Listed	Not Listed	Not Listed	Not Listed
Propane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Butane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Hexanes	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Solvent naphtha (petroleum), light aliphatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Isohexane Isomers	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Calcium Carbonate	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
2,3-Dimethylbutane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
3-Methylpentane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Carbon Black	Listed	Group 2B	Not Listed	Not Listed	Listed

12. ECOLOGICAL INFORMATION

Toluene

Microtox Data
Photobacterium phosphoreum EC50=19.7 mg/L (30 min)

Water Flea Data
water flea hEC50 48 (11.3 mg/L)
water flea hEC50 48 (310 mg/L)
Daphnia magna hEC50 48 (11.3 mg/L)
water flea hEC50 48 (11.3 mg/L)

Hexanes

Water Flea Data
water flea hEC50 48 (3.87 mg/L)

Carbon Black

Water Flea Data
Daphnia magna hEC50 24 (>5600 mg/L)

13. DISPOSAL CONSIDERATIONS

Disposal Information
As supplied, this product is a RCRA Hazardous Waste . Waste must be tested for ignitability to determine EPA hazardous waste numbers. Do not puncture or incinerate. Depressurize before disposal.

Waste from residues / unused products
Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D

TDG
UN1950 AEROSOLS, flammable, 2.1

15. REGULATORY INFORMATION

US EPA SARA 313

Chemical Name	US EPA SARA 313 Emission Reporting
Toluene	Listed
Hexanes	Listed

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Toluene	Listed	Listed	Developmental
Propane	Listed	Listed	Not Listed
Butane	Listed	Listed	Not Listed
Hexanes	Listed	Listed	
Solvent naphtha (petroleum), light aliphatic	Not Listed	Not Listed	Not Listed
Isohexane Isomers	Not Listed	Listed	Not Listed
Calcium Carbonate	Not Listed	Not Listed	Not Listed
2,3-Dimethylbutane	Not Listed	Listed	Not Listed
3-Methylpentane	Not Listed	Listed	Not Listed
Carbon Black	Not Listed	Listed	Carcinogen

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Toluene	X	X	-	X
Propane	X	X	-	X
Butane	X	X	-	X
Hexanes	X	X	-	X
Solvent naphtha (petroleum), light aliphatic	X	X	-	X
Isohexane Isomers	X	X	-	X
Calcium Carbonate	X	X	-	X
2,3-Dimethylbutane	X	X	-	X
3-Methylpentane	X	X	-	X
Carbon Black	X	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2 *
Flammability - 3
Physical Hazard - 0

Prepared By H. Buck, Regulatory Affairs Manager

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

LAWSON
PRODUCTS, INC.

Material Safety Data Sheet

Revision Date *21-Mar-2014*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code 89153
Product name Battery Cleaner & Acid Leak Detector
Recommended Use Solvent

Supplier Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Contents under pressure. Irritant.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Skin contact. Inhalation. Eyes.

Potential health effects

Eyes Exposure to vapors or mists may cause the following effects:. Irritation. Reddening. Burning sensation.

Skin Repeated or prolonged exposure may cause:. Skin Irritation. Redness. Itching. Burning sensation.

Inhalation Exposure to vapors may cause the following effects. Irritating to respiratory system. Headaches. Dizziness. Nausea. Loss of coordination. Extreme overexposure may cause. Central nervous system depression. Possible unconsciousness. Death. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion May be harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Butane	106-97-8	5-10
Isopropyl alcohol	67-63-0	5-10
Propane	74-98-6	1-5
Ethylene oxide	75-21-8	<0.0001

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention.

Skin contact Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Seek medical attention if irritation persists.

Ingestion Do Not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation Remove to fresh air. Restore breathing. Keep warm and quiet.

5. FIRE FIGHTING MEASURES

Flash point °C < -17.78
Flash point °F < 0
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 12.7
Lower 1.9

Specific Information for Aerosol Products

Flame extension None
Flashback None

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical. Alcohol foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards
Containers may vent or burst under extreme or prolonged fire conditions. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat . During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Eliminate all sources of ignition. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling
Keep away from open flames, hot surfaces and sources of ignition. Vapors may accumulate readily and may ignite explosively. Ensure adequate ventilation. Do not smoke. Turn off other sources of ignition prior to use and until all vapors have dissipated. Do not puncture or incinerate. Do not take internally. Keep out of reach of children. Check to make sure that all equipment is properly grounded and installed to satisfy electrical classification requirements. Standard safety precautions should be observed when handling this material.

Storage
Containers exposed to extreme heat may burst. Keep away from heat and sources of ignition. Store in temperatures below 120 degrees F (50 degrees C) . Keep away from direct sunlight. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Propane	1000 ppm 1800 mg/m^3	-	1000 ppm	-
Butane	800 ppm	-	-	1000 ppm
Isopropyl alcohol	400 ppm 980 mg/m^3	-	200 ppm	400 ppm
Ethylene oxide	1 ppm	-	1 ppm	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area. Use in a well ventilated area.

Hygiene measures
Wash hands before eating or using the washroom. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing.

Respiratory protection
If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a NIOSH approved organic vapor/particulate respirator.

Hand Protection
Gloves are not required in normal use. The following gloves are recommended for prolonged or repeated contact: . Chemical resistant gloves.

Eye protection
Wear safety glasses with side shields.

Skin and body protection
None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol
Color	Colorless
Odor	No information available
Odor Threshold	No information available
pH	7.0
Specific Gravity	0.93
Vapor pressure	No data available
Density	7.71 lb/gal; 923 g/l
Vapor density	>Air
Evaporation Rate	>1 (Ether =1)
Water solubility	No data available
VOC Content	15.90%
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	< -18 - 100
Boiling point/range °F	< 0 - 213
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	< -17.78
Flash point °F	< 0

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatability
None known.

Hazardous Decomposition Products
Carbon dioxide. Carbon monoxide.

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Propane 74-98-6	-	-	658 mg/L
Butane 106-97-8	-	-	658 g/m^3
Isopropyl alcohol 67-63-0	4396 mg/kg	12800 mg/kg	16000 ppm
Ethylene oxide 75-21-8	72 mg/kg	-	800 ppm

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2. Reports have associated prolonged overexposure to solvents with permanent brain and nervous system damage.

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Propane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Butane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Isopropyl alcohol	A4	Not Listed	Not Listed	Not Listed	Not Listed
Ethylene oxide	A2	Group 1	Known Human Carcinogen	Not Listed	Listed

12. ECOLOGICAL INFORMATION

Isopropyl alcohol

Microtox Data
Photobacterium phosphoreum EC50=35390 mg/L (5 min)

Water Flea Data
Daphnia magna EC50=13299 mg/L (48 h)

Ethylene oxide

Water Flea Data
Daphnia magna LC50137 - 300 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Disposal Information
As supplied, this product is a RCRA Hazardous Waste . Waste must be tested for ignitability to determine EPA hazardous waste numbers. Do not puncture or incinerate. Depressurize before disposal. Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D.

TDG
Consumer commodity, ORM-D.

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Isopropyl alcohol	Listed
Ethylene oxide	Listed

Chemical Name	CERCLA/SARA 302 TPQ
Ethylene oxide	$1000 lb, TPQ

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Propane	Listed	Listed	Not Listed
Butane	Listed	Listed	Not Listed
Isopropyl alcohol	Listed	Listed	Not Listed
Ethylene oxide	Listed	Listed	Carcinogen Developmental Female Reproductive Male Reproductive

Chemical Name	Type
Ethylene oxide - 75-21-8	Male Reproductive Female Reproductive

WARNING: This product contains a chemical(s) known to the state of California to cause birth defects or other reproductive harm

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Propane	X	X	-	X
Butane	X	X	-	X
Isopropyl alcohol	X	X	-	X
Ethylene oxide	X	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 2
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

LAWSON
PRODUCTS, INC.

Material Safety Data Sheet

Revision Date *21-Mar-2014*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code 89153
Product name Battery Cleaner & Acid Leak Detector
Recommended Use Solvent

Supplier Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Contents under pressure. Irritant.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Skin contact. Inhalation. Eyes.

Potential health effects

Eyes Exposure to vapors or mists may cause the following effects:. Irritation. Reddening. Burning sensation.

Skin Repeated or prolonged exposure may cause:. Skin Irritation. Redness. Itching. Burning sensation.

Inhalation Exposure to vapors may cause the following effects. Irritating to respiratory system. Headaches. Dizziness. Nausea. Loss of coordination. Extreme overexposure may cause. Central nervous system depression. Possible unconsciousness. Death. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion May be harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Butane	106-97-8	5-10
Isopropyl alcohol	67-63-0	5-10
Propane	74-98-6	1-5
Ethylene oxide	75-21-8	<0.0001

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention.

Skin contact Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Seek medical attention if irritation persists.

Ingestion Do Not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation Remove to fresh air. Restore breathing. Keep warm and quiet.

5. FIRE FIGHTING MEASURES

Flash point °C < -17.78
Flash point °F < 0
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 12.7
Lower 1.9

Specific Information for Aerosol Products

Flame extension None
Flashback None

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical. Alcohol foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards
Containers may vent or burst under extreme or prolonged fire conditions. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat . During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Eliminate all sources of ignition. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling
Keep away from open flames, hot surfaces and sources of ignition. Vapors may accumulate readily and may ignite explosively. Ensure adequate ventilation. Do not smoke. Turn off other sources of ignition prior to use and until all vapors have dissipated. Do not puncture or incinerate. Do not take internally. Keep out of reach of children. Check to make sure that all equipment is properly grounded and installed to satisfy electrical classification requirements. Standard safety precautions should be observed when handling this material.

Storage
Containers exposed to extreme heat may burst. Keep away from heat and sources of ignition. Store in temperatures below 120 degrees F (50 degrees C) . Keep away from direct sunlight. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Propane	1000 ppm 1800 mg/m^3	-	1000 ppm	-
Butane	800 ppm	-	-	1000 ppm
Isopropyl alcohol	400 ppm 980 mg/m^3	-	200 ppm	400 ppm
Ethylene oxide	1 ppm	-	1 ppm	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area. Use in a well ventilated area.

Hygiene measures
Wash hands before eating or using the washroom. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing.

Respiratory protection
If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a NIOSH approved organic vapor/particulate respirator.

Hand Protection
Gloves are not required in normal use. The following gloves are recommended for prolonged or repeated contact: . Chemical resistant gloves.

Eye protection
Wear safety glasses with side shields.

Skin and body protection
None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol
Color	Colorless
Odor	No information available
Odor Threshold	No information available
pH	7.0
Specific Gravity	0.93
Vapor pressure	No data available
Density	7.71 lb/gal; 923 g/l
Vapor density	>Air
Evaporation Rate	>1 (Ether =1)
Water solubility	No data available
VOC Content	15.90%
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	< -18 - 100
Boiling point/range °F	< 0 - 213
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	< -17.78
Flash point °F	< 0

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatability
None known.

Hazardous Decomposition Products
Carbon dioxide. Carbon monoxide.

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Propane 74-98-6	-	-	658 mg/L
Butane 106-97-8	-	-	658 g/m^3
Isopropyl alcohol 67-63-0	4396 mg/kg	12800 mg/kg	16000 ppm
Ethylene oxide 75-21-8	72 mg/kg	-	800 ppm

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2. Reports have associated prolonged overexposure to solvents with permanent brain and nervous system damage.

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Propane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Butane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Isopropyl alcohol	A4	Not Listed	Not Listed	Not Listed	Not Listed
Ethylene oxide	A2	Group 1	Known Human Carcinogen	Not Listed	Listed

12. ECOLOGICAL INFORMATION

Isopropyl alcohol

Microtox Data
Photobacterium phosphoreum EC50=35390 mg/L (5 min)

Water Flea Data
Daphnia magna EC50=13299 mg/L (48 h)

Ethylene oxide

Water Flea Data
Daphnia magna LC50137 - 300 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Disposal Information
As supplied, this product is a RCRA Hazardous Waste . Waste must be tested for ignitability to determine EPA hazardous waste numbers. Do not puncture or incinerate. Depressurize before disposal. Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D.

TDG
Consumer commodity, ORM-D.

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Isopropyl alcohol	Listed
Ethylene oxide	Listed

Chemical Name	CERCLA/SARA 302 TPQ
Ethylene oxide	$1000 lb, TPQ

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Propane	Listed	Listed	Not Listed
Butane	Listed	Listed	Not Listed
Isopropyl alcohol	Listed	Listed	Not Listed
Ethylene oxide	Listed	Listed	Carcinogen Developmental Female Reproductive Male Reproductive

Chemical Name	Type
Ethylene oxide - 75-21-8	Male Reproductive Female Reproductive

WARNING: This product contains a chemical(s) known to the state of California to cause birth defects or other reproductive harm

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Propane	X	X	-	X
Butane	X	X	-	X
Isopropyl alcohol	X	X	-	X
Ethylene oxide	X	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 2
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

SAFETY DATA SHEET

1. Identification

Product identifier **Battery Terminal Protector**

Other means of identification

Product Code No. 03175 (Item# 1003433)

Recommended use Battery terminal protector

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency 800-424-9300 (US)

(CHEMTREC) 703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Reproductive toxicity (fertility)	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure (oral)	Category 2 (central nervous system, kidney, liver)
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility. May cause damage to organs (central nervous system, kidney, liver) through prolonged or repeated exposure by ingestion. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not apply while equipment is energized. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not breathe mist or vapor. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid release to the environment.
Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If exposed or concerned: Get medical attention. Collect spillage.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
liquefied petroleum gas		68476-86-8	20 - 30
n-heptane		142-82-5	10 - 20
petrolatum		8009-03-8	10 - 20
2-methylpentane		107-83-5	5 - 10
3-methylhexane		589-34-4	5 - 10
naphtha (petroleum), hydrotreated light		64742-49-0	5 - 10
2-methylhexane		591-76-4	3 - 5
heptane, branched, cyclic and linear		426260-76-6	3 - 5
methylcyclohexane		108-87-2	3 - 5
solvent naphtha (petroleum), light aliph.		64742-89-8	3 - 5
3-ethylpentane		617-78-7	1 - 3
ethylbenzene		100-41-4	1 - 3
n-hexane		110-54-3	1 - 3
paraffin oils (petroleum), catalytic dewaxed heavy		64742-70-7	1 - 3
xylene		1330-20-7	1 - 3
3,3-dimethylpentane		562-49-2	< 1
toluene		108-88-3	< 0.3
2,2-dimethylbutane		75-83-2	< 0.2
2,3-dimethylbutane		79-29-8	< 0.2
3-methylpentane		96-14-0	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain. Edema. Jaundice. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Remove all possible sources of ignition in the surrounding area. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3 100 ppm	
methylcyclohexane (CAS 108-87-2)	PEL	2000 mg/m3 500 ppm	
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	PEL	400 mg/m3 100 ppm	
n-heptane (CAS 142-82-5)	PEL	2000 mg/m3 500 ppm	
n-hexane (CAS 110-54-3)	PEL	1800 mg/m3 500 ppm	
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)	PEL	5 mg/m3	Mist.
petrolatum (CAS 8009-03-8)	PEL	5 mg/m3	Mist.
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	PEL	400 mg/m3 100 ppm	
xylene (CAS 1330-20-7)	PEL	435 mg/m3 100 ppm	

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2,2-dimethylbutane (CAS 75-83-2)	STEL	1000 ppm	
	TWA	500 ppm	
2,3-dimethylbutane (CAS 79-29-8)	STEL	1000 ppm	
	TWA	500 ppm	
2-methylhexane (CAS 591-76-4)	STEL	500 ppm	
	TWA	400 ppm	
2-methylpentane (CAS 107-83-5)	STEL	1000 ppm	
	TWA	500 ppm	
3,3-dimethylpentane (CAS 562-49-2)	STEL	500 ppm	
	TWA	400 ppm	
3-ethylpentane (CAS 617-78-7)	STEL	500 ppm	
	TWA	400 ppm	
3-methylhexane (CAS 589-34-4)	STEL	500 ppm	
	TWA	400 ppm	
3-methylpentane (CAS 96-14-0)	STEL	1000 ppm	
	TWA	500 ppm	
ethylbenzene (CAS 100-41-4)	TWA	20 ppm	
methylcyclohexane (CAS 108-87-2)	STEL	500 ppm	
	TWA	400 ppm	
n-heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-hexane (CAS 110-54-3)	TWA	50 ppm	
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)	TWA	5 mg/m3	Inhalable fraction.
petrolatum (CAS 8009-03-8)	TWA	5 mg/m3	Inhalable fraction.
toluene (CAS 108-88-3)	TWA	20 ppm	
xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
2,2-dimethylbutane (CAS 75-83-2)	Ceiling	1800 mg/m3	
		510 ppm	
	TWA	350 mg/m3	
		100 ppm	
2,3-dimethylbutane (CAS 79-29-8)	Ceiling	1800 mg/m3	
		510 ppm	
	TWA	350 mg/m3	
		100 ppm	
2-methylpentane (CAS 107-83-5)	Ceiling	1800 mg/m3	
		510 ppm	
	TWA	350 mg/m3	
		100 ppm	
3-methylpentane (CAS 96-14-0)	Ceiling	1800 mg/m3	
		510 ppm	
	TWA	350 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
		100 ppm	
ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3	
		125 ppm	
	TWA	435 mg/m3	
		100 ppm	
methylcyclohexane (CAS 108-87-2)	TWA	1600 mg/m3	
		400 ppm	
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	TWA	400 mg/m3	
		100 ppm	
n-heptane (CAS 142-82-5)	Ceiling	1800 mg/m3	
		440 ppm	
	TWA	350 mg/m3	
		85 ppm	
n-hexane (CAS 110-54-3)	TWA	180 mg/m3	
		50 ppm	
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
petrolatum (CAS 8009-03-8)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	TWA	400 mg/m3	
		100 ppm	
toluene (CAS 108-88-3)	STEL	560 mg/m3	
		150 ppm	
	TWA	375 mg/m3	
		100 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
n-hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

n-hexane (CAS 110-54-3)	Can be absorbed through the skin.
toluene (CAS 108-88-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

toluene (CAS 108-88-3)	Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

n-hexane (CAS 110-54-3) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC). Viton rubber (fluor rubber).

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Dark red.

Odor Petroleum.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -244.7 °F (-153.7 °C) estimated

Initial boiling point and boiling range 118.4 °F (48 °C) estimated

Flash point < 0 °F (< -17.8 °C) Closed Cup

Evaporation rate Fast.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1 % estimated

Flammability limit - upper (%) 8 % estimated

Vapor pressure 1453.1 hPa estimated

Vapor density Not available.

Relative density 0.73

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 489.2 °F (254 °C) estimated

Decomposition temperature Not available.

Viscosity (kinematic) Not available.

Percent volatile 86.4 % estimated

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Halogens.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. Headache. Nausea, vomiting. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May cause damage to organs through prolonged or repeated exposure by ingestion. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Edema. Jaundice.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
3-methylhexane (CAS 589-34-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 2000 mg/kg
ethylbenzene (CAS 100-41-4)		
Acute		
Inhalation		
LC50	Rat	17.2 mg/l, 4 hours
Oral		
LD50	Rat	3500 mg/kg
heptane, branched, cyclic and linear (CAS 426260-76-6)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 60 mg/l, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg
methylcyclohexane (CAS 108-87-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
n-heptane (CAS 142-82-5)		
Acute		
Dermal		
LD50	Rabbit	3000 mg/kg
n-hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 1300 mg/kg
Oral		
LD50	Rat	15840 mg/kg
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
petrolatum (CAS 8009-03-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 20 mg/l, 4 hours
Oral		
LD50	Rat	> 2000 mg/kg
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
xylene (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	4300 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
paraffin oils (petroleum), catalytic dewaxed light (CAS 64742-71-8)	3 Not classifiable as to carcinogenicity to humans.
toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging fertility.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs (central nervous system, kidney, liver) through prolonged or repeated exposure by ingestion.
Aspiration hazard	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
2-methylpentane (CAS 107-83-5)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	1 - 10 mg/l, 48 hours
Fish	LC50	Fish	1 - 10 mg/l, 96 hours
ethylbenzene (CAS 100-41-4)			
Aquatic			
Fish	LC50	Atlantic silverside (Menidia menidia)	4.4 - 5.7 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	2.1 mg/l, 48 hours
heptane, branched, cyclic and linear (CAS 426260-76-6)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.5 mg/l, 48 hours
methylcyclohexane (CAS 108-87-2)			
Aquatic			
Fish	LC50	Striped bass (Morone saxatilis)	5.8 mg/l, 96 hours
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	1 - 10 mg/l, 48 hours
Fish	LC50	Fish	1 - 10 mg/l, 96 hours
n-heptane (CAS 142-82-5)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	2.1 - 2.98 mg/l, 96 hours
n-hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.5 mg/l, 48 hours

Components		Species	Test Results
toluene (CAS 108-88-3)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	6 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	5.5 mg/l, 96 hours
xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	9.54 - 19.2 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)	
2,2-dimethylbutane	3.82
2,3-dimethylbutane	3.42
2-methylpentane	3.74
3-methylpentane	3.6
ethylbenzene	3.15
methylcyclohexane	3.61
n-heptane	4.66
n-hexane	3.9
toluene	2.73
xylene	3.12 - 3.2
Bioconcentration factor (BCF)	
ethylbenzene	1
naphtha (petroleum), hydrotreated light	10 - 25000
toluene	90
xylene	23.99

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products If discarded, this product is considered a RCRA ignitable waste, D001. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1950

UN proper shipping name Aerosols, flammable, Limited Quantity

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s) 2.1

Packing group Not applicable.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions N82

Packaging exceptions 306

Packaging non bulk None

Packaging bulk None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, Limited Quantity
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

ethylbenzene (CAS 100-41-4)
n-hexane (CAS 110-54-3)
xylene (CAS 1330-20-7)

CERCLA Hazardous Substance List (40 CFR 302.4)

3,3-dimethylpentane (CAS 562-49-2)	Listed.
ethylbenzene (CAS 100-41-4)	Listed.
n-hexane (CAS 110-54-3)	Listed.
toluene (CAS 108-88-3)	Listed.
xylene (CAS 1330-20-7)	Listed.

CERCLA Hazardous Substances: Reportable quantity

3,3-dimethylpentane (CAS 562-49-2)	100 LBS
ethylbenzene (CAS 100-41-4)	1000 LBS
n-hexane (CAS 110-54-3)	5000 LBS
toluene (CAS 108-88-3)	1000 LBS
xylene (CAS 1330-20-7)	100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

ethylbenzene (CAS 100-41-4)
n-hexane (CAS 110-54-3)
xylene (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

toluene (CAS 108-88-3)	6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

toluene (CAS 108-88-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

toluene (CAS 108-88-3)	594

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

ethylbenzene (CAS 100-41-4)
liquefied petroleum gas (CAS 68476-86-8)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-hexane (CAS 110-54-3)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
petrolatum (CAS 8009-03-8)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. New Jersey Worker and Community Right-to-Know Act

2,2-dimethylbutane (CAS 75-83-2)
2,3-dimethylbutane (CAS 79-29-8)
2-methylpentane (CAS 107-83-5)
3-methylhexane (CAS 589-34-4)
ethylbenzene (CAS 100-41-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
n-hexane (CAS 110-54-3)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. Massachusetts RTK - Substance List

2,2-dimethylbutane (CAS 75-83-2)
2,3-dimethylbutane (CAS 79-29-8)
2-methylhexane (CAS 591-76-4)
2-methylpentane (CAS 107-83-5)
3-methylhexane (CAS 589-34-4)
3-methylpentane (CAS 96-14-0)
ethylbenzene (CAS 100-41-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
n-hexane (CAS 110-54-3)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

2,2-dimethylbutane (CAS 75-83-2)

2,3-dimethylbutane (CAS 79-29-8)
2-methylhexane (CAS 591-76-4)
2-methylpentane (CAS 107-83-5)
3,3-dimethylpentane (CAS 562-49-2)
3-methylhexane (CAS 589-34-4)
3-methylpentane (CAS 96-14-0)
ethylbenzene (CAS 100-41-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
n-hexane (CAS 110-54-3)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. Rhode Island RTK

ethylbenzene (CAS 100-41-4)
methylcyclohexane (CAS 108-87-2)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-heptane (CAS 142-82-5)
n-hexane (CAS 110-54-3)
paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)
petrolatum (CAS 8009-03-8)
solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

benzene (CAS 71-43-2)	Listed: February 27, 1987
cumene (CAS 98-82-8)	Listed: April 6, 2010
ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
naphthalene (CAS 91-20-3)	Listed: April 19, 2002

US - California Proposition 65 - CRT: Listed date/Developmental toxin

benzene (CAS 71-43-2)	Listed: December 26, 1997
toluene (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

benzene (CAS 71-43-2)	Listed: December 26, 1997

Volatile organic compounds (VOC) regulations

EPA

Aerosol coatings (40 CFR 59, Subpt. E) Not regulated

State

Aerosol coatings This product is regulated as an Electrical Coating. This product is compliant for sale in all 50 states.

Maximum incremental reactivity (MIR) 1.253

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 10-21-2013

Revision date 10-12-2017

Prepared by Allison Yoon

Version # 04

Further information CRC # 597P-Q/1002627-1002629

HMIS® ratings
Health: 2*
Flammability: 4
Physical hazard: 1
Personal protection: B

NFPA ratings
Health: 2
Flammability: 4
Instability: 1

NFPA ratings

Disclaimer The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..

Revision Information
Product and Company Identification: Product Codes
Composition / Information on Ingredients: Ingredients
Composition/information on ingredients: Component information
Handling and storage: Precautions for safe handling
Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group
Other information, including date of preparation or last revision: Further information
GHS: Qualifiers

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: BECHEM HIGH-LUB SW 2 V

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Lubricant

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier:
CARL BECHEM GMBH
Weststraße 120
58089 Hagen, Germany
Phone +49 2331 935-0
Fax +49 2331 935-1199
Email: bechem@bechem.de
http://www.bechem.com

Informing department: product safety department : ps@bechem.com
1.4 Emergency telephone number: +49 2331 935-1500
Code: 5310401

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Xn; Harmful
R65: Harmful: may cause lung damage if swallowed.
N; Dangerous for the environment
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R10-67: Flammable. Vapours may cause drowsiness and dizziness.

2.2 Label elements

Labelling according to EU guidelines:

Code letter and hazard designation of product:

Xn Harmful
N Dangerous for the environment

Risk phrases:
10 Flammable.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.
67 Vapours may cause drowsiness and dizziness.

Safety phrases:
23 Do not breathe vapour/spray.
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
57 Use appropriate container to avoid environmental contamination.
60 This material and its container must be disposed of as hazardous waste.
62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Special labelling of certain preparations:
Contains (4-nonylphenoxy)acetic acid. May produce an allergic reaction.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixture
Description: Mixture of the substances listed below with harmless additions.

Dangerous components:			
CAS: 64742-82-1 EINECS: 265-185-4 Index number: 649-330-00-2	Naphtha (petroleum), hydrodesulfurized heavy	Xn R65; N R51/53 R10-66-67	≤ 40%
CAS: 61789-86-4 EINECS: 263-093-9	Sulfonic acids, petroleum, calcium salts	Xi R36/37	1-2.5%
CAS: 3115-49-9 EINECS: 221-486-2	(4-nonylphenoxy)acetic acid	C R34; Xn R22; Xi R43; N R51/53	< 1.0%

(Contd. on page 2)

(Contd. of page 1)

Additional information For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation Supply fresh air.
After skin contact Immediately wash with water and soap and rinse thoroughly.
After eye contact Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
After swallowing Call a doctor immediately.
4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
Danger If swallowed or in case of vomiting, danger of entering the lungs.
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents CO2, sand, extinguishing powder. Do not use water.
For safety reasons unsuitable extinguishing agents Water.
5.2 Special hazards arising from the substance or mixture Carbonmonoxide (CO) and carbondioxide (CO_2)
5.3 Advice for firefighters
Protective equipment:
Do not inhale explosion gases or combustion gases.
Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep away from ignition sources
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
6.2 Environmental precautions: Do not allow to enter drainage system, surface or ground water.
6.3 Methods and material for containment and cleaning up:
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Do not flush with water or aqueous cleansing agents
6.4 Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Prevent formation of aerosols.
Information about protection against explosions and fires:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: Store only in the original container.
Information about storage in one common storage facility: Store away from oxidizing agents.
Further information about storage conditions: Keep container tightly sealed.
Recommended storage temperature: room temperature
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:
TLV (Threshold Limit Values) of the American Conference of Governmental Industrial Hygienists listed for information purposes only.

Oil mist, mineral	
OEL (Great Britain)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³
TLV (USA)	Long-term value: 5 mg/m³

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to when handling the lubricant.

(Contd. on page 3)

(Contd. of page 2)

Breathing equipment:
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
Protection of hands: Protective gloves.
Material of gloves
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Not suitable are gloves made of the following materials:
Leather gloves
Strong gloves
Eye protection: Tightly sealed safety glasses.
Body protection: Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Fluid
Colour:	Yellowish
Smell:	Characteristic
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Flash point:	41°C (ISO 2592)
Ignition temperature:	Not determined
Danger of explosion:	Not determined
Density at 20°C	0.89 g/cm³ (DIN 51 757)
Solubility in / Miscibility with	
Water:	Not mixable or difficult to mix
Viscosity:	
kinematic at 40°C:	< 7.0 mm²/s (DIN 51562)
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials: No further relevant information available.
10.6 Hazardous decomposition products: None in case of appropiate storage/handling/transport.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
Primary irritant effect:
on the skin: light irritation possible
on the eye: light irritation possible

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: No further relevant information available.
12.2 Persistence and degradability No further relevant information available.
12.3 Bioaccumulative potential No further relevant information available.
12.4 Mobility in soil No further relevant information available.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 4)

Trade name: BECHEM HIGH-LUB SW 2 V

(Contd. of page 3)

European waste catalogue
It is not possible to state the European waste code from the CE catalogue since the classification of these codes is done according to the individual industries.Therefore several codes can be related to one product. The correct classification can be done by the user only.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number	
ADR, IMDG, IATA	UN1300
14.2 UN proper shipping name	
ADR	1300 TURPENTINE SUBSTITUTE, mixture, ENVIRONMENTALLY HAZARDOUS
IMDG	TURPENTINE SUBSTITUTE, mixture, MARINE POLLUTANT
IATA	TURPENTINE SUBSTITUTE, mixture
14.3 Transport hazard class(es)	
ADR, IMDG, IATA	
Class	3 Flammable liquids.
Label	3
14.4 Packing group	
ADR, IMDG, IATA	III
14.5 Environmental hazards:	
Marine pollutant:	Yes Symbol (fish and tree)
Special marking (ADR):	Symbol (fish and tree)
14.6 Special precautions for user	Warning: Flammable liquids.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

Transport/Additional information:

ADR	
Tunnel restriction code	D/E

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This data is based on our present knowledge. However, it shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
Relevant phrases
R10 Flammable.
R22 Harmful if swallowed.
R34 Causes burns.
R36/37 Irritating to eyes and respiratory system.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

Department issuing data specification sheet: product safety department
Contact: ps@bechem.com

Benefect Botanical Disinfectant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015 Date of issue: 06/19/2015 Revision date: 04/23/2020 Version: 2.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Benefect Botanical Disinfectant

Product code : 21275, 20475, 20275, 22075, 51275, 50475, 50275, 52075 & 51275

EPA Registration Number : 84683-1-74771

Heath Canada (DIN) : 02242474

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Disinfectant

1.3. Details of the supplier of the safety data sheet

Sensible Life Products (div of Benefect Corp)
555 Bay Street North
Hamilton, Ontario L8L1H1 - Canada
T (905) 528-7474

1.4. Emergency telephone number

Emergency number- Chemtel / International- Chemtel :(800)-255-3924 / (813)-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS classification

Not classified.

2.2. Label elements

GHS labelling

No labelling applicable.

2.3. Other hazards

No additional information available.

2.4. Unknown acute toxicity (GHS)

Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Oils, thyme	(CAS No) 8007-46-3	0.1 - 1
Oils, lemongrass	(CAS No) 8007-02-1	0.1 - 1

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists.

First-aid measures after eye contact : In case of contact, flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : None under normal use. May cause slight irritation.

Symptoms/injuries after skin contact : None under normal use. May cause an allergic skin reaction in sensitive individuals.

Symptoms/injuries after eye contact : None under normal use. May cause slight irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : None under normal use.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Treat for surrounding material.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : None known.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Keep unnecessary personnel away from the release.

6.2. Methods and material for containment and cleaning up

For containment : Contain and/or absorb spill, then place in a suitable container.

Methods for cleaning up : Thoroughly wash the area with water after a spill or leak.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with eyes. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Wash hands with water as a precaution.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store at room temperature.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Oils, thyme (8007-46-3)	
ACGIH	Not applicable
OSHA	Not applicable

Oils, lemongrass (8007-02-1)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls : No special precuations.

Hand protection : None necessary under normal conditions of use.

Eye protection : None necessary under normal conditions of use.

Skin and body protection : None necessary under normal conditions of use.

Respiratory protection : None necessary under normal conditions of use.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Hazy
Colour	: Light tan
Odour	: Lemon/Spice
Odour threshold	: No data available
pH	: 4.0-5.0
Melting point	: As per water
Freezing point	: As per water
Boiling point	: As per water
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: As per water
Flammability (solid, gas)	: Not flammable
Explosive limits	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: Not applicable
Relative density	: 1.00-1.02
Relative vapour density at 20 °C	: Not applicable
Solubility	: Soluble in water :
Partition coefficient: n-octanol/water	No data available :
Log Kow	No data available :
Auto-ignition temperature	Not combustible :
Decomposition temperature	No data available :
Viscosity	As per water

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

Benefect Botanical Disinfectant	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 20 mg/l/4h

Oils, thyme (8007-46-3)	
LD50 oral rat	2840 mg/kg
LD50 dermal rabbit	> 5 g/kg

Oils, lemongrass (8007-02-1)	
LD50 oral rat	> 5 g/kg
LD50 dermal rabbit	> 5 g/kg

Skin corrosion/irritation : Based on available data, the classification criteria are not met.

Serious eye damage/irritation : Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.

Germ cell mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.

Reproductive toxicity : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) : Based on available data, the classification criteria are not met.

Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : None under normal use. May cause slight irritation.

Symptoms/injuries after skin contact : None under normal use. May cause an allergic skin reaction in sensitive individuals.

Symptoms/injuries after eye contact : None under normal use. May cause slight irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : None under normal use.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No known significant effects or critical hazards.

Aquatic Toxicity : Not toxic to aquatic life (IC50 >100 mg/L, Protocol EPS 1/RM/24)

12.2. Persistence and degradability

Benefect Botanical Disinfectant	
Persistence and degradability	Readily Biodegradable (85% in 28 days, OECD 301D Method)

12.3. Bioaccumulative potential

Benefect Botanical Disinfectant	
Bioaccumulative potential None.	

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not reuse container. Recycle empty containers where allowed.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport.

Additional information

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US regulations

All components of this product are not listed or are excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

EPA labelling

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

This product has no assigned hazard information according to the Environmental Protection Agency.

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

15.2. Canada regulations

WHMIS : Exempt DIN # 02242474
This product has no assigned hazard information according to Health Canada

SECTION 16: Other information

HMIS	
Health Hazard:	0
Flammability:	0
Reactivity:	0

Date of Revision	: 04/23/2020
Other information	: None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Benefect Botanical Multi-Purpose Cleaner

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015

Date of issue: 05/26/2015 Revision date: 05/12/2017 Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Benefect Botanical Multi-Purpose Cleaner

Product code : 30475

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Multi-Purpose Cleaner

1.3. Details of the supplier of the safety data sheet

Sensible Life Products (div of Benefect Corp)
555 Bay Street North
Hamilton, Ontario, Canada L8L1H1
T (905) 528-7474

1.4. Emergency telephone number

Emergency number : (905) 528-7474

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS classification

Not classified.

2.2. Label elements

GHS labelling

No labelling applicable.

2.3. Other hazards

No additional information available.

2.4. Unknown acute toxicity (GHS)

Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	(CAS No) 110615-47-9*	10 - 30	Skin Irrit. 2B

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If irritation occurs, flush skin with plenty of water. Call a physician if irritation persists.

First-aid measures after eye contact : If irritation occurs, flush eyes with plenty of water. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause temporary irritation.

Symptoms/injuries after skin contact : May cause temporary irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : May cause temporary stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Treat for surrounding material.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary personnel.

6.2. Methods and material for containment and cleaning up

For containment : Contain and/or absorb spill, then place in a suitable container.

Methods for cleaning up : Thoroughly wash the area with water after a spill or leak.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid prolonged contact with skin and eyes. Do not swallow. Handle and open container with care.

Hygiene measures : General hygiene is normally adequate.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store at room temperature.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

D-Glucopyranose, oligomeric, C10-16-alkyl glycosides (110615-47-9)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls : General ventilation adequate under normal conditions of use.

Hand protection : Suitable gloves are recommended due to concentrated surfactants.

Eye protection : Safety glasses or goggles are recommended due to concentrated surfactants.

Skin and body protection : Suitable protective clothing as required by employer code.

Respiratory protection : None necessary under normal conditions of use.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No data available
Color	:	Light tan
Odor	:	Odourless
Odor threshold	:	No data available
pH	:	4 - 5
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butylacetate=1)	:	As per water
Flammability (solid, gas)	:	Not flammable
Explosive limits	:	Not applicable
Explosive properties	:	No data available
Oxidising properties	:	No data available
Vapor pressure	:	No data available
Relative density	:	No data available
Relative vapor density at 20 °C	:	No data available
Solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Log Kow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	As per water

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong alkalis. Strong acids. Oxidizers.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

Benefect Botanical Multi-Purpose Cleaner	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	No data available

D-Glucopyranose, oligomeric, C10-16-alkyl glycosides (110615-47-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation	:	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	:	Based on available data, the classification criteria are not met.
Carcinogenicity	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure)	:	Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure)	:	Based on available data, the classification criteria are not met.
Aspiration hazard	:	Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	:	May cause temporary irritation.
Symptoms/injuries after skin contact	:	May cause temporary irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact	:	May cause temporary irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/injuries after ingestion	:	May cause temporary stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No known significant effects or critical hazards.

12.2. Persistence and degradability

Benefect Botanical Multi-Purpose Cleaner	
Persistence and degradability	Biodegradable.

12.3. Bioaccumulative potential

Benefect Botanical Multi-Purpose Cleaner	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible. Recycle empty containers where allowed.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

Additional information

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Collagens, hydrolyzates	CAS No 92113-31-0

15.2. US State regulations

Benefect Botanical Multi-Purpose Cleaner	
State or local regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

SECTION 16: Other information

HMIS

Health Hazard:	1
Flammability:	0
Reactivity:	0

Date of revision : 05/12/2017

Other information : None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: BEYE 1-GL 4PK HIGH HIDE ODORLESS

Revision Date: 4/29/2020

Product Identifier: 3951

Supercedes Date: 5/6/2015

Recommended Use: Primer/Alkyd

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
31% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Carcinogenicity, category 1B	H350	May cause cancer.
Flammable Liquid, category 3	H226	Flammable liquid and vapor.
Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. NO SMOKING.
P233	Keep container tightly closed.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P370+P378	In case of fire: Use alcohol film forming foam, carbon dioxide, dry chemical, dry sand to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local, regional and national regulations.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

3. Composition / Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Naphtha, Hydrotreated Heavy	64742-48-9	10-25	GHS08	H304-340-350
Titanium Dioxide	13463-67-7	2.5-10	Not Available	Not Available
Hydrous Magnesium Silicate	14807-96-6	1.0-2.5	Not Available	Not Available

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat due to buildup of steam. Keep containers tightly closed. Combustible liquid and vapor. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): No Information

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing. Avoid contact with eyes.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Keep away from heat, sparks, flame and sources of ignition. Keep container closed when not in use. Avoid excess heat.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Naphtha, Hydrotreated Heavy	64742-48-9	25.0	N.E.	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	10.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Hydrous Magnesium Silicate	14807-96-6	5.0	2 mg/m3	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Specific Gravity:	1.597	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	166 - 537	**Explosive Limits, vol%:**	0.7 - 5.6
Flammability:	Supports Combustion	**Flash Point, °C:**	42
Evaporation Rate:	Slower than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes eye irritation. Substance causes moderate eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. May cause headaches and dizziness. High vapor concentrations are

irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Irritating to the nose, throat and respiratory tract. Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES
The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-48-9	Naphtha, Hydrotreated Heavy	>6000 mg/kg Rat	>3160 mg/kg Rabbit	N.E.
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	2500 mg/kg	N.E.
14807-96-6	Hydrous Magnesium Silicate	6000	N.E.	30

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Do not incinerate closed containers. Dispose of material in accordance to local, state, and federal regulations and ordinances.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Not Regulated	Paint	Paint	Not Regulated
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	No	Yes	Yes	No

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Flammable (gases, aerosols, liquids, or solids), Carcinogenicity, Germ cell mutagenicity

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations:

California Proposition 65:

WARNING: No Prop. 65 warning is required.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	2	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	2	**Instability**	0

Volatile Organic Compounds 335 g/L

SDS REVISION DATE: 4/29/2020

REASON FOR REVISION:
Revision Description Changed
Product Composition Changed
Substance and/or Product Properties Changed in Section(s):
01 - Identification
02 - Hazard Identification
05 - Fire-fighting Measures
09 - Physical & Chemical Properties
14 - Transport Information
15 - Regulatory Information
16 - Other Information
Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.D. - Not Determined, N.E. - Not Established

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

BLEACH 5.0% - 7.9%

Effective date: 15-Fev-2013

SECTION 1 : IDENTIFICATION	
Product identifier:	BLEACH
Product name :	Sodium Hypochlorite Aqueous solution, 5%w/w to 7.9%w/w
Product Use:	Chlorine based bleaching agents
Supplier's name:	LAVO Inc
Address :	11900 Boul. Saint-Jean Baptiste Montréal, Québec Canada H1C 2J3
Telephone :	1-800-361-6898 or 514-526-7783
Emergency phone :	CANUTEC (transport) 1-613-996-6666

SECTION 2 : HAZARD IDENTIFICATION	
Classification :	DANGER. CAUSE EYE BURNS. CAUSE SKIN BURNS.
POTENTIAL HEALTH EFFECTS:	
Signs and symptoms of short-term (acute) exposure	
Inhalation :	Inhalation of high concentrations of fumes or mists may cause severe irritation and corrosive damage to the nose, throat and upper respiratory tract. Inhalation of high concentrations of fumes or mists may cause severe irritation and corrosive damage to the nose, throat and upper respiratory tract.
Skin :	May cause chemical burns. Direct skin contact may cause skin burns and deep ulcerations.
Eyes :	May cause chemical burns. May cause blindness.
Ingestion :	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.
Effects of long-term (chronic) exposure :	Prolonged or repeated contact may cause drying, cracking and de-fatting of the skin.
Signs and symptoms:	The product may cause burns to eyes, skin and mucous membranes.
Carcinogenic status:	See TOXICOLOGICAL INFORMATION, Section 11.
Additional health hazards:	See TOXICOLOGICAL INFORMATION, Section 11.
Potential environmental effect :	See TOXICOLOGICAL INFORMATION, Section 12.

SECTION 3 : COMPOSITION/INFORMATION ON INGRÉDIENTS		
Ingrédients	**CAS**	**Conc**
Sodium Hydroxide	1310-73-2	0.2 - 5 %w/w
Sodium Hypochlorite	7681-52-9	5.0 - 7.9 %w/w
Eau	7732-18-5	90 - 100 %w/w

SECTION 4 : FIRST AID MEASURES	
Inhalation :	Immediately remove person to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Seek immediate medical attention/advice.
Skin contact:	Wash thoroughly with soap and water for at least 15 minutes. Take off immediately all contaminated clothing. Discard or wash before reuse. Obtain medical attention immediately.
Eye contact :	Flush eyes thoroughly with running water for at least 15 minutes, holding eyelids open to ensure complete flushing. Seek immediate medical attention/advice.
Ingestion :	Never give anything by mouth to an unconscious person. Do not induce vomiting. Have victim rinse mouth with water and then give one to two glasses of water to drink. Seek immediate medical attention/advice. Do not give acidic antidotes such as juice, soft drinks, vinegar, etc.
Notes for physician :	Treat symptomatically.

SECTION 5 : FIRE FIGHTING MEASURES	
Fire hazards/conditions of flammability:	Not flammable under normal conditions of use. May react with water, generating heat. The heat that is generated may be sufficient enough to ignite nearby combustible materials. Product may react with some metals and release small amounts of flammable hydrogen gas.
Flammability classification (OSHA 29 CFR 1910.1200):	Not flammable.
Oxidizing properties:	None known.
Explosion data: Sensitivity to mechanical impact / static discharge:	Not expected to be sensitive to mechanical impact or static discharge.
Suitable extinguishing media:	Treat with surrounding material. Do not use dry chemical extinguishing agents that contain ammonium compounds.
Special fire-fighting procedures/equipment:	Firefighters should wear proper protective equipment and self contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Use water to cool fire exposed containers.
Hazardous combustion products:	May include and are not limited to: Chlorine; Hydrogen chloride gas; Oxygen; Sodium oxides.

SECTION 6 : ACCIDENTAL RELEASE MEASURES	
Personal precautions:	Restrict access to area until completion of clean up. Ensure clean up is conducted by trained personnel only. Do not touch and walk through spilled material. All persons dealing with clean up should wear the appropriate protective equipment including self contained breathing apparatus. Do not touch damage damaged containers or spilled material unless wearing appropriate protective clothing.
Environmental precautions:	Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.
Spill response/cleanup:	Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Flush with water. Do not flush into surface water or sanitary sewer system. Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.
Prohibited materials:	Do not use combustible absorbents, such as sawdust.

SECTION 7 : HANDLING AND STORAGE	
Safe Handling procedures:	Wear chemically resistant protective equipment during handling. Use only in well ventilated areas. Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapor) and can be dangerous.
Storage requirements :	Keep out the reach of children. Store in a cool, dry, well ventilated area. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Protect from sunlight. Do not freeze.

SECTION 8 : EXPOSURE CONTROLS AND PERSONAL PROTECTION					
Exposure Limits		**ACGIH TLV**		**OSHA**	
Ingredients	**CAS**	**TWA**	**STEL**	**PEL**	**STEL**
Sodium Hydroxide	1310-73-2	Ceiling 2 mg/m^3	N/D	Ceiling 2 mg/m^3	N/D
Sodium Hypochlorite	7681-52-9	N/D	2 mg/m³ (AIHA WEEL)	N/D	N/D
Ventilation and engineering measures :		Use only in well ventilated areas. Use local exhaust if mist or spray is generated.			
Respiratory protection :		Respiratory protection is required if the concentrations exceed the TLV. NIOSH approved respirators are recommended. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4 02.			
Skin protection :		Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.			
Eye/face protection :		Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.			
Other protective equipment :		Wear resistant clothing and boots. An eyewash station and safety shower should be made available in the immediate working area.			
General hygiene considerations :		Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.			

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES			
Physical state	Clear Liquid	**Appearance**	yellow-green liquid.
Odor	Chlorine odor	**Odor threshold**	N/Av
pH	12.0 -13.0	**Density**	1.05 - 1.10
Boiling Point	N/Av	**Coefficient of water/oil distribution**	N/Av
Melting/Freezing Point	-5°C (23°F)	**Solubility in water**	Soluble
Vapor Pressure	N/Av	**Evaporation rate**	N/Av
Volatile organic Compounds	N/Av	**Absolute pressure of container**	N/Av
Flash Point	N/Av	**Viscosity**	N/Av
Flash Point, method	N/Av	**Auto-ignition temperature**	N/Av
Lower flammable limit	N/Av	**Upper flammable limit**	N/Av
Volatiles (% by weight)	N/Av	**Flashback observed**	N/Av

SECTION 10 : STABILITE AND REACTIVITY	
Stability/Reactivity:	Stable under the recommended storage and handling conditions prescribed. Contact with some reactive metals may produce flammable hydrogen gas. Product may slowly decompose in sunlight, generating small amounts of oxygen. Reacts with amines and ammonia compounds to form explosively unstable compounds. May develop chlorine if mixed with acidic solutions. Corrosive to metals.
Hazardous polymerization :	Not expected under prescribed storage and handling conditions.
Conditions to avoid	Avoid heat and open flame. Keep away from incompatibles. Keep container tightly closed when not in use. Keep away from direct sunlight.
Materials To Avoid And Incompatibility:	Acids. Oxidizers. Primary amines. Ammonium salts. Ammonia. Urea.
Hazardous decomposition products :	May include and are not limited to : Hydrogen chloride, Chlorine gas, Oxygen, Disodium oxide.

SECTION 11 : TOXICOLOGICAL INFORMATION				
Target organs:	Eyes, skin, respiratory system and digestive system.			
Routes of exposure :	*Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion* : YES			
Toxicological data:	There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.			
Ingredients	**CAS**	**CL50(4hr) inh, rat**	**DL50 (Oral, rat)**	**DL50 (Rabbit, dermal)**
Sodium Hydroxide	1310-73-2	Not available.	800 mL/kg	Not available.
Sodium Hypochlorite	7681-52-9	> 5250 mg/m³	8200 mg/kg rat 5800 mg/kg mouse	> 10,000 mg/kg
Effect of acute exposure:				
Inhalation;	May cause chemical burns.			
Skin:	May cause chemical burns.			
Eyes;	May cause chemical burns. May cause blindness.			
Ingestion:	Avoid swallowing. May cause chemical burns to mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.			
Sensitization to material :	No data available to indicate product or components may be respiratory sensitizers. May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals.			
Chronic effect:	Non-Hazardous by WHMIS criteria.			
Carcinogenic Status:	Non-Hazardous by WHMIS criteria.			
IARC Groupe 3 (Not classifiable) :				
Sodium Hypochlorite	7681-52-9	Monograph 52 (1991) (listed under Hypochlorite salt)		
Mutagenicity :	Non-Hazardous by WHMIS criteria.			
Reproductive effects :	Non-Hazardous by WHMIS criteria.			
Teratogenicity :	Non-Hazardous by WHMIS criteria.			
Synergistic materials:	Not available.			
Irritancy :	Corrosive.			

SECTION 12 : ECOLOGICAL INFORMATION		
Ecotoxicity – Freshwater Algae – Acurate Toxicity		
Sodium Hypochlorite	7681-52-9	24 Hr EC50 Skeletonema costatum: 0.095 mg/L
Ecotoxicity – Freshwater Fish – Acurate Toxicity		
Sodium Hydroxide	1310-73-2	LC50 Truite arc-en-ciel :1149mg/L Chinock salmon :152 mg/L
Sodium Hypochlorite	7681-52-9	96 Hr LC50 Pimephales promelas: 0.06 - 0.11 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 4.5 - 7.6 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 0.4 - 0.8 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 0.28 - 1 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.05 - 0.771 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.03 - <0.19 mg/L [semi-static]; 96 Hr LC50 Oncorhynchus mykiss: 0.18 - 0.22 mg/L [static]
Ecotoxicity – Water Flea – Acurate Toxicity		
Sodium Hydroxide	1310-73-2	Not available.
Sodium Hypochlorite	7681-52-9	96 Hr EC50 Daphnia magna: 2.1 mg/L; 48 Hr EC50 Daphnia magna: 0.033 - 0.044 mg/L [Static]
Ecotoxicity – Water Flea – Acurate Toxicity		
Sodium Hydroxide	1310-73-2	Not available.
Sodium Hypochlorite	7681-52-9	96 Hr EC50 Daphnia magna: 2.1 mg/L; 48 Hr EC50 Daphnia magna: 0.033 - 0.044 mg/L [Static]
Mobility :		No data is available on the product itself.
Persistence :		No data is available on the product itself.
Bioaccumulation Potential:		No data is available on the product itself.
Other Adverse environmental effects :		No data is available on the product itself.

MATERIAL SAFETY DATA SHEET

BLEACH 5.0% - 7.9%

Effective date: 15-Fev-2013

SECTION 13 : DISPOSAL CONSIDERATIONS	
Handling for Disposal :	Handle waste according to recommendations in Section 7.
Methods of Disposal:	Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

SECTION 14 : TRANSPORT INFORMATION

Transportation of Dangerous Goods (TDG - Canada) :

Regulations	Compounds more than 7% available chlorine.	UN number	Class
Canada (TMD)	HYPOCHLORITE SOLUTION	UN1791	8
United States (DOT)	HYPOCHLORITE SOLUTION	UN1791	8
Packaging exceptions:	Limited quantity ≤ 5L.		

SECTION 15 : REGULATORY INFORMATION

Canadian federal regulations :	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS – Ingredient Disclosure List

Sodium Hydroxide	1310-73-2	1%
Sodium Hypochlorite	7681-52-9	1%
WHMIS classification	Class E Corrosive	**WHMIS labeling:** 
WHMIS status	Controlled	

Canadian inventory status: All components of this product are either on the Domestic Substances List (DSL), the Non Domestic Substances list (NDSL) or exempt.

SECTION 16 : OTHER INFORMATION

HMIS LEGEND	0- Minimal 1-Slight 2-Moderate 3-Serious Health: 3 Flammability : 0 Reactivity : 1
Disclaimer of liability:	The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. Lavo Inc. expressly disclaims all expressed or implied warranties for the accuracy or completeness of the data contained herein and assumes no responsibilities for any involved damages by above data. Product's users have to do their own tests to establish the applicability of the information for a specific use of the product. MSDS data does not apply to use with any other product or in any other process.
Other information:	For an update MSDS, Please contact the supplier/manufacturer listed on the first page of the document. Reference: MSDS of suppliers. SIMDUT regulation
Prepared by :	Lavo Inc. 11900 Boul. Saint-Jean Baptiste Montréal, QC, Canada H1C 2J3 Telephone : 1- 800-361-6898 www.lavo.ca
Issuing date:	15-Feb-2013 Due date: Feb-2016

Safety Data Sheet

Product Name: Body Pro Mini Fibre
Product identifier: 905210
Revision Date: 03-18-2016
Replaces:

1. Identification

Product identifier used on the label:

Product Name:	**Body Pro Mini Fibre**
Product identifier:	905210
Other means of identification	
Synonyms:	No data available
Recommended use of the chemical and restrictions on use:	Fiberglass reinforced bodyfiller

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Chemical Manufacturer / Importer / Distributor:	ITW Evercoat a division of Illinois Tool Works Inc. 6600 Cornell Road Cincinnati, OH 45242 513-489-7600
Emergency phone number:	CHEMTREC: 1-800-424-9300 CANUTEC: 1-613-996-6666

2. Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Hazard Symbols:

GHS Classification:	Respiratory Sensitisation Category 1 Skin Sensitisation Category 1 Reproductive Toxicity Category 1B Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1 Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 1 Skin Corrosion/Irritation Category 2 Serious Eye Damage/Eye Irritation Category 2A Germ Cell Mutagenicity Category 2 Carcinogenicity Category 2 Flammable Liquid Category 3 Hazardous to the aquatic environment - Acute Category 3
GHS Signal Word:	Danger

GHS Hazard Statements:	Flammable liquid and vapour. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life.
GHS Precautionary Statements:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.
First Aid Measures:	IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. In case of fire: Use for extinction.

Storage:	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.
Hazards not otherwise classified:	Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

3. Composition/information on ingredients

Chemical Component:	CAS number and other unique identifiers	% (or range) of ingredient
Styrene	100-42-5	10 - 30
Acid anhydride	85-43-8	0.1 - 1
Dimethylaniline (DMA)	121-69-7	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

Eye Contact:	Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention. Flush eyes gently with water for at least 15 minutes, lifting upper & lower eye lids. Seek immediate medical attention.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists. Remove contaminated clothing and continue flushing with water. Wash affected area thoroughly with soap and water. Seek medical advice if symptoms persist Wash clothing before reuse.
Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately If symptoms develop, immediately move individual away from exposure and into fresh air. Get medical attention immediately. Keep the victim warm and quiet. If the victim has stopped breathing open airway, loosen collar and belt, and administer artificial respiration. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice.
Ingestion:	Do not induce vomiting and seek medical attention immediately.

	Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Call a physician or poison control center immediately. Do not induce vomiting unless directed to do so by medical personnel. If individual is drowsy or unconscious, do not give anything by mouth; place individual on left side with head down. If possible, do not leave individual unattended. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.

Most important symptoms/effects, acute and delayed:

Most important symptoms/effects (Acute):	No data available
Most important symptoms/effects (Delayed):	No data available
Indication of immediate medical attention and special treatment needed, if necessary:	No additional first aid information available

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water spray when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the fire. Do not direct a water stream directly into the hot burning liquid. Regular foam Carbon dioxide Dry chemical
Unsuitable extinguishing media:	No data available

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Fire and/or Explosion Hazards:	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide, Styrene oxide, Phthalic anhydride, Hydrocarbons
Special protective equipment and precautions for fire-fighters:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Water may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat. Wear a self contained breathing apparatus (NIOSH approved) with a full face piece operated in the positive pressure demand mode

with appropriate turn-out gear and chemical resistant personal protective equipment.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

Methods and materials for containment and cleaning up: No special spill clean-up considerations. Collect and discard in regular trash. Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area. Activate available exhaust ventilation equipment in the immediate spill area. All personnel in the area should be protected as in Section 8. Avoid breathing vapors. Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container.

7. Handling and storage

Precautions for safe handling: Mildly irritating material. Avoid unnecessary exposure. All hazard precautions given in the data sheet must be observed. Do not get in eyes, on skin and clothing Wash hands before eating Use with adequate ventilation Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Do not take internally. Keep container closed when not in use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Conditions for safe storage: Store in a cool dry place. Isolate from incompatible materials. Store in a cool dry place For maximum product quality, avoid prolonged storage at temperatures above 75 °F (25 °C). Keep away from heat, sparks, and flame Store in a tightly closed container Avoid contact with incompatible materials.

Materials to Avoid/Chemical Incompatibility: Peroxides Strong acids Strong oxidizing agents Polymerization catalysts

8. Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available:

Chemical Component	OSHA PEL	ACGIH TLV-TWA	ACGIH STEL
Styrene	100 ppm	20 ppm	40 ppm STEL; 170 mg/m3 STEL

Appropriate engineering No exposure limits exist for the constituents of this product. Use

controls:	local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort. General or local ventilation or isolation may prove adequate to keep airborne exposures below exposure limits. Explosion proof exhaust ventilation should be used.

Individual protection measures, such as personal protective equipment:

Eye Protection:	Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses. Splash proof chemical goggles are recommended to protect against the splash of product.
Skin Protection:	Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene and wear a barrier cream and/or impervious surgical style gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots
Respiratory Protection:	Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.
Other Protective Equipment:	Splash proof chemical goggles are recommended to protect against the splash of product. Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots
General Hygiene Conditions:	All hazard precautions given in the data sheet must be observed. Do not get in eyes, on skin and clothing Wash hands before eating Use with adequate ventilation Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Do not take internally. Keep container closed when not in use. Keep out of the reach of children.

9. Physical and chemical properties

Appearance (physical state, color, etc.):

Appearance (physical state):	Paste
Color:	Blue/Green
Odor:	Aromatic
Odor threshold:	No data available
pH:	Neutral

Melting Point/Freezing Point (°C):	No data available
Initial Boiling Point and Boiling Range (°C):	145
Flash Point (°C):	49
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	
Upper Flammable/Explosive Limit:	6.1
Lower Flammable/Explosive Limit:	1.1
Vapor Pressure:	5 MMHG@20C/68F
Vapor Density:	Heavier than air. Vapors that evolve from this product will tend to settle and accumulate near the floor.
Relative Density:	1.71
Solubility(ies):	Insoluble
Partition coefficient: n-octanol/water:	1.36
Auto-ignition Temperature (°C):	490 °C
Decomposition Temperature::	No data available
Viscosity:	No data available
VOC (as packaged-less exempts and water)	1.05 or 127
VOC (as applied*- 2% by wt hardener- less exempts and water)	0.52 or 62
Percent Solids by weight – as packaged	92.60
Percent Solids by weight – as applied* - 2% by wt hardener	96.30
VHAP Content by weight – as packaged	12.1
VHAP Content by weight – as applied* - 2% by weight hardener	5.9

10. Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid (e.g., static discharge, shock, or vibration):	None known. .
Incompatible materials:	Peroxides Strong acids Strong oxidizing agents Polymerization catalysts
Hazardous decomposition products:	Carbon dioxide Carbon monoxide Styrene oxide Hydrocarbons

11. Toxicological information

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	Ingestion, Skin contact, Eye contact, Absorption
Symptoms related to the physical, chemical and toxicological characteristics:	No data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure:

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Excessive inhalation of vapors may cause nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache and dizziness. Airborne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema.
Skin Contact:	Can cause minor skin irritation, defatting, and dermatitis.
Skin Absorption:	No absorption hazard in normal industrial use. Causes skin irritation. Contact may cause irritation and possible dermatitis or sensitization. Symptoms may include redness, burning, drying and cracking of skin, and skin burns
Eye Contact:	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue. Contact with liquid or vapor may result in irritation, redness, tearing, and blurred vision.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Causes gastrointestinal tract irritation, nausea, vomiting, diarrhea and possible ulcerations to mucous membranes. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.
Ingestion Toxicity:	Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:

Carcinogenicity:	The International Agency for Research on Cancer (IARC) has classified styrene as a group 2B carcinogen (possibly carcinogenic to humans).
Reproductive and Developmental Toxicity:	May damage fertility or the unborn child.
Mutagenicity:	Suspected of causing genetic defects.
Inhalation:	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Skin Contact:	Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.
Skin Absorption:	Upon prolonged or repeated exposure, no hazard in normal industrial use.

Numerical measures of toxicity (such as acute toxicity estimates)
Component Toxicology Data

Chemical Component	Oral LD50	Dermal LD50	Inhalation LC50
No data available			

Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA

Chemical Name	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen
Styrene	N	Y	Y

12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available): Toxic to aquatic life. Styrene is toxic to aquatic organisms and should not be released to sewage, draining systems or any body of water exceeding concentrations of approved limits under applicable regulations and permits.

Persistence and degradability: No data available

Bioaccumulative potential: No data

Mobility in soil: No data available

Other adverse effects (such as hazardous to the ozone layer): No data available

Ecological Toxicity Data

Chemical Component	Aquatic EC50 Crustacea	Aquatic ERC50 Algae	Aquatic LC50 Fish
No data available			

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Description of waste residues: Spent or discarded material is a hazardous waste.

Safe Handling of Waste: This material as supplied, if discarded, would be regulated as a hazardous waste under RCRA (40 CFR 261).

Waste treatment methods (including packaging): Dispose of by incineration following Federal, State, Local, or Provincial regulations.

Waste Disposal Code(s): D001

14. Transport information

UN number: UN3269

UN proper shipping name: POLYESTER RESIN KIT

Transport hazard class(es): 3

Packing group: III

The shipper is responsible for following all applicable regulations. The transportation classification provided is based on ITW Evercoat original packaging, which is suitable for domestic ground transport only.

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

TSCA Status: The intentional ingredients of this product are listed.

Regulated Components:

Chemical Component	CAS number and other unique identifiers	CERCLA	SARA EHS	SARA 313	California Prop 65
Styrene	100-42-5	N	N	Y	N

16. Other information, including date of preparation or last revision.

Revision Date: 03-18-2016
Revision Number: 14

Disclaimer: NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances

SAFETY DATA SHEET / FICHE DE DONNÉES DE SÉCURITÉ
#0357
Bowl Cleaner
61018, 61049
Re-Order #(s): CWS30, CWS32

MEGA

Mega Maintenance

Preparation Date / Date de préparation :
1/28/2016

1 Identification of substance and of the company | Identification de la substance ou de l'entreprise

Use of Preparation: Bowl Cleaner
Company Identification:
Mega Maintenance (H&S)
96 MAPLECRETE ROAD
CONCORD, ON
L4K 1A4

Company Emergency Telephone Number(s):
905-669-1990
Transportation Emergency Telephone Number(s):
CANUTEC 613-996-6666 or *666 for cell phone

Utilisez de la préparation: Nettoyant pour cuvette
Identification de l'entreprise:
Mega Maintenance (H&S)
96 MAPLECRETE ROAD
CONCORD, ON
L4K 1A4

Numéro(s) d'entreprise de téléphone d'urgence:
905-669-1990
Transport Numéro(s) d'urgence:
CANUTEC 613-996-6666 or *666 for cell phone

2 Hazard identification | Identification des dangers

GHS Hazards:
Corrosive to Metals Category 1 H290
Skin corrosion/irritation Category 1A H314
Serious eye damage/eye irritation Category 1 H318
Acute toxicity,inhalation Category 4 H332
STOT, single exposure; Respiratory tract irritation Category 3 H335

Hazard Pictograms :

GHS Label Elements, Including Precautionary Statement

Signal Word: DANGER

Hazard Statements: May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. May cause respiratory irritation.

Precautionary Statements: Keep only in original container. Do not breathe fume/gas/mist/vapours/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store in a closed container. Store locked up.

Disposal: Dispose of contents/container to local, provincial and federal regulations

GHS Hazards:
Corrosif pour les métaux Catégorie 1 H290
La corrosion / irritation cutanée Catégorie 1A H314
Irritation de lésions oculaires graves / irritation oculaire Catégorie 1 H318
Toxicité aiguë, inhalation Catégorie 4 H332
Toxicité pour certains organes cibles, exposition unique; Irritation des voies respiratoires Catégorie 3 H335

Pictogrammes de danger :

Éléments d'étiquetage SGH, y compris Déclaration de précaution

Avertissement Mention : DANGER

Mentions de danger : Peut être corrosif pour les métaux. Provoque des brûlures de la peau et des lésions oculaires graves. Provoque des lésions oculaires graves. Nocif par inhalation. Peut irriter les voies respiratoires.

Conseils de prudence : Conserver uniquement dans le récipient d'origine. Ne pas respirer les fumées / gaz / brouillards / vapeurs / aérosols. Laver soigneusement après utilisation. Utiliser seulement en plein air ou dans un endroit bien aéré. Porter des gants / vêtements de protection / protection des yeux / du visage.

Reaction : EN CAS D'INGESTION: rincer la bouche. NE PAS faire vomir. EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher. EN CAS D'INHALATION: transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Appeler immédiatement un CENTRE ANTIPOISON ou un médecin. Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise. Laver les vêtements contaminés avant réutilisation. Absorber toute substance répandue pour éviter qu'elle attaque les matériaux environnants.

Entreposage : Stocker dans un endroit bien ventilé. Maintenir le récipient fermé de manière étanche. Stocker dans un récipient fermé. Garder sous clef.

Se débarrasser : Éliminer le contenu / récipient aux réglementations locales, provinciales et fédérales

3 Composition / information on ingredients

Chemical Description: Chemical Blend

Ingredient Name: Hydrochloric Acid
Cas#: 7647-01-0
Classification: Corrosive to Metals Category 1 H290
Skin corrosion/irritation Category 1A H314
Serious eye damage/eye irritation Category 1 H318
Acute toxicity,inhalation Category 4 H332
STOT, single exposure; Respiratory tract irritation Category 3 H335
% by Wt: 15-40

Composition / informations sur les ingrédients

Description chimique : Chemical Blend

Nom ingrédient : Hydrochloric Acid
N°. CAS : 7647-01-0
Classification : Corrosive to Metals Category 1 H290
Skin corrosion/irritation Category 1A H314
Serious eye damage/eye irritation Category 1 H318
Acute toxicity,inhalation Category 4 H332
STOT, single exposure; Respiratory tract irritation Category 3 H335
% Par poids : 15-40

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.
Il n'y a pas d'autres ingrédients présents qui, dans la limite des connaissances actuelles du fournisseur et dans les concentrations applicables, sont classés comme dangereux pour la santé et requièrent donc une déclaration dans cette section.

4 First aid measures

Inhalation: Remove victim to fresh air. If symptoms persist, call a physician
Eye Contact: IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Consult a doctor immediately.
Skin Contact: Thoroughly wash exposed skin with soap and water. Remove any contaminated clothing and wash before reuse. If irritation persists seek medical attention
Ingestion: Immediately call physician. DO NOT induce vomiting. Give several glasses of water. Never give anything by mouth if victim is unconscious or convulsing.
Most Important Symptoms and Effects: Severe burns to eyes, skin and respiratory tract.
Notes to Physician: Treatment based on judgment of attending physician.

Premiers secours

Inhalation: Amener la victime à l'air frais. Si les symptômes persistent, appeler un médecin
Contact avec les yeux: Rincer IMMÉDIATEMENT les yeux à l'eau courante pendant au moins 15 minutes en gardant les paupières ouvertes. Consultez immédiatement un médecin.
Contact avec la peau: Laver soigneusement la peau exposée avec de l'eau et du savon. Enlever les vêtements contaminés et les laver avant de les réutiliser. Si l'irritation persiste consulter un médecin.
Ingestion: Appeler immédiatement le médecin. NE PAS faire vomir. Donner plusieurs verres d'eau. Ne jamais rien donner par la bouche si la victime est inconsciente ou des convulsions.
Symptômes et des effets significatifs: Des brûlures graves aux yeux, la peau et les voies respiratoires.
Notes au médecin: Traitement fondé sur le jugement du médecin traitant.

5 Fire fighting measures

Suitable extinguishing media: Use dry chemical, CO2, water spray (fog) or foam.
Unsuitable extinguishing media: not known
Special exposure hazards: This product causes burns of eyes, skin and mucous membranes. Thermal decomposition may lead to release of irritating and toxic vapors. In the event of fire and/or explosion do not breathe fumes.
Special safety equipment: Self contained breathing apparatus and full protective clothing required for extinguishing fire.
Fire and explosion: None
Further information: None

Lutte contre l'incendie

Moyens d'extinction appropriés: Utilisez de l'eau pulvérisée (brouillard) ou de la mousse chimique sèche, CO2.
Moyens d'extinction inappropriés: inconnu
Dangers particuliers: Ce produit provoque des brûlures des yeux, de la peau et des muqueuses. La décomposition thermique peut provoquer le dégagement de vapeurs irritantes et toxiques. En cas d'incendie et / ou d'explosion ne pas respirer les fumées.
Équipement de sécurité spécial: Utilizer un appareil resperatoire autonome et des vêtements protecteurs nécessaires pour éteindre le feu.
Incendie et explosion: Aucun
De plus amples informations: Aucun

6 Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in Sections 7 and 8

For Non-Emergency Personnel

Protective Equipment: Wear adequate personal protective equipment
Emergency Procedures: Wear adequate personal protective equipment

For Emergency Personnel

Protective Equipment: Wear adequate personal protective equipment
Emergency Procedures: Wear adequate personal protective equipment
Environmental Precautions: Prevent release to the environment if possible. Dike large spills to prevent material from entering streams or sewer systems.

Methods and Material for Containment and Cleaning Up

For Containment: Soak up inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal
Methods for Cleaning Up: Contain spillage and then collect with noncombustible absorbent material(e.g. sand, earth, diatomaceous earth, vermiculite) and place in

Mesures de rejet accidentel

Précautions individuelles, équipement de protection et procédures d'urgence

Mesures générales: Assurer une ventilation adéquate. Éloigner les personnes et contre le vent / de la fuite. Éviter l'inhalation, l'ingestion et le contact avec la peau et les yeux. Lorsque les travailleurs sont confrontés à des concentrations supérieures à la limite d'exposition, ils doivent porter des masques appropriés et agréés. Assurer que le nettoyage est effectué par du personnel qualifié seulement. Se référer aux mesures de protection énumérées dans les sections 7 et 8.

Pour le personnel hors urgence

Équipement protecteur: Porter un équipement de protection individuelle adéquat
Procédures d'urgence: Porter un équipement de protection individuelle adéquat

Pour le personnel d'urgence

Équipement protecteur: Porter un équipement de protection individuelle adéquat
Procédures d'urgence: Porter un équipement de protection individuelle adéquat
Précautions environnementales: Empêcher le rejet dans l'environnement si possible. Endiguer les déversements importants pour empêcher la matière de pénétrer les cours d'eau ou les égouts.

Méthodes et matériel de confinement et de nettoyage

Pour confinement: Imprégnez-vous de matériau absorbant inerte et évacuer comme un déchet dangereux. Garder dans des contenants fermés appropriés pour l'élimination
Méthodes de nettoyage: Contenir le déversement et collecter le matériau

container for disposal according to local/national regulation. Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Reference to Other Sections: None

incombustible absorbant (sable, terre, terre de diatomée, vermiculite) et placer dans un récipient pour élimination conformément à la réglementation locale / nationale. Rincer les traces avec de l'eau. Pour les grands déversements, endiguer le produit déversé ou contiennent du matériel pour assurer le ruissellement ne parviennent pas à un cours d'eau.

Référence à d'autres sections: Aucun

7 Handling and storage | Manipulation et stockage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Avoid splashes or spray in enclosed areas. Ensure good ventilation/exhaustion at the workplace.

Information about fire and explosion protection: none

Requirements to be met by storerooms and receptacles: Keep container closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from incompatible materials such as alkalis, reducing and oxidizing agents, bleach and ammonia. Do not mix with any other chemicals

Information about storage in one common storage facility: unknown

Further information about storage conditions: none

Specific end use: not applicable

Précautions à prendre pour une manipulation sans danger: Éviter l'inhalation de vapeur ou de brouillard. Éviter le contact avec la peau et les yeux. Évitez verser ou de pulvériser dans des espaces clos. Veiller à une bonne ventilation / aspiration du poste de travail.

Des informations sur protection contre l'incendie et d'explosion: Aucun

Exigences concernant les lieux et conteneurs: Maintenir le récipient fermé dans un endroit sec et bien ventilé. Les emballages entamés doivent être refermés avec soin et maintenus en position verticale pour éviter les fuites. Tenir à l'écart des matières incompatibles telles que les alcalis, les agents réducteurs et oxydants, l'eau de Javel et l'ammoniaque. Ne pas mélanger avec d'autres produits chimiques

Informations sur le stockage dans une installation de stockage commune: inconnu

Plus d'informations sur les conditions de stockage: none

Utilisation finale spécifique: n'est pas applicable

8 Exposure controls / personal protection | Contrôle de l'exposition / protection individuelle

Respiratory protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limit are exceeded or if irritation or other symptoms are experienced.

Hand protection: Wear coveralls with long sleeves, gauntlets and gloves of PVC or neoprene.

Eye protection: Use chemical goggles and/or a full face shield.

Skin protection: Wear protective clothing, including boots or safety shoes with polyvinyl chloride (PVC) or neoprene. Wear coveralls with long sleeves, gauntlets and gloves of PVC or neoprene.

Working hygiene: Handle in accordance with good industrial hygiene and safety practices.

Exposure Guidelines: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Protection respiratoire: Suivez les réglementations OSHA relative aux respirateurs trouvés dans 29 CFR 1910.134 ou la norme européenne EN 149. Utilisez un respirateur approuvé NIOSH / MSHA ou la norme européenne EN 149 si la limite d'exposition sont dépassées ou si l'irritation ou d'autres symptômes sont expérimentés.

Protection des mains: Porter une combinaison avec des manches longues et des gants, des gantelets de PVC ou en néoprène.

Protection des yeux: Utilisez des lunettes chimiques et / ou un bouclier facial complet.

Protection de la peau: Porter des vêtements de protection, y compris des bottes ou des chaussures de sécurité avec du chlorure de polyvinyle (PVC) ou en néoprène. Porter une combinaison avec des manches longues et des gants, des gantelets de PVC ou en néoprène.

L'hygiène de travail: Manipuler conformément aux bonnes pratiques d'hygiène et de sécurité industrielles.

Directives d'exposition: Un système d'échappement local et / ou général est recommandé pour maintenir l'exposition des employés aussi bas que possible. Une ventilation locale est généralement conseillée car elle contrôle les émissions de contaminants à la source, empêchant sa dispersion dans la zone de travail générale. S'il vous plaît se référer au document ACGIH, Ventilation industrielle, manuel des pratiques recommandées, la plus récente édition, pour plus de détails.

Hydrochloric Acid
TWA ppm: no data available
TWA mg_m^3:
STEL ppm: no data available
STEL mg_m^3:

Acide Chlorhydrique
TWA ppm : pas de données disponibles
TWA mg_m^3 :
STEL ppm : pas de données disponibles
STEL mg_m^3 :

9 Physical and chemical properties | Proprietes physiques et chimiques

Physical State:	Liquid	**État physique :**	Liquide
Appearance:	Opaque White	**Aspect :**	opaque Blanc
Molecular Weight:	No Data Available	**Poids moléculaire :**	Pas de données disponibles
Odour:	Pungent Odour	**Odeur :**	Odeur piquante
Odour Threshold:	No Data Available	**Seuil de l'odeur :**	Pas de données disponibles
pH:	<1	**pH :**	<1
Melting Point:	No Data Available	**Point de fusion :**	Pas de données disponibles
Boiling Point:	>=212 F	**Point d'ébullition :**	> = 212 F
Flash Point:	No Data Available	**Point d'inflammabilité :**	Pas de données disponibles
Evaporation Rate (BuAc=1):	No Data Available	**Taux d'évaporation (BuAc=1) :**	Pas de données disponibles
Flammable Limits in Air:	No Data Available	**Limites d'inflammabilité dans l'air :**	Pas de données disponibles
Upper Flammability Limit:	No Data Available	**Limite supérieure d'inflammabilité :**	Pas de données disponibles
Lower Flammability Limit:	No Data Available	**Limite inférieure d'inflammabilité :**	Pas de données disponibles
Vapour Density (Air=1):	>1	**Densité de vapeur (Air=1) :**	>1
Vapour Pressure:	No Data Available	**Pression de vapeur :**	Pas de données disponibles
Specific Gravity:	1.10-1.13	**Gravité spécifique :**	1.10-1.13
Solubility in Water:	Complete	**Solubilité dans l'eau :**	complet
Log Pow (calculated):	No Data Available	**Log Pow (calculé):**	Pas de données disponibles
Autoignition Temperature:	No Data Available	**Température d'autoallumage :**	Pas de données disponibles
Decomposition Temperature:	No Data Available	**Température de décomposition :**	Pas de données disponibles
Viscosity:	As Water	**Viscosité :**	Pas de données disponibles
Solubility in other Solvents:	No Data Available	**Solubilité dans d'autres solvants :**	Pas de données disponibles
Partition Coefficient:	No Data Available	**Coefficient de partage :**	Pas de données disponibles

n-octanol / Water:	No Data Available
Kinematic Viscosity:	No Data Available
Dynamic Viscosity:	No Data Available
Explosive Properties:	No Data Available
Percent Volatile by Volume:	No Data Available

n-octanol / eau :	Pas de données disponibles
Viscosité cinématique :	Pas de données disponibles
Viscosité dynamique :	Pas de données disponibles
Propriétés explosives :	Pas de données disponibles
Pour cent volatiles par volume :	Pas de données disponibles

10 Stability and reactivity | Stabilité et réactivité

Reactivity: Normally stable.
Chemical stability: Stable under recommended storage conditions
Thermal decomposition conditions to avoid: not known
Possibility of hazardous reactions: Will not occur
Conditions to avoid: Unintentional contact with water and moisture. Keep containers tightly closed , when not in use.
Hazardous decomposition products: CO or CO2. Toxic chlorine fumes
Materials to avoid: Strong oxidizers, Ammonia, Chlorine, strong alkali materials, Aluminum
Hazardous polymerization: none

Réactivité : Normalement stable.
Stabilité chimique : Stable dans les conditions recommandées de stockage
Conditions de décomposition thermique à éviter : inconnu
Possibilité de réactions dangereuses: N'arrivera pas
Conditions à éviter : Le contact accidentel avec de l'eau et de l'humidité. Conserver le récipient bien fermé, lorsqu'ils ne sont pas en cours d'utilisation.
Produits de décomposition dangereux : CO ou CO2. Vapeurs de chlore toxiques
Matières à éviter : Oxydants forts, ammoniac, le chlore, matériaux alcalins forts, aluminium
Polymérisation dangereuse : aucun

11 Toxicological information | Information toxicologique

Information on toxicological effects

Acute toxicity: please see below for ingredient toxicity (ATE $_{oral}$ = 3043 mg/kg)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms: **Skin Contact:** CORROSIVE: Strong caustic effect on skin and mucous membranes. **Eye Contact**: CORROSIVE: Strong caustic effect. **Ingestion:** May cause irritation of the gastrointestinal tract, nausea, vomiting and headache.
Sensitization: No sensitizing effects known
Mutagenic Effects: No data available
Carcinogenicity: please see below carcinogenicity table
Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.
STOT single exposure: Classified as specific target organ toxicant, single exposure, Category 3 with respiratory tract irritation
STOT repeated exposure: Not classified
Chronic Toxicity: Prolonged inhalation may be harmful
Target Organ Effects: May cause respiratory irritation
Aspiration hazard: Not classified
LD/LC50 values relevant for classification: None

Listed Ingredients:

Hydrochloric Acid
LD50 (oral) 700 mg/kg Rat
LD50 (dermal) 5010 mg/kg Rabbit
LC50 (inhalation) 3124 ppm (1-hour Rat)

Carcinogenicity

Ingredient Name:	Hydrochloric Acid
CAS#	7647-01-0
IARC:	3 Not classifiable as to carcinogenicity to humans
NTP:	not listed
OSHA:	not listed

Informations sur les effets toxicologiques

Toxicité aiguë : veuillez voir ci-dessous pour la toxicité de l'ingrédient (ATE oral = 3043 mg / kg)

Les effets différés et immédiats ainsi que les effets chroniques d'une exposition à court et à long terme

Les symptômes : **Contact avec la peau**: CORROSIF: Fort effet caustique sur la peau et les muqueuses. **Contact avec les yeux**: CORROSIF: Fort effet caustique. **Ingestion**: Peut causer une irritation du tractus gastro-intestinal, des nausées, des vomissements et des maux de tête.
Sensibilisation : Aucun effet de sensibilisation connu
Effets mutagènes : Aucune information disponible
Cancérogénicité : veuillez voir ci-dessous la table de cancérogénicité
Toxicité pour la reproduction : Ce produit ne devrait pas causer d'effets sur la reproduction ou le développement.
STOT exposition unique: Classé toxique spécifique pour un organe cible, exposition unique, catégorie 3 avec irritation des voies respiratoires
STOT exposition répétée : Non classés
Toxicité chronique : L'inhalation prolongée peut être nocive
Effets sur les organes cibles : Peut causer une irritation des voies respiratoires
Risque d'aspiration : Non classés
Valeurs LD / LC50 déterminantes pour la classification : Aucun

Ingrédients énumérés :

Acide Chlorhydrique
DL50 (voie orale) 700 mg / kg Rat
DL50 (voie cutanée) 5010 mg / kg Lapin
LC50 (inhalation) 3124 ppm (1 heure Rat)

Cancérogénicité:

Nom ingrédient ;	Acide Chlorhydrique
N°. du CAS :	7647-01-0
IARC :	3 Non classable quant à la cancérogénicité pour l'homme
NTP :	non listé
OSHA :	non listé

12 Ecological information | Information écologique

Toxicity: This material is expected to be toxic to aquatic life. / LC50 862 mg/L (Orfe, golden (Leuciscus Idus))
Persistence and Degradability: When released into the soil, this material is not expected to be biodegradable
Bioaccumulative Potential: No Data Available
Mobility in Soil: No Data Available
Other Information: No Data Available

Toxicité : Ce matériau est prévu d'être toxique pour la vie aquatique. / CL50 862 mg / L (Orfe, or (Leuciscus idus))
Persistance et dégradabilité : En cas de libération dans le sol, ce matériau ne devrait pas être biodégradable
Potentiel de bioaccumulation : Pas de données disponibles
Mobilité dans le sol : Pas de données disponibles
Autres renseignements : Pas de données disponibles

Aquatic Toxicity: No Data Available
Toxicity to algae, fish, invertebrates: No Data Available
Biodegradation: No Data Available

Toxicité aquatique : Pas de données disponibles
Toxicité pour les algues, les poissons, les invertébrés : Pas de données disponibles
Biodégradation : Pas de données disponibles

13 Disposal | Dépotoir

Waste Disposal Recommendations: Follow local, provincial, state and federal regulations.
Ecology – Waste Materials: no data available
Empty Containers: Triple rinse and dispose according to provincial, state and federal regulations

Recommandations d'élimination des déchets : Suivez local, provincial, l'état et règlements fédéraux.
Écologie - Matières résiduaires : Pas de données disponibles
Les récipients vides : Triple rinçage et éliminer conformément aux règlements provinciaux, étatiques et fédérales

14 Transportation information | Renseignements sur le transport

Department: Canadian TDG (Road & Rail)
Proper Shipping Name: Hydrochloric Acid
Contains: Hydrochloric Acid
Hazard Class: 8
UN#: 1789
Packaging Group: II

Please note: This shipping description is of a general nature only. It does not consider package sizes, modes of transport and other specific circumstances. Appropriate regulations should be referenced, and handling for transportation of dangerous goods/hazardous materials should be performed by trained personnel only.

Département : Réglementation sur le TMD (Route et les chemin de fer)
Nom d'expédition :
Contient :
Catégorie de risque : 8
UN# : <1789
Groupe d'emballage : II

Note: Cette description de l'expédition est de nature générale seulement. Elle ne considère pas la taille des emballages, les modes de transport et d'autres circonstances particulières. Les règlements appropriés devraient être référencés, et de manutention pour le transport de marchandises dangereuses / matières dangereuses doivent être effectuées par du personnel qualifié seulement.

15 Regulation | Règlement

OSHA/WHMIS 2015 Classification:
Corrosive to Metals
Corrosive to Eyes and Skin
California PROP 65: No ingredients listed
Cdn Domestic Substance List (DSL): All ingredients listed

HMIS III Rating

Health: 3
Flammability: 0
Physical: 1
Personal Protection: H

OSHA/WHMIS 2015 Classification:
Corrosif pour les métaux
Corrosif pour les yeux et la peau
California PROP 65: pas d'ingrédients énumérés
CAN Liste des substances domestiques: Tous les ingrédients énumérés

HMIS III Classement

Santé : 3
Inflammabilité : 0
Physique : 1
Protection personnelle : H

16 Other information | Autre information

Prepared for:
Mega Maintenance (H&S)
96 MAPLECRETE ROAD
CONCORD, ON
L4K 1A4
905-669-1990

Revision Date: 1/28/2016 **Revision #:** 1
Reason for Revision:

Revision Date: 7/26/2018 **Revision #:** 2
Reason for Revision: updated Section 11

Disclaimer:
The manufacturer warrants that this product conforms to its standard specification when used according to direction. To the best of our knowledge the information contained herein is accurate. However we do not assume accuracy or completeness of the information contained herein.

Préparé pour :
Mega Maintenance (H&S)
96 MAPLECRETE ROAD
CONCORD, ON
L4K 1A4
905-669-1990

Date d'émission : 1/28/2016 **No. du version:** 1
Raison de la révision :

Date d'émission : 7/26/2018 **No. du version:** 2
Raison de la révision : updated Section 11

Désistement:
Le fabricant garantit que ce produit est conforme à sa spécification standard lorsqu'il est utilisé selon la direction. Pour le meilleur de notre connaissance, l'information contenue dans ce document est exacte. Cependant, nous ne supposons pas exactitude ou l'exhaustivité de l'information contenue dans ce document.

Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

End of Safety Data Sheet

La détermination finale de la pertinence de tout produit est la responsabilité exclusive de l'utilisateur. Toutes les matières peuvent présenter des dangers inconnus et doivent être utilisées avec prudence. Bien que certains risques sont décrits ici, nous ne pouvons pas garantir que ce sont les seuls risques qui existent.

Fin de la Fiche de Données de Sécurité

SAFETY DATA SHEET
BW001 Solid Carbon steel wire electrodes & rods

Version number: 1
Replaces SDS: 2009-11-23
Issued: 2020-03-05

Not for sale in the USA

Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Trade name SolidARC 105 MSM S6; SolidARC 110 MSM S6; SolidARC 115 MSM S6.

Article-№

Product/Article	Diameter (Inch)	Packaging (Lbs)	Part Number
SolidARC 105 MSM S6	0.035	44	11265033
SolidARC 105 MSM S6	0.045	44	11265451
SolidARC 105 MSM S6	0.035	550	11279002
SolidARC 105 MSM S6	0.045	550	11279003
SolidARC 115 MSM S6	0.035	44	11023693
SolidARC 115 MSM S6	0.045	44	11023697
SolidARC 105 MSM S6	0.025	11	11199854
SolidARC 105 MSM S6	0.030	11	11199855
SolidARC 105 MSM S6	0.035	11	11199856
SolidARC 110 MSM S6	0.035	44	11199568
SolidARC 110 MSM S6	0.045	44	11199852
SolidARC 110 MSM S6	0.035	500	11201275
SolidARC 110 MSM S6	0.045	500	11201276

1.2 Relevant identified uses of the substance or mixture and uses advised against

Article type GMAW/GTAW Un-alloyed steel wire electrodes & Rods Classification: AWS SFA 5.18
Use Gas shielded Arc welding

1.3 Details of the supplier of the safety data sheet

Supplier Messer Canada Inc.
Street address 5860 Chedworth Way, Mississauga
Ontario L5R 0A2
Canada
Telephone **1-866-385-5349**
Fax **905-501-1717**
Email info@messer-ca.com

1.4 Emergency telephone number

Available outside office hours Yes
Emergency phone number (24 Hour) : (905) 501-0802 or CHEMTREC (800) 424-9300

SolidARC

Version number: 1
Replaces SDS: 2009-11-23
Issued: 2020-03-05

Other:

Additional product information	**Web site: www.**

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to applicable national regulations.

2.2 Label elements

Refer to label.

2.3 Other hazards

When the product is used in the welding process the most important hazards are:
Overexposure to fumes and gases from welding can be dangerous to health.
Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire.
Arc rays can injure eyes and burn skin. Electric shock can kill. Avoid touching live electrical parts.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture and please refer to Section 3.2

3.2 Mixtures

AWS Clas's	Fe %	C %	Mn %	Si %	Cu[1] %	Ti %	Zr %	Al %
CAS Number	7439-89-6	7440-44-0	7439-96-5	7440-21-3	7440-50-8	7440-32-6	7440-67-7	7429-90-5
ER70S-6	>96	0.07 to 0.15	1.40 to 1.85	0.80 to 1.15	<0.5	N/Av	N/Av	N/Av
LD_{50} (specie,route)	30 g/kg (rat,oral)	N/Av	9 g/kg (rat,oral)	3160 mg/kg (rat,oral)	9g/kg (mouse, oral)	N/Av	N/Av	N/Av
LC_{50} (specie)	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

Section 4. FIRST AND MEASURES

4.1 Description of first aid measures

Inhalation	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.
Skin contact	Burns should be treated by a doctor.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor.
Ingestion	Contact a doctor if more than an insignificant amount has been swallowed.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation	Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons.

4.3 Indication of any immediate medical attention and special treatment needed

Not available

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO2), powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.

5.2 Special hazards arising from the substance or mixture

Not available

5.3 Advice for fire fighters

Special protective equipment for fire fighters	No specific measures required for these electrodes prior to gouging. Gouging should not be carried out in the presence of flammable materials, vapours, tanks, cisterns and pipes and other containers which have held flammable substances unless these have been checked and certified safe. During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Skin contact should be avoided to prevent possible allergic reactions.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3 Methods and material for containment and cleaning up

Not applicable

6.4 Reference to other sections

Personal protection: see section 8 and for disposal see section 13. Environmental precautions, paragraph 12. See also section 7 Precautions for safe handling.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Preventive handling precautions	Ensure adequate ventilation for the welder and others. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc

General hygiene	welding. Remove all flammable materials and liquids before welding. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

7.3 Specific end use(s)
Welding process.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Welding fume component	CAS №.	TLV-TWA	TLV-STEL	Other
Iron oxide fume (as Fe)	1309-37-1	5mg/m^3 Respirable particulate mass	N/Av	N/Av
Manganese and its inorganic compounds (as Mn)	7439-96-5 and others	0.2 mg/m^3	N/Av	N/Av
Chromium VI compounds (as Cr)	1333-82-0	0.05mg/m^3	N/Av	N/Av
Chromium III compounds (as Cr)	1308-38-9	0.5mg/m^3	N/Av	N/Av
Nickel and its inorganic compounds Water soluble Water insoluble	7440-02-0	1.5 mg/m3 N/Av	N/Av N/Av	N/Av 1.0 mg/m3
Copper Fume	7440-50-8	0.2 mg/m^3 (fume)	N/Av	0.1 mg/m3 (fume)
Nitrogen dioxide	10102-44-0	0.2ppm	N/Av	N/Av
Nitrogen monoxide	10102-43-9	25ppm	N/Av	N/Av
Ozone	10028-15-6	*	N/Av	N/Av
Carbon dioxide	124-38-9	5000ppm	30000ppm	5000ppm
Carbon monoxide	630-08-0	25ppm	N/Av	50ppm
Aluminium Inhalable Respirable dust	1344-28-1	1 mg/m^3 (respirable)	N/Av	N/Av
Zirconium compounds	7440-67-7	5 mg/m^3	10 mg/m^3	N/Av

8.2 Exposure controls

Environmental Exposure Controls – refer to Section 6 of this SDS

Technical precaution measures	General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.

Eye / face protection	Wear eye protection appropriate for welding.
Safety gloves	Skin contact should be avoided to prevent possible allergic reactions.
Other skin protection	Wear body protection which helps to prevent injury from radiation, sparks and electric shock.
Respiratory protection	Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance, colour	Generally grey or coppered coloured when coated
Appearance, physical state	Metal wire or Rod
Auto-ignition temperature	Not applicable
Auto-flammability	Not auto-flammable
Decomposition temperature	Not applicable
Evaporation rate	Not applicable
Explosive properties	Not explosive
Flammability (solid gas)	Not applicable
Flash point	Not applicable
Form	Fast
Initial boiling point and boiling range	Not applicable
Melting point / Freezing point	Not available
Odour	Odourless
Odour threshold	Not available
Oxidising properties	Not available
Partition coefficient: n-octanol / water	Not applicable
pH value	Not applicable
Relative density	Not applicable
Solubility	Not available
Solubility in water	Insoluble
Upper / lower flammability or explosive limits	Not applicable
Vapour density	Not applicable
Vapour pressure	Not applicable
Viscosity	Not applicable

9.2 Other information

Not applicable

Other

Density	7.98g/cm^3

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 Chemical stability

Stable under the recommended storage and handling conditions prescribed. Hazardous polymerization will not occur. Incompatible materials and conditions to avoid are usually

	related to welding.
10.3 Possibility of hazardous reactions	Not applicable
10.4 Conditions to avoid	None under normal conditions
10.5 Incompatible materials	Not applicable

10.6 Hazardous decomposition products
Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.
Hazardous combustion products - Carbon oxides and other irritating/toxic fumes and smoke.

Welding fume component	CAS №.	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Aluminium oxide (Al)	1344-28-1	-	-	-	<0.1
Barium (Ba)	7440-39-3	-	-	-	<0.1
Bismuth oxide (Bi)	12640-40-3	-	-	-	<0.1
Calcium (Ca)	1305-78-8	-	-	-	<0.1 to 0.2
Cobalt oxide (Co)	1307-96-6	R22: Harmful if swallowed R43: May cause sensitisation by contact	Acute tox 4 (oral) Skin sens. 1	H302 H317	<0.1
Chromium III compounds (as Cr)	24613-89-6	R45: May cause cancer R35: Causes severe burns R43: May cause sensitisation by skin contact	Carc. 1B Skin Corr. 1A Skin Sens. 1	H350 H314 H317	<0.1
Copper oxide (Cu)	1317-38-0	-	-	-	0.3 to 1.1
Iron oxide (Fe)	1332-37-2	-	-	-	45.8 to 61.4
Potassium (K)	7440-09-7	R34: Causes burns	Skin Corr. 1B	H314	<0.1
Lithium (Li)	7439-93-2	R34: Causes burns	Skin Corr. 1B	H314	<0.1
Magnesium oxide (Mg)	1309-48-4	-	-	-	<0.1
Manganese (Mn)	7439-96-5	-	-	-	6.3 to 15.0
Molybdenum (Mo)	7439-98-7	Molybdenum trioxide R36/37: Irritating to eyes and respiratory system R40: Limited evidence of carcinogenic effect	Molybdenum trioxide Carc. 2 Eye Irrit. 2 STOT SE 3	H351 H319 H335	<0.1
Sodium (Na)	7440-23-5	R34: Causes burns	Skin Corr. 1B	H314	<0.1
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	<0.1
Lead (Pb)	7439-92-1	-	-	-	<0.1
Silicon (Si)	7440-21-3	-	-	-	1.3 to 4.8
Titanium dioxide (Ti)	13463-67-7	-	-	-	<0.1
Vanadium (V)	7440-62-2	-	-	-	<0.1

Zinc (Zn)	7440-66-6	-	-	-	<0.1 to 0.7

Fume analysis: wt %
Al 0.1 max
Ca 0.1 to 0.2
Fe 45.8 t0 61.4
Mn 6.3 to 15
Si 1.3 to 4.8
Zn 0.1 to 0.7

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied
When welding, fumes and gases generated can be dangerous to health.

Acute toxiciy	Excessive exposures may affect human health, as follows: Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
Irritation	Not available
Corrosive effects	Not available
Sensitisation	May cause sensitisation by skin contact
Mutagenicity	Not available
Carcinogenicity	Welding fumes are possibly carcinogenic to humans
Repeated dose toxicity	Not available
Reproductive toxicity	Not available
Synergistic materials	Not available

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity
The welding process can effect the environment if fume is released directly into the atmosphere. Residues from welding consumables could degrade and accumulate into soils and ground water.

12.2 Persistence and degradability
Not available

12.3 Bio accumulative potential
Not available

12.4 Mobility in Soil
Not available

12.5 Results of PBT and vPvB assessment

Not available

12.6 Other adverse effects

Not available

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal considerations	Dispose of any product, residue or packing material according to national and local regulations. Spent fume extraction filters shall be disposed of as dangerous waste.

Other

Waste	Packaging and rod scrap should be disposed of as general waste or recycled. No special precautions are required for this product. Fume collected from extraction units should be disposed of in accordance with local regulations (including Provincial and Federal Regulations). Collect all spillage.

Section 14. TRANSPORT INFORMATION

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to

Not applicable

Other

Dangerous goods	No special requirements are necessary in transporting these products. Transportation of Dangerous Goods Regulations (TDGR): TDG Classification: NOT REGULATED Special case: N/Ap

Section 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.

EU regulations	Refer to national Regulations.
National regulations	WHMIS Label Information: **WARNING.** Do not remove or cover this Warning. Protect yourself and others. Read and understand this information. Electric shock can kill. Keep your head out of the fume. Arc rays and fume can affect others in your workplace. Comply with your employer's safety practices and procedures: protect others. Safety data sheet available on request from www.messer-ca.com. WHMIS information: Product is regulated according to the Controlled Product Regulations (CPR) in Canada. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR. WHMIS classification: D2A - Toxic Material with other effects.

15.2 Chemical safety assessment

Not available

Section 16. OTHER INFORMATION

References to key literature and data sources	The customer should provide this Safety Data Sheet to any person involved in the materials use or further distribution. Messer Canada Inc. requests the users (or distributors) of this product to read this Safety Data Sheet carefully before usage. **Prepared by MESSER CANADA INC.** **References** Safety Data Sheets from manufacturer/supplier. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2014.
Phrase meaning	**Abbreviations** ACGIH American Conference of Governmental Industrial Hygienists CAS Chemical Abstract Service IARC International Agency for Research on Cancer LC Lethal concentration LD Lethal Dosage N/Ap Not applicable N/Av Not available NIOSH National Institute for Occupational Safety and Health STEL Short-term Exposure Limit TLV Threshold Limit Value TWA Time Weighted Average WHMIS Workplace Hazardous Materials Information System

Other

Manufacturer's notes	The information contained in this Safety Data Sheet relates only to the specific materials designated and may not be valid for such material used in combination with any other material or in any process. Information is given in good faith and is based on the latest information available to Messer Canada and is, to the best of Messer Canada's knowledge and belief, accurate and reliable at the time of preparation. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness of the information, and Messer Canada assumes no responsibility and disclaims any liability incurred in using this information. The product is supplied on the condition that the user accepts the responsibility to satisfy himself as to

the suitability and completeness of such information for his own particular use. Freedom from patent rights must not be assumed.

Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.

End of Document

FICHE DE DONNÉES DE SÉCURITÉ
BW001 Fils-électrodes et baguettes de soudage en acier au carbone

Numéro de version: 1
Remplace FDS: 2009-11-23
Date d'émission: 2014-02-05

Ce produit ne peut être vendu aux États-Unis

Section 1. IDENTIFICATION DE LA SUBSTANCE / DU MÉLANGE ET DE LA COMPAGNIE

1.1 Identificateur du produit

Nom commercial SolidARC 105 MSM S6; SolidARC 110 MSM S6; SolidARC 115 MSM S6 (Fils-électrodes et baguettes de soudage en acier au carbone)

№ d'article

Produit/Article	Diamètre (pouce)	Emballage (lb)	Numéro de pièce
SolidARC 105 MSM S6	0.035	44	11265033
SolidARC 105 MSM S6	0.045	44	11265451
SolidARC 105 MSM S6	0.035	550	11279002
SolidARC 105 MSM S6	0.045	550	11279003
SolidARC 115 MSM S6	0.035	44	11023693
SolidARC 115 MSM S6	0.045	44	11023697
SolidARC 105 MSM S6	0.025	11	11199854
SolidARC 105 MSM S6	0.030	11	11199855
SolidARC 105 MSM S6	0.035	11	11199856
SolidARC 110 MSM S6	0.035	44	11199568
SolidARC 110 MSM S6	0.045	44	11199852
SolidARC 110 MSM S6	0.035	500	11201275
SolidARC 110 MSM S6	0.045	500	11201276

1.2 Usage recommandé et restrictions d'utilisation du produit chimique

Type d'article GMAW/GTAW Un-alloyed steel wire electrodes & Rods (Baguettes et électrodes de fil d'acier inoxydable non allié). Classification: AWS SFA 5.18

Usage Soudage à l'arc sous protection gazeuse

1.3 Données relatives au fournisseur de la fiche de données de sécurité

Fournisseur Messer Canada Inc.

Adresse complète 5860 Chedworth Way, Mississauga
Ontario L5R 0A2
Canada

Téléphone **1-866-385-5349**

Télécopieur **905-501-1717**

Courriel info.lg.ca@messer-ca.com

1.4 Numéro de téléphone en cas d'urgence

Disponible hors des heures d'ouverture Oui

Numéro de téléphone d'urgence (24 Heures) : (905) 501-0802 or CHEMTREC (800) 424-9300

Autre

Information additionnelle sur le produit **Site Internet : www.messer-ca.com**

Section 2. IDENTIFICATION DES DANGERS

2.1 Classification de la substance ou du mélange

Classification conformément aux règlements nationaux en vigueur.

2.2 Éléments d'étiquetage

Consulter l'étiquette

2.3 Autres dangers

Lorsque le produit est utilise dans le processus de soudage les dangers les plus importants sont :
Surexposition à la fumée et aux gaz de soudage qui peuvent être dangereux pour la santé.
Éviter les éclaboussures, les métaux chauds et les scories. Cela peut causer une brûlure à la peau et causer un incendie.
Les rayonnements lumineux de l'arc de soudage peuvent causer des blessures aux yeux et à la peau. Des chocs électriques peuvent tuer. Éviter de toucher des pièces électriques branchées.

Section 3. COMPOSITION / INFORMATION SUR LES COMPOSANTS

3.1 Substances

Ce produit est un mélange. Consulter la Section 3.2.

3.2 Mélanges

Classe AWS	Fe %	C %	Mn %	Si %	Cu[1] %	Ti %	Zr %	Al %
Numéro CAS	7439-89-6	7440-44-0	7439-96-5	7440-21-3	7440-50-8	7440-32-6	7440-67-7	7429-90-5
ER70S-6	>96	0.07 à 0.15	1.40 à 1.85	0.80 à 1.15	<0.5	P/D	P/D	P/D
DL_{50} (espèce, voie)	30 g/kg (rat, orale)	P/D	9 g/kg (rat, orale)	3160 mg/kg (rat, orale)	9 g/kg (souris, orale)	P/D	P/D	P/D
CL_{50} (espèce)	P/D	P/D	P/D	P/D	P/D	P/D	P/D	P/D

Section 4. PREMIERS SOINS

4.1 Description des premiers soins nécessaires

Inhalation	EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Appeler un médecin en cas de symptômes.
Contact avec la peau	Brûlures devraient être traitées par un médecin.
Contact avec les yeux	EN CAS DE CONTACT AVEC LES YEUX : Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Brûlures par les rayonnements. Consulter un médecin.
Ingestion	Appeler un médecin si une quantité significative a été avalée.

4.2 Symptômes/effets les plus importants, aigus ou retardés

Inhalation	L'inhalation des vapeurs peut causer une irritation respiratoire chez les personnes sensibles.

4.3 Indications quant à la nécessité éventuelle d'une prise en charge médicale immédiate ou d'un traitement spécial

Pas disponible

Section 5. MESURES À PRENDRE EN CAS D'INCENDIE

5.1 Agents extincteurs appropriés

Agents extincteurs appropriés	Dioxyde de carbone (CO2), poudre ou jets d'eau. En cas d'incendie majeur: Éteindre l'incendie avec des jets d'eau ou de la mousse.

5.2 Dangers spécifiques du produit

Pas disponible

5.3 Mesures spéciales de protection pour les pompiers

Équipement spécifique de protection contre les incendies	Avant le soudage, aucune mesure spécifique requise. On ne doit pas souder en présence de matières et vapeurs inflammables, de bouteilles, citernes, tuyaux et autres contenants ayant contenu des matières inflammables sauf s'ils ont été vérifiés et certifiés sans danger. En cas d'incendie, des fumées et émanations irritantes et toxiques peuvent être générées. Ne pas entrer dans une zone d'incendie sans un équipement de protection approprié. Les pompiers devraient porter l'équipement de protection adéquat et un appareil respiratoire autonome avec masque respiratoire complet. Protéger le personnel contre l'échappement des gaz, la rupture ou l'éclatement des contenants. Retirer les contenants de la zone en feu si cela peut être effectué sans risque. Refroidir les contenants et équipements exposés aux flammes et à la chaleur en les arrosant d'eau.

Section 6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTEL

6.1 Précautions individuelles, équipements de protection et mesures d'urgence

Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc. Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.

6.2 Précautions relatives à l'environnement

Essayer d'empêcher le produit d'entrer dans les égouts ou les cours d'eau.

6.3 Méthodes et matériaux pour l'isolation et le nettoyage

Sans objet

Section 7. MANUTENTION ET STOCKAGE

7.1 Précautions à prendre pour assurer la manutention

Précautions à prendre pour la manutention	S'assurer que la ventilation est adéquate pour le soudeur et les autres. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc. Retirer tous les liquides et produits inflammables avant de souder.
Hygiène générale	Se laver les mains avant les pauses et immédiatement après avoir manipulé le produit.

7.2 Stockage dans des conditions de sécurité en tenant compte de toutes incompatibilités éventuelles

Stocker les produits de soudage dans une pièce sans humidité. Ne pas stocker les produits de soudage directement au sol ou près de murs. Stocker le produit loin des substances chimiques comme les acides qui pourraient causer des réactions chimiques.

7.3 Usage(s) spécifique(s)

Processus de soudage.

Section 8. CONTRÔLES DE L'EXPOSITION / PROTECTION INDIVIDUELLE

8.1 Paramètres de contrôle

Composant des fumées de soudage	Numéro CAS.	VLE-MPT (TVL- TWA)	VLE-LECT (TLV-STEL)	Autre
Fumées d'oxyde de fer (sous forme de Fe)	1309-37-1	5 mg/m^3 masse de particules respirables	P/D	P/D
Manganèse et ses composés inorganiques (sous forme de Mn)	7439-96-5 et autres	0.2 mg/m^3	P/D	P/D
Composés de chrome(VI) (sous forme de Cr)	1333-82-0	0.05mg/m^3	P/D	P/D
Composés de chrome(III) (sous forme de Cr)	1308-38-9	0.5mg/m^3	P/D	P/D
Nickel et ses composés inorganiques Soluble dans l'eau Insoluble dans l'eau	7440-02-0	1.5 mg/m3 P/D	P/D	P/D 1.0 mg/m3
Fumée de cuivre	7440-50-8	0.2 mg/m^3 (fumée)	P/D	0.1 mg/m3 (fumée)
Dioxyde d'azote	10102-44-0	0.2ppm	P/D	P/D
Monoxyde d'azote	10102-43-9	25ppm	P/D	P/D
Ozone	10028-15-6	*	P/D	P/D
Dioxyde de carbone	124-38-9	5000ppm	30000ppm	5000ppm
Monoxyde de carbone	630-08-0	25ppm	P/D	50ppm
Aluminium Inhalable Poussière respirable	1344-28-1	1 mg/m^3 (respirable)	P/D	P/D
Composés de zirconium	7440-67-7	5 mg/m^3	10 mg/m^3	P/D

8.2 Contrôles d'exposition

Contrôles d'exposition environnementale – Consulter la Section 6 de cette FDS

Mesures de précaution technique	Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires.
Protection des yeux/du visage	Porter une protection oculaire appropriée pour le soudage.
Gants sécuritaires	Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.
Autre protection de la peau	Porter des vêtements de protection qui aident à prévenir les blessures causées par les rayonnements, les étincelles et les chocs électriques.
Protection respiratoire	Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc.

Section 9. PROPRIÉTÉS PHYSIQUES ET CHMIQUES

9.1 Information concernant les propriétés physiques et chimiques de base

Apparence, couleur	Généralement gris ou couleur de cuivre si enrobé
Apparence, état physique	Fils ou baguettes en métal
Température d'auto-inflammation	Sans objet
Auto-inflammation	Non auto-inflammable
Température de décomposition	Sans objet
Taux d'évaporation	Sans objet
Propriété d'explosibilité	Pas explosif
Inflammabilité (solide, gaz)	Sans objet
Point d'éclair	Sans objet
Formation	Rapide
Domaine et point d'ébullition initial	Sans objet
Point de fusion / Point de congélation	Pas disponible
Odeur	Inodore
Seuil olfactif	Pas disponible
Propriétés oxydantes	Pas disponible
Coefficient de partage: n-octanol / eau	Sans objet
pH	Sans objet
Densité relative	Sans objet
Solubilité	Pas disponible
Solubilité dans l'eau	Insoluble
Limites supérieures/inférieures d'inflammabilité ou d'explosibilité	Sans objet
Densité de vapeur	Sans objet
Pression de vapeur	Sans objet
Viscosité	Sans objet

9.2 Autre information

Sans objet

Autre

Densité	7.98g/cm^3

Section 10. STABILITÉ ET RÉACTIVITÉ

10.1 Réactivité

Pas disponible

10.2 Stabilité chimique

Stable dans des conditions prescrites de stockage et de manutentions recommandées. Une polymérisation dangereuse ne se produira pas. Les matières et conditions incompatibles à éviter sont en général liées au soudage.

10.3 Risque de réactions dangereuses

Sans objet

10.4 Conditions à éviter

Aucune dans des conditions normales

10.5 Matériaux incompatibles

Pas disponible

10.6 Produits de décomposition dangereux

Gaz et fumées de soudage. Fumées additionnelles peuvent provenir de revêtements et contaminants sur le produit de base. Produits de combustion dangereux - Oxydes de carbone et autres fumées et émanations irritantes ou toxiques.

Composant des fumées de soudage	AS	EE	L		
Oxyde d'aluminium (Al)	1344-28-1	-	-	-	<0.1
Baryum (Ba)	7440-39-3	-	-	-	<0.1
Oxyde de bismuth (Bi)	12640-40-3	-	-	-	<0.1
Calcium (Ca)	1305-78-8	-	-	-	<0.1 - 0.2
Oxyde de cobalt (Co)	1307-96-6	R22 Nocif en cas d'ingestion R43: Peut entraîner une sensibilisation par contact avec la peau	Tox aiguë 4 (oral) Sensib. cut. 1	H302 H317	<0.1
Chrome III composant (comme Cr)	24613-89-6	R45: Peut provoquer le cancer R35: Provoque de graves brûlures R43: Peut entraîner une sensibilisation par contact avec la peau	Cancérog. 1B Corr. cut. 1A Sensib. cut. 1	H350 H314 H317	<0.1
Oxyde de cuivre (Cu)	1317-38-0	-	-	-	0.3 - 1.1
Oxyde de fer (Fe)	1332-37-2	-	-	-	45.8 - 61.4
Potassium (K)	7440-09-7	R34 Provoque des brûlures	Corr. cut. 1B	H314	<0.1
Lithium (Li)	7439-93-2	R34 Provoque des brûlures	Corr. cut. 1B	H314	<0.1
Oxyde de magnésium (Mg)	1309-48-4	-	-	-	<0.1
Manganèse (Mn)	7439-96-5	-	-	-	6.3 - 15.0
Molybdène (Mo)	7439-98-7	Trioxyde de molybène R36/37: Irritant pour les yeux et les voies respiratoires R40: Effet cancérogène suspecté – preuves insuffisantes	Trioxyde de molybène Cancérog.. 2 Irritat. oculaire. 2 Toxicité pour certains organes cible, exposition unique 3	H351 H319 H335	<0.1
Sodium (Na)	7440-23-5	R34 Provoque des brûlures	Corr. cut. 1B	H314	<0.1
Nickel (Ni)	7440-02-0	R40: Effet cancérogène suspecté – preuves insuffisantes R43: Peut entraîner une sensibilisation par contact avec la peau R48/23: Toxique : risque d'effets graves pour la santé en cas d'exposition prolongée par inhalation et par contact avec la peau R52/53: Nocif pour les organismes aquatiques, peut entraîner des effets néfastes à long terme pour l'environnement aquatique	Cancérog.. 2 Sensib. cut. 1 Toxicité pour certains org. cibles, toxic.répét. 1	H351 H317 H372	<0.1
Plomb (Pb)	7439-92-1	-	-	-	<0.1
Silice (Si)	7440-21-3	-	-	-	1.3 - 4.8
Dioxyde de titane (Ti)	13463-67-7	-	-	-	<0.1
Vanadium (V)	7440-62-2	-	-	-	<0.1
Zinc (Zn)	7440-66-6	-	-	-	<0.1 - 0.7

Analyse fumées : % poids
Al 0.1 max
Ca 0.1 - 0.2
Fe 45.8 - 61.4
Mn 6.3 - 15
Si 1.3 - 4.8
Zn 0.1 - 0.7

Section 11. DONNÉES TOXICOLOGIQUES

11.1 Information sur les effets toxicologiques

Conditions à éviter: aucune pour le produit tel quel
Lors du soudage, gaz et fumées générées peuvent être dangereuses pour la santé.

Toxicité immédiate	Expositions excessives peuvent affecter la santé humaine comme suit: Aspiration peut causer un oedème pulmonaire et pneumonite. Surexposition à court-terme peut causer étourdissements, nausée et irritation du nez, de la gorge ou des yeux.
Irritation	Pas disponible
Effets corrosifs	Pas disponible
Sensibilisation	Peut causer une sensibilisation de la peau
Mutagénicité	Pas disponible
Cancérogénicité	Fumées de soudage sont possiblement cancérogènes pour les humains
Toxicité chronique	Pas disponible
Toxicité sur la reproduction	Pas disponible
Matières synergiques	Pas disponible

Section 12. DONNÉES ÉCOLOGIQUES

12.1 Toxicité
Le processus de soudage peut affecter l'environnement si les fumées sont libérées directement dans l'atmosphère. Les résidus des produits de soudage peuvent se dégrader et s'accumuler dans le sol et l'eau de surface.

12.2 Persistance et dégradabilité
Pas disponible

12.3 Potentiel de bioaccumulation
Pas disponible

12.4 Mobilité dans le sol
Pas disponible

12.5 Résultats de PBT et détermination vPvB
Pas disponible

12.6 Autres effets nocifs
Pas disponible

Section 13. DONNÉES SUR L'ÉLIMINATION

13.1 Méthodes d'élimination

Méthodes d'élimination	Élimination de n'importe quel produit, résidu ou matériau d'emballage conformément aux règlements nationaux ou locaux. Les filtres usés d'extraction des fumées doivent être éliminés comme résidu dangereux.

Autre

Code de résidu	Les emballages et rebuts de fils et baguettes devraient être évacués comme des déchets ordinaires ou recyclés. Aucune précaution spéciale n'est requise pour ces produits de soudage. Les fumées recueillies dans les systèmes d'aspiration devraient être éliminées conformément aux règlements fédéraux, provinciaux et municipaux. Recueillir tous les déversements accidentels.

Section 14. INFORMATIONS RELATIVES AU TRANSPORT

14.1 Numéro ONU

Sans objet

14.2 Désignation officielle de transport de l'ONU

Sans objet

14.3 Classe(s) relative(s) au transport

Sans objet

14.4 Groupe d'emballage

Sans objet

14.5 Dangers environnementaux

Sans objet

14.6 Précautions spéciales pour l'utilisateur

Sans objet

14.7 Transport en vrac

Sans objet

Autre

Marchandises dangereuses	Il n'existe aucune exigence spéciale relative au transport de ces produits. **Règlement sur le transport des marchandises dangereuses (RTMD) :** Classification du TMD : NON RÉGLEMENTÉ Cas particulier : Sans objet

SolidARC

Numéro de version: 1
Remplace FDS: 2009-11-23
Date d'émission: 2014-02-05

Section 15. INFORMATION SUR LA RÉGLEMENTATION

15.1 Réglementation relative à la sécurité, à la santé et à l'environnement applicable au produit en question

Règlements EU	Consulter les règlements nationaux.
Règlements nationaux	**Étiquette du SIMDUT** : **MISE EN GARDE**. Ne pas retirer ou couvrir cette mise en garde. Se protéger et protéger les autres Lire et bien comprendre ces informations Les décharges électriques peuvent causer la mort. Ne placez pas votre tête directement dans la fumée. Les rayons de l'arc et la fumée peuvent incommoder d'autres personnes dans l'espace de travail. Respectez les pratiques et procédures de votre employeur en matière de sécurité; protégez les autres. Fiche de données de sécurité disponible sur demande auprès de www.messer-ca.com. Information du SIMDUT : Ce produit est réglementé en vertu du Règlement sur les produits contrôlés (RPC) au Canada. Ce produit a été classé conformément aux critères de danger énoncés dans le Règlement sur les produits contrôlés (RPC) et cette fiche de données de sécurité contient tous les renseignements exigés par le Règlement sur les produits contrôlés (RPC). Classification du SIMDUT : D2A - Matières toxiques ayant d'autres effets.

15.2 Détermination chimique du produit

Pas disponible

Section 16. AUTRES INFORMATIONS

Références importantes et sources de données	Le client devrait fournir cette fiche de données de sécurité à toute personne intervenant dans l'utilisation ou la distribution ultérieure de ces produits. The Messer World demande aux utilisateurs (ou distributeurs) de lire attentivement cette fiche avant d'utiliser le produit. Préparé par Messer Canada Inc. **Références** Fiches de données de sécurité du fabricant/fournisseur. Centre canadien d'hygiène et de sécurité du travail, CCInfoWeb databases, 2014.
Signification	**Abréviations** ACGIH American Conference of Governmental Industrial Hygienists CAS Chemical Abstract Service CIRC Centre international de recherche sur le cancer CL Concentration létale DL Dose létale S/O Sans objet P/D Pas disponible NIOSH National Institute for Occupational Safety and Health LECT Limite d'exposition à court terme VLE Valeur limite d'exposition MPT Moyenne pondérée en fonction du temps SIMDUT Système d'information sur les matières dangereuses utilisées au travail

Autre

Notes du fabricant	Les informations contenues dans cette fiche de données de sécurité ne traitent que des produits spécifiques désignés et ne peuvent servir pour un tel produit utilisé en association avec tout autre produit ou dans tout procédé. Les présents renseignements sont donnés de bonne foi et sont basés sur les dernières informations disponibles chez Messer World et sont, à la connaissance de Messer World, précises et fiables au moment de la préparation. Toutefois, Messer World n'accorde aucune garantie quant à la précision, la fiabilité ou l'intégralité des renseignements et, Messer World décline toute responsabilité quant à l'utilisation de ces informations. Le produit est fourni à la condition que l'utilisateur accepte la responsabilité de se vérifier lui-même la pertinence et l'intégralité de ces informations pour son propre usage. Les obligations liées aux droits de brevets doivent être respectées. Lire cette fiche de données de sécurité et connaître des dangers identifiés et de l'information concernant la santé.

Fin du document

SAFETY DATA SHEET
BW006 Bare Aluminium wire electrodes and Rods

SolidARC

Version number: 1

Replaces SDS: 2009-11-23

Issued: 2020-03-05

Not for sale in the USA

Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Trade name SolidARC MIG Aluminium-Silicon Alloy Wires (ER 4043). SolidARC MIG Aluminium-magnesium Alloy Wires (ER 5356).SolidARC TIG Aluminium-Silicon Alloy Rods (ER 4043). SolidARC TIG Aluminium-magnesium Alloy Rods (ER 5356). Bare Aluminium wire electrodes and Rods

Article-№

Product/Article	Diameter(Inch)	Packaging (Lbs)	Part Number
SolidARC Aluminium Mig Wire 4043	0.030	1	11204009
SolidARC Aluminium Mig Wire 4043	0.035	1	11204080
SolidARC Aluminium Mig Wire 4043	0.047	1	11204081
SolidARC Aluminium Mig Wire 4043	0.035	15	11204082
SolidARC Aluminium Mig Wire 4043	0.047	15	11204083
SolidARC Aluminium Mig Wire 4043	0.0625	15	11204996
SolidARC Aluminium Mig Wire 4043	0.047	150	11204999
SolidARC Aluminium TIG Rod 4043	1/16	10	11204058
SolidARC Aluminium TIG Rod 4043	3/32	10	11204086
SolidARC Aluminium TIG Rod 4043	1/8	10	11204087
SolidARC Aluminium Mig Wire 5356	0.035	1	11204088
SolidARC Aluminium Mig Wire 5356	0.047	1	11204089
SolidARC Aluminium Mig Wire 5356	0.035	15	11204090
SolidARC Aluminium Mig Wire 5356	0.047	15	11204091
SolidARC Aluminium Mig Wire 5356	0.0625	15	11204092
SolidARC Aluminium Mig Wire 5356	0.047	150	11205003
SolidARC Aluminium TIG Rod 5356	1/16	10	11204094
SolidARC Aluminium TIG Rod 5356	3/32	10	11204095

	SolidARC Aluminium TIG Rod 5356	1/8	10	11204096

1.2 Relevant identified uses of the substance or mixture and uses advised against

Article type	GMAW (MIG) Gas Metal arc welding, GTAW (TIG) Tungsten Inert gas welding AWS A5.10
Use	Gas shielded Arc welding

1.3 Details of the supplier of the safety data sheet

Supplier	Messer Canada Inc.
Street address	5860 Chedworth Way, Mississauga
	Ontario L5R 0A2
	Canada
Telephone	**1-866-385-5349**
Fax	**905-501-1717**
Email	Info@messer-ca.com

1.4 Emergency telephone number

Available outside office hours	Yes
Emergency phone number	(24 Hour) : (905) 501-0802 or CHEMTREC (800) 424-9300

Other

Additional product information	**Web site: www.m**

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to applicable national Regulations.

2.2 Label elements

Refer to label.

2.3 Other hazards

When the product is used in the welding process the most important hazards are:
Overexposure to fumes and gases from welding can be dangerous to health.
Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire.
Arc rays can injure eyes and burn skin. Electric shock can kill. Avoid touching live electrical parts.

SolidARC

Version number: 1
Replaces SDS: 2009-11-23
Issued: 2020-03-05

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture and please refer to Section 3.2

3.2 Mixtures

AWS Specification	Al %	Si %	Fe %	Cu %	Mn %	Mg %	V %	Cr %	Zn %	Ti %
CAS №	**7429-90-5**	**7440-21-3**	**7439-89-6**	**7440-50-8**	**7439-96-6**	**7439-95-4**	**7440-62-2**	**7440-47-3**	**7440-67-7**	**7439-89-6**
A5.10/R4043	80.0-99.7	4.5-6.0	0.8	0.30	0.05	0.05	0.10	N/Av	N/Av	0.20
A5.10/R 5356	Bal. As above	0.25	0.4	0.1	0.05-0.20	4.5-5.5	0.10	0.05-0.20	0.10	0.06-0.20
A5.10 / others	Bal. As above	14.0	1.0	0.5	2.0	6.0	0.50	0.50	0.50	0.50
LD_{50} (Specie, route)	N/Av	3160 mg/kg (rat,oral)	30 g/kg (rat,oral)	413 mg/kg (mouse, oral)	9 g/kg (rat, oral)	N/Av	N/Av	N/Av	N/Av	N/Av
LC_{50} (Specie)	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

Section 4. FIRST AND MEASURES

4.1 Description of first aid measures

Inhalation	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.
Skin contact	Burns should be treated by a doctor.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor.
Ingestion	Contact a doctor if more than an insignificant amount has been swallowed.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation	Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons.

4.3 Indication of any immediate medical attention and special treatment needed

Not available

SolidARC

Version number: 1

Replaces SDS: 2009-11-23

Issued: 2020-03-05

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO2), powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.

5.2 Special hazards arising from the substance or mixture

Not available

5.3 Advice for fire fighters

Special protective equipment for fire fighters	No specific measures required for these electrodes prior to gouging. Gouging should not be carried out in the presence of flammable materials, vapours, tanks, cisterns and pipes and other containers which have held flammable substances unless these have been checked and certified safe. During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

Section6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Skin contact should be avoided to prevent possible allergic reactions.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3 Methods and material for containment and cleaning up

Not applicable

6.4 Reference to other sections

For *Personal protection* see section 8. For *Disposal* see section 13. For *Environmental precautions* see section 12. For *Precautions for safe handling* see 7.1.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Preventive handling precautions	Ensure adequate ventilation for the welder and others. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Remove all flammable materials and liquids before welding.
General hygiene	Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

7.3 Specific end use(s)
Welding process.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Welding fume component	CAS №.	TVL-TWA	TLV-TWA	Other	Hazard Classification (GHS) 1272/2008
Aluminium Oxides Total inhalable dust Respirable dust	1344-28-1	1 mg/m^3 (Inhalable fraction)	N/Av	N/Av	H261/H250 Pyrophoric H261/H228 stabilised
Iron oxide fume (as Fe)	1309-37-1	5 mg/m^3 Respirable particulate	N/Av	5 mg/m^3 Respirable particulate	
Manganese and its inorganic compounds (as Mn)	7439-96-5	0.2 mg/m^3	N/Av	5 mg/m^3	
Silica, amorphous (total inhalable dust) (respirable dust)	N/Av	N/Av	N/Av	 10 mg/m^3 3 mg/m^3	
Magnesium oxide (as Mg) Total inhalable dust Respirable dust	1309-48-4	10 mg/m^3 (Inhalable fraction)	N/Av	N/Av	
Copper, fume	7440-50-8	0.2 mg/m^3 (fume)	N/Av	0.1 mg/m^3 (fume)	
Zinc oxide, fume	1314-13-2	2 mg/m^3 (Inhalable fraction)	10 mg/m^3 (Inhalable fraction)	N/Av	
Carbon Dioxide	124-38-9	5000ppm	30000ppm	5000ppm	
Carbon Monoxide	630-08-0	25ppm	N/Av	50ppm	
Nitrogen dioxide (NO_2)	10102-44-0	0.2ppm	N/Av	N/Av	
Ozone (O_3)	10028-15-6	*	N/Av	N/Av	
Nitrogen monoxide (NO)	10102-43-9	25ppm	N/Av	N/Av	

8.2 Exposure controls

Environmental Exposure controls- Refer to Section 6 of this SDS

Technical precaution measures	General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.
Eye / face protection	Wear eye protection appropriate for welding.
Safety gloves	Skin contact should be avoided to prevent possible allergic reactions.
Other skin protection	Wear body protection which helps to prevent injury from radiation, sparks and electric shock.
Respiratory protection	Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance, colour	Light grey metallic colour
Appearance, physical state	Aluminium wire or Rod
Auto-ignition temperature	Not applicable
Auto-flammability	Not auto-flammable
Decomposition temperature	Not applicable
Evaporation rate	Not applicable
Explosive properties	Not explosive
Flammability (solid gas)	Not applicable
Flash point	Not applicable
Form	Fast
Initial boiling point and boiling range	Not applicable
Melting point / Freezing point	Not available
Odour	Odourless
Odour threshold	Not available
Oxidising properties	Not available
Partition coefficient: n-octanol / water	Not applicable
pH value	Not applicable
Relative density	Not applicable
Solubility	Not available
Solubility in water	Insoluble
Upper / lower flammability or explosive limits	Not applicable
Vapour density	Not applicable
Vapour pressure	Not applicable
Viscosity	Not applicable

9.2 Other information

Not applicable

Other

Density	2.7g/cm^3

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 Chemical stability

Stable under the recommended storage and handling conditions prescribed. Hazardous polymerization will not occur. Incompatible materials and conditions to avoid are usually related to welding.

10.3 Possibility of hazardous reactions

Not available

10.4 Conditions to avoid

None under normal conditions

10.5 Incompatible materials

Not available

10.6 Hazardous decomposition products

Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.
Hazardous combustion products - Carbon oxides and other irritating/toxic fumes and smoke.

Welding fume component	CAS №	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Aluminium oxide (Al)	1344-28-1	-	-	-	0
Chromium III compounds (as Cr)	24613-89-6	R45: May cause cancer R35: Causes severe burns R43: May cause sensitisation by skin contact	Carc. 1B Skin Corr. 1A Skin Sens. 1	H350 H314 H317	<1.0
Copper oxide (Cu)	1317-38-0	-	-	-	<.1
Iron oxide (Fe)	1332-37-2	-	-	-	<0.1 to 3.0
Magnesium oxide (Mg)	1309-48-4	-	-	-	<0.1 to 5.0

Manganese (Mn)	7439-96-5	-	-	-	<0.1 to 10.0
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	≤1.0
Zinc (Zn)	7440-66-6	-	-	-	≤1.0

Classification information relates to the fume during use

Classification	**H phrase**	**Text**
Skin sensitiser: Category 1	H317	May cause an allergic skin reaction
Carcinogenicity: Category 1B	H350	May cause cancer

Analysis wt %	
Al bal	Mg <1
Fe 1 to 3	Zn <1
Cr <1	Cu <1

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied
When welding, fumes and gases generated can be dangerous to health.

Acute toxiciy	Excessive exposures may affect human health, as follows: Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
Irritation	Not available
Corrosive effects	Not available
Sensitisation	May cause sensitisation by skin contact
Mutagenicity	Not available
Carcinogenicity	Welding fumes are possibly carcinogenic to humans

Repeated dose toxicity	Not available
Reproductive toxicity	Not available
Synergistic materials	Not available

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

The welding process can effect the environment if fume is released directly into the atmosphere. Residues from welding consumables could degrade and accumulate into soils and ground water.

12.2 Persistence and degradability

Not available

12.3 Bio accumulative potential

Not available

12.4 Mobility in Soil

Not available

12.5 Results of PBT and vPvB assessment

Not available

12.6 Other adverse effects

Not available

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal considerations	Dispose of any product, residue or packing material according to national and local regulations. Spent fume extraction filters shall be disposed of as dangerous waste.

Other

Waste code	Packaging and rod scrap should be disposed of as general waste or recycled. No special precautions are required for this product. Fume collected from extraction units should be disposed of in accordance with local regulations (including Provincial and Federal Regulations). Collect all spillage.

Section 14. TRANSPORT INFORMATION

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk

Not applicable

Other

Dangerous goods	No special requirements are necessary in transporting these products. Transportation of Dangerous Goods Regulations (TDGR): TDG Classification: NOT REGULATED Special case: N/Ap

Section 15. REGUATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.

EU regulations	Refer to national Regulations.
National regulations	WHMIS Label Information: **WARNING.** Do not remove or cover this Warning. Protect yourself and others. Read and understand this information. Electric shock can kill. Keep your head out of the fume. Arc rays and fume can affect others in your workplace. Comply with your employer's safety practices and procedures: protect others.

	Safety data sheet available on request from www.messer-ca.com. WHMIS information: Product is regulated according to the Controlled Product Regulations (CPR) in Canada. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR. WHMIS classification: D2A - Toxic Material with other effects.

15.2 Chemical safety assessment

Not available

Section 16. OTHER INFORMATION

References to key literature and data sources	The customer should provide this Safety Data Sheet to any person involved in the materials use or further distribution. The Messer World requests the users (or distributors) of this product to read this Safety Data Sheet carefully before usage. **Prepared by Messer Canada Inc.** **References** Safety Data Sheets from manufacturer/supplier. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2014.
Phrase meaning	**Abbreviations** ACGIH American Conference of Governmental Industrial Hygienists CAS Chemical Abstract Service IARC International Agency for Research on Cancer LC Lethal concentration LD Lethal Dosage N/Ap Not applicable N/Av Not available NIOSH National Institute for Occupational Safety and Health STEL Short-term Exposure Limit TLV Threshold Limit Value TWA Time Weighted Average WHMIS Workplace Hazardous Materials Information System

Other

Manufacturer's notes	The information contained in this Safety Data Sheet relates only to the specific materials designated and may not be valid for such material used in combination with any other material or in any process. Information is given in good faith and is based on the latest information available to Messer World and is, to the best of Messer World's knowledge and belief, accurate and reliable at the time of preparation. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness of the information, and Messer World assumes no responsibility and disclaims any liability incurred in using this information. The product is supplied on the condition that the user accepts the responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. Freedom from patent rights must not be assumed. Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.

End of Document

FICHE DE DONNÉES DE SÉCURITÉ
BW006 Fils électrodes et baguettes de soudage d'aluminium / à base d'aluminium

Numéro de version : 1
Remplace FDS: 2014-03-25
Date d'émission : 2020-03-03

Ce produit ne peut être vendu aux États-Unis

Section 1. IDENTIFICATION DE LA SUBSTANCE / DU MÉLANGE ET DE LA COMPAGNIE

1.1 Identificateur du produit

Nom commercial SolidARC MIG Aluminium-Silicon Alloy Wires (ER 4043). SolidARC MIG Aluminium-magnesium Alloy Wires (ER 5356).SolidARC TIG Aluminium-Silicon Alloy Rods (ER 4043). SolidARC TIG Aluminium-magnesium Alloy Rods (ER 5356). Bare Aluminium wire electrodes and Rods (Fils-électrodes et baguettes de soudage d'aluminium ou baguettes et électrodes de soudage à base d'aluminium)

№ d'article

Produit/Article	Diamètre (pouce)	Emballage (lb))	Numéro de pièce
SolidARC Aluminium Mig Wire 4043	0.030	1	11204009
SolidARC Aluminium Mig Wire 4043	0.035	1	**11204080**
SolidARC Aluminium Mig Wire 4043	0.047	1	11204081
SolidARC Aluminium Mig Wire 4043	0.035	15	11204082
SolidARC Aluminium Mig Wire 4043	0.047	15	11204083
SolidARC Aluminium Mig Wire 4043	0.0625	15	11204996
SolidARC Aluminium Mig Wire 4043	0.047	150	11204999
SolidARC Aluminium TIG Rod 4043	1/16	10	11204058
SolidARC Aluminium TIG Rod 4043	3/32	10	11204086
SolidARC Aluminium TIG Rod 4043	1/8	10	11204087
SolidARC Aluminium Mig Wire 5356	0.035	1	11204088
SolidARC Aluminium Mig Wire 5356	0.047	1	11204089
SolidARC Aluminium Mig Wire 5356	0.035	15	11204090
SolidARC Aluminium Mig Wire 5356	0.047	15	11204091
SolidARC Aluminium Mig Wire 5356	0.0625	15	11204092
SolidARC Aluminium Mig Wire 5356	0.047	150	11205003
SolidARC Aluminium TIG Rod 5356	1/16	10	11204094
SolidARC Aluminium TIG Rod 5356	3/32	10	11204095
SolidARC Aluminium TIG Rod 5356	1/8	10	11204096

1.2 Usage recommandé et restrictions d'utilisation du produit chimique

Type d'article	GMAW (MIG) Gas Metal arc welding, GTAW (TIG) Tungsten Inert gas welding AWS A5.10 Soudage à l'arc sous protection gazeuse avec fil plein (GMAW), soudage en atmosphère inerte avec fil-électrode fusible (MIG), soudage à l'arc sous gaz avec électrode de tungstène (procédé GTAW), ou soudage TIG
Usage	Soudage à l'arc sous protection gazeuse

1.3 Données relatives au fournisseur de la fiche de données de sécurité

Fournisseur	Messer Canada Inc.
Adresse complète	5860 Chedworth Way, Mississauga
	Ontario L5R 0A2
	Canada
Téléphone	**1-866-385-5349**
Télécopieur	**905-501-1717**
Courriel	info@messer-ca.com

1.4 Numéro de téléphone en cas d'urgence

Disponible hors des heures d'ouverture	Oui
Numéro de téléphone d'urgence	(24 Heures) : (905) 501-0802 or CHEMTREC (800) 424-9300

Autre

Information additionnelle sur le produit	**Site Internet : www.messer-ca.com**

Section 2. IDENTIFICATION DES DANGERS

2.1 Classification de la substance ou du mélange

Classification conformément aux règlements nationaux en vigueur.

2.2 Éléments d'étiquetage

Consulter l'étiquette

2.3 Autres dangers

Lorsque le produit est utilisé dans le processus de soudage les dangers les plus importants sont :
Surexposition à la fumée et aux gaz de soudage qui peuvent être dangereux pour la santé.
Éviter les éclaboussures, les métaux chauds et les scories. Cela peut causer une brûlure à la peau et causer un incendie.
Les rayonnements lumineux de l'arc de soudage peuvent causer des blessures aux yeux et à la peau. Des chocs électriques peuvent tuer. Éviter de toucher des pièces électriques branchées.

Section 3. COMPOSITION / INFORMATION SUR LES COMPOSANTS

3.1 Substances
Ce produit est un mélange. Consulter la Section 3.2.
3.2 Mélanges

Spécification AWS	**Al %**	**Si %**	**Fe %**	**Cu %**	**Mn %**	**Mg %**	**V %**	**Cr %**	**Zn %**	**Ti %**
№ CAS	**7429-90-5**	**7440-21-3**	**7439-89-6**	**7440-50-8**	**7439-96-6**	**7439-95-4**	**7440-62-2**	**7440-47-3**	**7440-67-7**	**7439-89-6**
A5.10/R4043	80.0-99.7	4.5-6.0	0.8	0.30	0.05	0.05	0.10	P/D	P/D	0.20
A5.10/R 5356	Rest. Comme ci-dessus	0.25	0.4	0.1	0.05-0.20	4.5-5.5	0.10	0.05-0.20	0.10	0.06-0.20
A5.10 / autres	Rest. Comme ci-dessus	14.0	1.0	0.5	2.0	6.0	0.50	0.50	0.50	0.50
DL_{50} (espèce, voie)	P/D	3160 mg/kg (rat,oral)	30 g/kg (rat,oral)	413 mg/kg (souris, oral)	9 g/kg (rat, oral)	P/D	P/D	P/D	P/D	P/D
CL_{50} (espèce)	P/D	P/D	P/D	P/D	P/D	P/D	P/D	P/D	P/D	P/D

Section 4. PREMIERS SOINS

4.1 Description des premiers soins nécessaires

Inhalation	EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Appeler un médecin en cas de symptômes.
Contact avec la peau	Brûlures devraient être traitées par un médecin.
Contact avec les yeux	EN CAS DE CONTACT AVEC LES YEUX : Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Brûlures par les rayonnements. Consulter un médecin.
Ingestion	Appeler un médecin si une quantité significative a été avalée.

4.2 Symptômes/effets les plus importants, aigus ou retardés

Inhalation	L'inhalation des vapeurs peut causer une irritation respiratoire chez les personnes sensibles.

4.3 Indications quant à la nécessité éventuelle d'une prise en charge médicale immédiate ou d'un traitement spécial

Pas disponible

Section 5. MESURES À PRENDRE EN CAS D'INCENDIE

5.1 Agents extincteurs appropriés

Agents extincteurs appropriés	Dioxyde de carbone (CO2), poudre ou jets d'eau. En cas d'incendie majeur: Éteindre l'incendie avec des jets d'eau ou de la mousse.

5.2 Dangers spécifiques du produit

Pas disponible

5.3 Mesures spéciales de protection pour les pompiers

Équipement spécifique de protection contre les incendies	Avant le soudage, aucune mesure spécifique requise. On ne doit pas souder en présence de matières et vapeurs inflammables, de bouteilles, citernes, tuyaux et autres contenants ayant contenu des matières inflammables sauf s'ils ont été vérifiés et certifiés sans danger. En cas d'incendie, des fumées et émanations irritantes et toxiques peuvent être générées. Ne pas entrer dans une zone d'incendie sans un équipement de protection approprié. Les pompiers devraient porter l'équipement de protection adéquat et un appareil respiratoire autonome avec masque respiratoire complet. Protéger le personnel contre l'échappement des gaz, la rupture ou l'éclatement des contenants. Retirer les contenants de la zone en feu si cela peut être effectué sans risque. Refroidir les contenants et équipements exposés aux flammes et à la chaleur en les arrosant d'eau.

Section 6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTEL

6.1 Précautions individuelles, équipements de protection et mesures d'urgence

Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc. Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.

6.2 Précautions relatives à l'environnement

Essayer d'empêcher le produit d'entrer dans les égouts ou les cours d'eau.

6.3 Méthodes et matériaux pour l'isolation et le nettoyage

Sans objet

6.4 Références aux autres sections

Pour la *protection personnelle* voir section 8. Pour *l'élimination* voir section 13. Pour les *précautions environnementales* voir section 12. Pour les *précautions et une manutention sécuritaire* voir 7.1.

Section 7. MANUTENTION ET STOCKAGE

7.1 Précautions à prendre pour assurer la manutention

Précautions à prendre pour la manutention	S'assurer que la ventilation est adéquate pour le soudeur et les autres. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc. Retirer tous les liquides et produits inflammables avant de souder.
Hygiène générale	Se laver les mains avant les pauses et immédiatement après avoir manipulé le produit.

7.2 Stockage dans des conditions de sécurité en tenant compte de toutes incompatibilités éventuelles

Stocker les produits de soudage dans une pièce sans humidité. Ne pas stocker les produits de soudage directement au sol ou près de murs. Stocker le produit loin des substances chimiques comme les acides qui pourraient causer des réactions chimiques.

7.3 Usage(s) spécifique(s)

Processus de soudage.

Section 8. CONTRÔLES DE L'EXPOSITION / PROTECTION INDIVIDUELLE

8.1 Paramètres de contrôle

Composant des fumées de soudage	№.CAS	VLE-MPT	VLE-LECT	Autre	Classification danger (GHS) 1272/2008
Oxydes d'aluminium Poussières inhalables totales Poussières respirables	1344-28-1	1 mg/m^3 (fraction inhalable)	P/D	P/D	H261/H250 Pyrophorique H261/H228 stabilisé
Fumées d'oxyde de fer (sous forme de Fe)	1309-37-1	5 mg/m^3 particule respirable	P/D	5 mg/m^3 particule respirable	
Manganèse et ses composés inorganiques (sous forme de Mn)	7439-96-5	0.2 mg/m^3	P/D	5 mg/m^3	
Silice, amorphe (poussières inhalables totales) (poussières respirables)	P/D	P/D	P/D	10 mg/m^3 3 mg/m^3	
Oxyde de magnésium (sous forme de Mg) Poussières inhalables totales Poussières respirables	1309-48-4	10 mg/m^3 (fraction inhalable)	P/D	P/D	
Cuivre, fumées	7440-50-8	0.2 mg/m^3 (fumée)	P/D	0.1 mg/m^3 (fumée)	
Oxyde de zinc, fumées	1314-13-2	2 mg/m^3 (fraction inhalable)	10 mg/m^3 (fraction inhalable)	P/D	
Dioxyde de carbone	124-38-9	5000ppm	30000ppm	5000ppm	
Monoxyde de carbone	630-08-0	25ppm	P/D	50ppm	
Dioxyde d'azote (NO2)	10102-44-0	0.2ppm	P/D	P/D	
Ozone (O3)	10028-15-6	*	P/D	P/D	
Monoxyde d'azote (NO)	10102-43-9	25ppm	P/D	P/D	

8.2 Contrôles d'exposition

Contrôles d'exposition environnementale – Consulter la Section 6 de cette FDS

Mesures de précaution technique	Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires.
Protection des yeux/du visage	Porter une protection oculaire appropriée pour le soudage.
Gants sécuritaires	Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.
Autre protection de la peau	Porter des vêtements de protection qui aident à prévenir les blessures causées par les rayonnements, les étincelles et les chocs électriques.
Protection respiratoire	Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc.

Section 9. PROPRIÉTÉS PHYSIQUES ET CHMIQUES

9.1 Information concernant les propriétés physiques et chimiques de base

Apparence, couleur	Couleur gris pâle métallique
Apparence, état physique	Fils ou baguettes en aluminium
Température d'auto-inflammation	Sans objet
Auto-inflammation	Non auto-inflammable
Température de décomposition	Sans objet
Taux d'évaporation	Sans objet
Propriété d'explosibilité	Pas explosif
Inflammabilité (solide, gaz)	Sans objet
Point d'éclair	Sans objet
Formation	Rapide
Domaine et point d'ébullition initial	Sans objet
Point de fusion / Point de congélation	Pas disponible
Odeur	Inodore
Seuil olfactif	Pas disponible
Propriétés oxydantes	Pas disponible
Coefficient de partage: n-octanol / eau	Sans objet
pH	Sans objet
Densité relative	Sans objet
Solubilité	Pas disponible
Solubilité dans l'eau	Insoluble
Limites supérieures/inférieures d'inflammabilité ou d'explosibilité	Sans objet
Densité de vapeur	Sans objet
Pression de vapeur	Sans objet
Viscosité	Sans objet

9.2 Autre information

Sans objet

Autre

Densité	2,7g/cm^3

Section 10. STABILITÉ ET RÉACTIVITÉ

10.1 Réactivité

Pas disponible

10.2 Stabilité chimique

Stable dans des conditions prescrites de stockage et de manutentions recommandées. Une polymérisation dangereuse ne se produira pas. Les matières et conditions incompatibles à éviter sont en général liées au soudage.

10.3 Risque de réactions dangereuses

Pas disponible

10.4 Conditions à éviter

Aucune dans des conditions normales

10.5 Matériaux incompatibles

Pas disponible

10.6 Produits de décomposition dangereux

Gaz et fumées de soudage. Fumées additionnelles peuvent provenir de revêtements et contaminants sur le produit de base. Produits de combustion dangereux - Oxydes de carbone et autres fumées et émanations irritantes ou toxiques.

Composant des fumées de soudage	№ CAS	Classification (67/548EEC)	CLP (1272/2008)		Concentration des composants de fumée classifiée
Oxyde d'aluminium (Al)	1344-28-1	-	-	-	0
Chrome III composant (comme Cr)	24613-89-6	R45: Peut provoquer le cancer R35: Provoque de graves brûlures R43: Peut entraîner une sensibilisation par contact avec la peau	Cancérog. 1B Corr. cut. 1A Sensib. cut. 1	H350 H314 H317	<1.0
Oxyde de cuivre (Cu)	1317-38-0	-	-	-	<.1
Oxyde de fer (Fe)	1332-37-2	-	-	-	<0.1 - 3.0
Oxyde de magnésium (Mg)	1309-48-4	-	-	-	<0.1 - 5.0
Manganèse (Mn)	7439-96-5	-	-	-	<0.1 - 10.0

Nickel (Ni)	7440-02-0	R40: Effet cancérogène suspecté – preuves insuffisantes R43: Peut entraîner une sensibilisation par contact avec la peau R48/23: Toxique : risque d'effets graves pour la santé en cas d'exposition prolongée par inhalation et par contact avec la peau R52/53: Nocif pour les organismes aquatiques, peut entraîner des effets néfastes à long terme pour l'environnement aquatique	Cancérog.. 2 Sensib. cut. 1 Toxicité pour certains org. cibles, toxic.Répét. 1	H351 H317 H372	≤1.0
Zinc (Zn)	7440-66-6	-	-	-	≤1.0

Classification - information relative aux fumées pendant l'usage

Classification	**Code H**	**Mention de danger**
Sensibilisation cutanée : atégorie 1	H317	Peut provoquer une allergie cutanée
Cancérogénicité : Catégorie 1B	H350	Peut provoquer le cancer

Analyses % en poids	
Al Reste	Mg <1
Fe 1 à 3	Zn <1
Cr <1	Cu <1

Section 11. DONNÉES TOXICOLOGIQUES

11.1 Information sur les effets toxicologiques

Conditions à éviter: aucune pour le produit tel quel

Lors du soudage, gaz et fumées générées peuvent être dangereuses pour la santé.

Toxicité immédiate	Expositions excessives peuvent affecter la santé humaine comme suit: Aspiration peut causer un oedème pulmonaire et pneumonite. Surexposition à court-terme peut causer étourdissements, nausée et irritation du nez, de la gorge ou des yeux.
Irritation	Pas disponible
Effets corrosifs	Pas disponible
Sensibilisation	Peut causer une sensibilisation de la peau
Mutagénicité	Pas disponible
Cancérogénicité	Fumées de soudage sont possiblement carcinogènes pour les humains
Toxicité chronique	Pas disponible
Toxicité sur la reproduction	Pas disponible
Matières synergiques	Pas disponible

Section 12. DONNÉES ÉCOLOGIQUES

12.1 Toxicité

Le processus de soudage peut affecter l'environnement si les fumées sont libérées directement dans l'atmosphère. Les résidus des produits de soudage peuvent se dégrader et s'accumuler dans le sol et l'eau de surface.

12.2 Persistance et dégradabilité

Pas disponible

12.3 Potentiel de bioaccumulation

Pas disponible

12.4 Mobilité dans le sol

Pas disponible

12.5 Résultats de PBT et détermination vPvB

Pas disponible

12.6 Autres effets nocifs

Pas disponible

Section 13. DONNÉES SUR L'ÉLIMINATION

13.1 Méthodes d'élimination

Méthodes d'élimination	Élimination de n'importe quel produit, résidu ou matériau d'emballage conformément aux règlements nationaux ou locaux. Les filtres usés d'extraction des fumées doivent être éliminés comme résidu dangereux.

Autre

Code de résidu	Les emballages et rebuts de fils et baguettes devraient être évacués comme des déchets ordinaires ou recyclés. Aucune précaution spéciale n'est requise pour ces produits de soudage. Les fumées recueillies dans les systèmes d'aspiration devraient être éliminées conformément aux règlements fédéraux, provinciaux et municipaux. Recueillir tous les déversements accidentels.

Section 14. INFORMATIONS RELATIVES AU TRANSPORT

14.1 Numéro ONU

Sans objet

14.2 Désignation officielle de transport de l'ONU

Sans objet

14.3 Classe(s) relative(s) au transport

Sans objet

14.4 Groupe d'emballage

Sans objet

14.5 Dangers environnementaux

Sans objet

14.6 Précautions spéciales pour l'utilisateur

Sans objet

14.7 Transport en vrac

Sans objet

Autre

Marchandises dangereuses	Il n'existe aucune exigence spéciale relative au transport de ces produits. **Règlement sur le transport des marchandises dangereuses (RTMD) :** Classification du TMD : NON RÉGLEMENTÉ Cas particulier : Sans objet

Section 15. INFORMATION SUR LA RÉGLEMENTATION

15.1 Réglementation relative à la sécurité, à la santé et à l'environnement applicable au produit en question

Règlements EU Règlements nationaux

Consulter les règlements nationaux.
Étiquette du SIMDUT : **MISE EN GARDE**. Ne pas retirer ou couvrir cette mise en garde. Se protéger et protéger les autres Lire et bien comprendre ces informations Les décharges électriques peuvent causer la mort. Ne placez pas votre tête directement dans la fumée. Les rayons de l'arc et la fumée peuvent incommoder d'autres personnes dans l'espace de travail. Respectez les pratiques et procédures de votre employeur en matière de sécurité; protégez les autres.

Fiche de données de sécurité disponible sur demande auprès de www.messer-ca.com.
Information du SIMDUT : Ce produit est réglementé en vertu du Règlement sur les produits contrôlés (RPC) au Canada. Ce produit a été classé conformément aux critères de danger énoncés dans le Règlement sur les produits contrôlés (RPC) et cette fiche de données de sécurité contient tous les renseignements exigés par le Règlement sur les produits contrôlés (RPC).
Classification du SIMDUT : D2A - Matières toxiques ayant d'autres effets.

15.2 Détermination chimique du produit

Pas disponible

Section 16. AUTRES INFORMATIONS

Références importantes et sources de données

Le client devrait fournir cette fiche de données de sécurité à toute personne intervenant dans l'utilisation ou la distribution ultérieure de ces produits. The Messer World demande aux utilisateurs (ou distributeurs) de lire attentivement cette fiche avant d'utiliser le produit.
Préparé par MESSER CANADA INC.
Références
Fiches de données de sécurité du fabricant/fournisseur.
Centre canadien d'hygiène et de sécurité du travail, CCInfoWeb databases, 2014.

Signification

Abréviations
ACGIH American Conference of Governmental Industrial Hygienists
CAS Chemical Abstract Service
CIRC Centre international de recherche sur le cancer
CL Concentration létale
DL Dose létale
S/O Sans objet
P/D Pas disponible
NIOSH National Institute for Occupational Safety and Health
LECT Limite d'exposition à court terme
VLE Valeur limite d'exposition
MPT Moyenne pondérée en fonction du temps
SIMDUT Système d'information sur les matières dangereuses utilisées au travail

Autre

Notes du fabricant

Les informations contenues dans cette fiche de données de sécurité ne traitent que des produits spécifiques désignés et ne peuvent servir pour un tel produit utilisé en association avec tout autre produit ou dans tout procédé.

Les présents renseignements sont donnés de bonne foi et sont basés sur les dernières informations disponibles chez Messer World et sont, à la connaissance de Messer World, précises et fiables au moment de la préparation. Toutefois, Messer World n'accorde aucune garantie quant à la précision, la fiabilité ou l'intégralité des renseignements et, Messer World décline toute responsabilité quant à l'utilisation de ces informations.

Le produit est fourni à la condition que l'utilisateur accepte la responsabilité de se vérifier lui-même la pertinence et l'intégralité de ces informations pour son propre usage. Les obligations liées aux droits de brevets doivent être respectées.
Lire cette fiche de données de sécurité et connaître les dangers identifiés et de l'information concernant la santé.

Fin du document

Automatic Transmission Fluid

Safety Data
Sheet

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture
Product Name: CAM2 Transmission Fluid
Product Grades: Multi Vehicle ATF, ATF+4, D/M Multi Vehicle ATF, Dexron VI, Type A ATF, Type F ATF, Trans Fluid 50
Product Codes: See section 16
Synonyms: Automatic Transmission Fluid

1.2. Intended Use of the Product

Automatic Transmission Fluid

1.3. Name, Address, and Telephone of the Responsible Party

Company

CAM2 International, LLC
683 Haining Road
Vicksburg, MS 39183
(800) 338-2262
www.CAM2.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-633-8253

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not Classified

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) : Not Classified

Signal Word (GHS-US) :

Hazard Statements (GHS-US) : None Required

Precautionary Statements (GHS-US) : P273 - Avoid release to the environment.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

None Known

2.4. Unknown Acute Toxicity (GHS-US)

None of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Petroleum distillates, solvent dewaxed	(CAS No) 64742-65-0	75.75 – 95, 64 - 85	Not Classified
Additive Mixture, Proprietary	(CAS No) unknown	0 – 11, 10 - 17	Not Classified

*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].

*More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary, due to varying composition.

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water or soap and water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: No known significant effects or critical hazards.

Inhalation: Overexposure may be irritating to the respiratory system.

Skin Contact: Repeated or prolonged skin contact may cause irritation.

Eye Contact: Direct contact with the eyes is likely irritating.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: No known significant effects or critical hazards.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable but will support combustion.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Under fire conditions, may produce fumes, smoke, oxides of carbon and hydrocarbons.

Other Information: Refer to Section 9 for flammability properties.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray).

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.
Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.
Incompatible Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Automatic Transmission Fluid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles. Gloves. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical goggles or safety glasses.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Environmental Exposure Controls: Do not allow the product to be released into the environment.
Consumer Exposure Controls: Do not eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	May be dyed
Odor	:	Slight Hydrocarbon
Odor Threshold	:	Not available
pH	:	Not available
Evaporation Rate	:	Not available
Melting Point	:	Not available
Boiling Point	:	> 280 °C (536 °F)
Flash Point	:	> 176 °C (COC) (350 °F)
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20 °C	:	Not available
Relative Density	:	Not available
Specific Gravity	:	Not available
Solubility	:	Negligible
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available
Viscosity, Kinematic	:	> 40 mm^2/s @ 40 °C
Explosive Properties	:	Product is not explosive
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

10.5. Incompatible Materials: Strong oxidizing agents

10.6. Hazardous Decomposition Products: Hazardous decomposition products are not expected to form under normal storage.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.

Symptoms/Injuries After Skin Contact: Repeated or prolonged skin contact may cause irritation.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes is likely irritating.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Not Classified

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Petroleum distillates, solvent dewaxed (64742-65-0)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 5 g/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Toxic to aquatic life.

Petroleum distillates, solvent dewaxed (64742-65-0)	
EC50 Daphina 1	> 1000 mg/L (Exposure time: 48 h – Species: Daphnia magna)
LC50 Fish 1	> 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

12.2. Persistence and Degradability

Not available

12.3. Bioaccumulative Potential

Not available

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way. Do not empty into drains. Do not dispose of waste into sewer.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

15.2. US State Regulations

None

15.3. Canadian Regulations

Petroleum distillates, solvent dewaxed (64742-65-0)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/29/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

H402	Harmful to aquatic life.
P273	Avoid release into the environment.
P501	Dispose of contents/container in accordance with local, regional, national, and international regulations.

Party Responsible for the Preparation of This Document

CAM2 International, LLC
683 Haining Road
Vicksburg, MS 39183
(800) 338-2262
www.CAM2.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2

Safety Data Sheet

Issuing date : 03-Aug-2009
Revision date : 13-May-2015

SDS # : TCW 0168 R - 01 US EN
Version : 03

SECTION 1: Product and company identification

Product Identifier

Product name Canon GPR-33 Black Toner

Product Code(s) 2792B003

Use Toner for electrophotographic machines

Details of the supplier of the safety data sheet

Supplier
Canon USA, Inc.
One Canon Park, Melville, NY 11747, USA
Phone number : 1-800-OK-CANON
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Canon Canada Inc.
6390 Dixie Road, Mississauga, Ontario L5T 1P7, Canada
Phone number : (1) 905-795-1111
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Manufacturer
Canon Inc.
30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

SECTION 2: Hazards identification

Emergency Overview

Black fine powder, slight plastic odor.

Classification under OSHA HCS

Not classified

US Label Elements under OSHA HCS

Symbol
Not required

Signal word
Not required

Hazard statements
Not required

Precautionary statements
Not required

Other Information
None

Other hazards which do not result in classification

None

SECTION 3: Composition/information on ingredients

Chemical name	CAS-No	Weight %
Polyester resin	CBI	80 - 90
Carbon black	1333-86-4	1 - 5
Pigment	CBI	1 - 5
Amorphous silica	7631-86-9	1 - 3
Titanium dioxide	13463-67-7	< 1

SECTION 4: First aid measures

Description of first aid measures

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Rinse mouth. Drink 1 or 2 glasses of water. Get medical attention immediately if symptoms occur.

Skin Contact Wash off immediately with soap and plenty of water. Get medical attention immediately if symptoms occur.

Eye Contact Flush with plenty of water. Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

Inhalation None under normal use. Exposure to excessive amounts of dust may cause physical irritation to respiratory tract.

Ingestion None under normal use.

Skin Contact None under normal use.

Eye Contact None under normal use. May cause slight irritation.

Chronic Effects None under normal use. Prolonged inhalation of excessive amounts of dust may cause lung damage.

Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Use CO2, dry chemical, or foam, Water.

Unsuitable extinguishing media
None

Special hazards arising from the substance or mixture

Special Hazard
May form explosive mixtures with air.

Hazardous combustion products
Carbon dioxide (CO_2), Carbon monoxide (CO)

Advice for firefighters

Special protective equipment for fire-fighters
None

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing dust. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Keep out of waterways.

Methods and material for containment and cleaning up

Clean up promptly by scoop or vacuum. If a vacuum cleaner is used, be sure to use a model with dust explosion safety measures. May form explosive mixtures with air.

Other Information

None

SECTION 7: Handling and storage

Precautions for safe handling

Avoid breathing dust. Avoid contact with skin, eyes and clothing. Clean contaminated surface thoroughly. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep out of the reach of children. Incompatible with oxidizing agents.

SECTION 8: Exposure controls/personal protection

Exposure guidelines

Chemical name	OSHA PEL	ACGIH TLV
Carbon black 1333-86-4	TWA: 3.5 mg/m³	TWA: 3 mg/m³ inhalable fraction
Amorphous silica 7631-86-9	TWA: 20 mppcf : (80)/(% SiO2) mg/m³ TWA	None
Titanium dioxide 13463-67-7	TWA: 15 mg/m³ total dust	TWA: 10 mg/m³

Appropriate engineering controls None under normal use conditions.

Individual protection measures, such as personal protective equipment
Eye/face Protection Not required under normal use.
Skin Protection Not required under normal use.
Respiratory Protection Not required under normal use.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Black ; powder
Odor	Slight odor
Odor threshold	No data available
pH	Not Applicable
Melting/Freezing point (°C)	85-120 (Softening point)
Boiling Point/Range (°C)	Not Applicable
Flash Point (°C)	Not Applicable
Evaporation Rate	Not Applicable
Flammability (solid, gas)	Not flammable; estimated
Flammability Limits in Air	
Upper Flammability Limit	Not Applicable
Lower Flammability Limit	Not Applicable
Vapor pressure	Not Applicable
Vapor Density	Not Applicable
Relative density	1.0-1.5
Solubility(ies)	Organic solvent; partly soluble
Partition coefficient: n-octanol/water	Not Applicable
Autoignition Temperature (°C)	No data available
Decomposition Temperature (°C)	> 200
Viscosity (mPa s)	Not Applicable

Other Information

No data available

SECTION 10: Stability and reactivity

Reactivity

None

Chemical stability

Stable

Possibility of Hazardous Reactions

None

Conditions to Avoid

None

Incompatible materials

Acids, Bases, Oxidizing agents, Reducing agents.

Hazardous Decomposition Products

Carbon dioxide (CO_2), Carbon monoxide (CO)

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity Estimate: LD50 > 2000 mg/kg (Ingestion)

Skin corrosion/irritation	Estimate: Non-irritant
Serious eye damage/eye irritation	Estimate: Transient slight conjunctival irritation only.
Sensitization	Estimate: Non-sensitizing
Germ cell mutagenicity	Ames Test (S. typhimurium, E. coli): Negative
Carcinogenicity	The IARC evaluated carbon black and titanium dioxide as Group 2B carcinogens, for which there are inadequate human evidences, but sufficient animal evidences. The latter are based upon the evidences such as development of lung tumors in rats receiving chronic inhalation exposure to powdered carbon black and titanium dioxide at levels that induce particle overload of the lung. However, there are inhalation studies of a toner containing carbon black and a toner containing titanium dioxide which demonstrated or suggested no association between toner exposure and tumor development in rats.
Reproductive Toxicity	No data available
STOT - single exposure	No data available
STOT - repeated exposure	Muhle et al. reported pulmonary response upon chronic inhalation exposure in rats to a toner enriched in respirable-sized particles compared to commercial toner. No pulmonary change was found at 1 mg/m^3 which is most relevant to potential human exposure. A minimal to mild degree of fibrosis was noted in 22% of the animals at 4 mg/m^3, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m^3. These findings are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged interval.
Aspiration hazard	No data available
Other Information	No data available

SECTION 12: Ecological information

Toxicity

Ecotoxicity effects
Estimate: Fish, 96h LC50 > 100 mg/l
Estimate: Crustaceans, 48h EC50 > 100 mg/l
Estimate: Algae, ErC50(0-72h) > 100 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

DO NOT put toner or a toner container into fire. Heated toner may cause severe burns. DO NOT dispose of a toner container in a plastic crusher. Use a facility with dust explosion prevention measures. Finely dispersed particles form explosive mixtures with air. Dispose of in accordance with local regulations.

SECTION 14: Transport information

UN number	None
UN Proper Shipping Name	None
Transport Hazard Class	None
Packing Group	None
Environmental Hazards	No special environmental precautions required.
Special Precautions for users	None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

TSCA Sec. 4,5,6,7,8,12b	None
SARA Title III Sec. 313	None
California Proposition 65	None
CEPA Sec. 81	None (Manufactured Item)
HPA (WHMIS)	None (Manufactured Article)
Other Information	None

SECTION 16: Other information

Key literature references and sources for data
- U.S. Department of Labor, 29CFR Part 1910
- U.S. Environmental Protection Agency, 40CFR Part 372
- U.S. Environmental Protection Agency, 40CFR Part 700-799
- U.S. Consumer Product Safety Commission, 16CFR Part 1500
- ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- U.S. Department of Health and Human Services National Toxicology Program, Annual Report on Carcinogens
- World Health Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- California EPA, Code of Regulations Title 27. Division 4. Chapter 1. Safe Drinking Water and Toxic Enforcement Act of 1986
- Environment Canada, Canadian Environmental Protection Act, 1999
- Health Canada, Hazardous Products Act, and Controlled Products Regulations
- Canada Workplace Hazardous Materials Information System

Key or legend to abbreviations and acronyms used in the safety data sheet
- OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA)
- FHSA: Federal Hazardous Substances Act
- IARC: International Agency for Research on Cancer
- OSHA PEL: PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration (USA)
- ACGIH TLV: TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists
- TWA: Time Weighted Average
- STEL: Short Term Exposure Limit
- TSCA: Toxic Substances Control Act
- SARA Title III: SARA Title III of the Superfund Amendments and Reauthorization Act of 1986
- Proposition 65: Safe Drinking Water and Toxic Enforcement Act of 1986
- CEPA: Canadian Environmental Protection Act, 1999
- HPA: Hazardous Products Act
- WHMIS: Workplace Hazardous Materials Information System
- CBI: Confidential Business Information

Issuing date : 03-Aug-2009

Revision date : 13-May-2015

Revision Note Entirely revised

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Safety Data Sheet

Issuing date : 03-Aug-2009
Revision date : 13-May-2015

SDS # : TCW 0170 R - 01 US EN
Version : 03

SECTION 1: Product and company identification

Product Identifier

Product name Canon GPR-33 Cyan Toner

Product Code(s) 2796B003

Use Toner for electrophotographic machines

Details of the supplier of the safety data sheet

Supplier
Canon USA, Inc.
One Canon Park, Melville, NY 11747, USA
Phone number : 1-800-OK-CANON
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Canon Canada Inc.
6390 Dixie Road, Mississauga, Ontario L5T 1P7, Canada
Phone number : (1) 905-795-1111
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Manufacturer
Canon Inc.
30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

SECTION 2: Hazards identification

Emergency Overview

Cyan fine powder, slight plastic odor.

Classification under OSHA HCS

Not classified

US Label Elements under OSHA HCS

Symbol
Not required

Signal word
Not required

Hazard statements
Not required

Precautionary statements
Not required

Other Information
None

Other hazards which do not result in classification

None

SECTION 3: Composition/information on ingredients

Chemical name	CAS-No	Weight %
Polyester resin	CBI	80 - 90
Pigment	CBI	1 - 5
Amorphous silica	7631-86-9	1 - 3
Titanium dioxide	13463-67-7	< 1

SECTION 4: First aid measures

Description of first aid measures

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Rinse mouth. Drink 1 or 2 glasses of water. Get medical attention immediately if symptoms occur.

Skin Contact Wash off immediately with soap and plenty of water. Get medical attention immediately if symptoms occur.

Eye Contact Flush with plenty of water. Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

Inhalation None under normal use. Exposure to excessive amounts of dust may cause physical irritation to respiratory tract.

Ingestion None under normal use.

Skin Contact None under normal use.

Eye Contact None under normal use. May cause slight irritation.

Chronic Effects None under normal use. Prolonged inhalation of excessive amounts of dust may cause lung damage.

Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Use CO2, dry chemical, or foam, Water.

Unsuitable extinguishing media
None

Special hazards arising from the substance or mixture

Special Hazard
May form explosive mixtures with air.

Hazardous combustion products
Carbon dioxide (CO_2), Carbon monoxide (CO)

Advice for firefighters

Special protective equipment for fire-fighters
None

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing dust. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Keep out of waterways.

Methods and material for containment and cleaning up

Clean up promptly by scoop or vacuum. If a vacuum cleaner is used, be sure to use a model with dust explosion safety measures. May form explosive mixtures with air.

Other Information

None

SECTION 7: Handling and storage

Precautions for safe handling

Avoid breathing dust. Avoid contact with skin, eyes and clothing. Clean contaminated surface thoroughly. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep out of the reach of children. Incompatible with oxidizing agents.

SECTION 8: Exposure controls/personal protection

Exposure guidelines

Chemical name	OSHA PEL	ACGIH TLV
Amorphous silica 7631-86-9	TWA: 20 mppcf : (80)/(% SiO2) mg/m³ TWA	None
Titanium dioxide 13463-67-7	TWA: 15 mg/m³ total dust	TWA: 10 mg/m³

Appropriate engineering controls None under normal use conditions.

Individual protection measures, such as personal protective equipment
Eye/face Protection Not required under normal use.
Skin Protection Not required under normal use.
Respiratory Protection Not required under normal use.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance Cyan ; powder

Odor	Slight odor
Odor threshold	No data available
pH	Not Applicable
Melting/Freezing point (°C)	85-120 (Softening point)
Boiling Point/Range (°C)	Not Applicable
Flash Point (°C)	Not Applicable
Evaporation Rate	Not Applicable
Flammability (solid, gas)	Not flammable; estimated
Flammability Limits in Air	
Upper Flammability Limit	Not Applicable
Lower Flammability Limit	Not Applicable
Vapor pressure	Not Applicable
Vapor Density	Not Applicable
Relative density	1.0-1.5
Solubility(ies)	Organic solvent; partly soluble
Partition coefficient: n-octanol/water	Not Applicable
Autoignition Temperature (°C)	No data available
Decomposition Temperature (°C)	> 200
Viscosity (mPa s)	Not Applicable

Other Information

No data available

SECTION 10: Stability and reactivity

Reactivity

None

Chemical stability

Stable

Possibility of Hazardous Reactions

None

Conditions to Avoid

None

Incompatible materials

Acids, Bases, Oxidizing agents, Reducing agents.

Hazardous Decomposition Products

Carbon dioxide (CO_2), Carbon monoxide (CO)

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity	Estimate: LD50 > 2000 mg/kg (Ingestion)
Skin corrosion/irritation	Estimate: Non-irritant
Serious eye damage/eye irritation	Estimate: Transient slight conjunctival irritation only.

Sensitization	Estimate: Non-sensitizing
Germ cell mutagenicity	Ames Test (S. typhimurium, E. coli): Negative
Carcinogenicity	The IARC evaluated titanium dioxide as a Group 2B carcinogen, for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the evidence such as development of lung tumors in rats receiving chronic inhalation exposure to powdered titanium dioxide at levels that induce particle overload of the lung. However, there is an inhalation study of a toner containing titanium dioxide which suggested no association between toner exposure and tumor development in rats.
Reproductive Toxicity	No data available
STOT - single exposure	No data available
STOT - repeated exposure	Muhle et al. reported pulmonary response upon chronic inhalation exposure in rats to a toner enriched in respirable-sized particles compared to commercial toner. No pulmonary change was found at 1 mg/m^3 which is most relevant to potential human exposure. A minimal to mild degree of fibrosis was noted in 22% of the animals at 4 mg/m^3, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m^3. These findings are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged interval.
Aspiration hazard	No data available
Other Information	No data available

SECTION 12: Ecological information

Toxicity

Ecotoxicity effects
Estimate: Fish, 96h LC50 > 100 mg/l
Estimate: Crustaceans, 48h EC50 > 100 mg/l
Estimate: Algae, ErC50(0-72h) > 100 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

DO NOT put toner or a toner container into fire. Heated toner may cause severe burns. DO NOT dispose of a toner container in a plastic crusher. Use a facility with dust explosion prevention measures. Finely dispersed particles form explosive mixtures with air. Dispose of in accordance with local regulations.

SECTION 14: Transport information

UN number	None
UN Proper Shipping Name	None
Transport Hazard Class	None
Packing Group	None
Environmental Hazards	No special environmental precautions required.
Special Precautions for users	None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

TSCA Sec. 4,5,6,7,8,12b	None
SARA Title III Sec. 313	None
California Proposition 65	None
CEPA Sec. 81	None (Manufactured Item)
HPA (WHMIS)	None (Manufactured Article)
Other Information	None

SECTION 16: Other information

Key literature references and sources for data
- U.S. Department of Labor, 29CFR Part 1910
- U.S. Environmental Protection Agency, 40CFR Part 372
- U.S. Environmental Protection Agency, 40CFR Part 700-799
- U.S. Consumer Product Safety Commission, 16CFR Part 1500
- ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- U.S. Department of Health and Human Services National Toxicology Program, Annual Report on Carcinogens
- World Health Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- California EPA, Code of Regulations Title 27. Division 4. Chapter 1. Safe Drinking Water and Toxic Enforcement Act of 1986
- Environment Canada, Canadian Environmental Protection Act, 1999
- Health Canada, Hazardous Products Act, and Controlled Products Regulations
- Canada Workplace Hazardous Materials Information System

Key or legend to abbreviations and acronyms used in the safety data sheet
- OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA)
- FHSA: Federal Hazardous Substances Act
- IARC: International Agency for Research on Cancer
- OSHA PEL: PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration (USA)
- ACGIH TLV: TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists
- TWA: Time Weighted Average
- STEL: Short Term Exposure Limit
- TSCA: Toxic Substances Control Act
- SARA Title III: SARA Title III of the Superfund Amendments and Reauthorization Act of 1986
- Proposition 65: Safe Drinking Water and Toxic Enforcement Act of 1986
- CEPA: Canadian Environmental Protection Act, 1999
- HPA: Hazardous Products Act
- WHMIS: Workplace Hazardous Materials Information System
- CBI: Confidential Business Information

Issuing date : 03-Aug-2009

Revision date : 13-May-2015

Revision Note Entirely revised

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Safety Data Sheet

Issuing date : 03-Aug-2009
Revision date : 13-May-2015

SDS # : TCW 0172 R - 01 US EN
Version : 03

SECTION 1: Product and company identification

Product Identifier

Product name Canon GPR-33 Magenta Toner

Product Code(s) 2800B003

Use Toner for electrophotographic machines

Details of the supplier of the safety data sheet

Supplier
Canon USA, Inc.
One Canon Park, Melville, NY 11747, USA
Phone number : 1-800-OK-CANON
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Canon Canada Inc.
6390 Dixie Road, Mississauga, Ontario L5T 1P7, Canada
Phone number : (1) 905-795-1111
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Manufacturer
Canon Inc.
30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

SECTION 2: Hazards identification

Emergency Overview

Magenta fine powder, slight plastic odor.

Classification under OSHA HCS

Not classified

US Label Elements under OSHA HCS

Symbol
Not required

Signal word
Not required

Hazard statements
Not required

Precautionary statements
Not required

Other Information
None

Other hazards which do not result in classification

None

SECTION 3: Composition/information on ingredients

Chemical name	CAS-No	Weight %
Polyester resin	CBI	80 - 90
Pigment	CBI	5 - 10
Amorphous silica	7631-86-9	1 - 3
Titanium dioxide	13463-67-7	< 1

SECTION 4: First aid measures

Description of first aid measures

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Rinse mouth. Drink 1 or 2 glasses of water. Get medical attention immediately if symptoms occur.

Skin Contact Wash off immediately with soap and plenty of water. Get medical attention immediately if symptoms occur.

Eye Contact Flush with plenty of water. Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

Inhalation None under normal use. Exposure to excessive amounts of dust may cause physical irritation to respiratory tract.

Ingestion None under normal use.

Skin Contact None under normal use.

Eye Contact None under normal use. May cause slight irritation.

Chronic Effects None under normal use. Prolonged inhalation of excessive amounts of dust may cause lung damage.

Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Use CO2, dry chemical, or foam, Water.

Unsuitable extinguishing media
None

Special hazards arising from the substance or mixture

Special Hazard
May form explosive mixtures with air.

Hazardous combustion products
Carbon dioxide (CO_2), Carbon monoxide (CO)

Advice for firefighters

Special protective equipment for fire-fighters
None

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing dust. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Keep out of waterways.

Methods and material for containment and cleaning up

Clean up promptly by scoop or vacuum. If a vacuum cleaner is used, be sure to use a model with dust explosion safety measures. May form explosive mixtures with air.

Other Information

None

SECTION 7: Handling and storage

Precautions for safe handling

Avoid breathing dust. Avoid contact with skin, eyes and clothing. Clean contaminated surface thoroughly. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep out of the reach of children. Incompatible with oxidizing agents.

SECTION 8: Exposure controls/personal protection

Exposure guidelines

Chemical name	OSHA PEL	ACGIH TLV
Amorphous silica 7631-86-9	TWA: 20 mppcf : (80)/(% SiO2) mg/m³ TWA	None
Titanium dioxide 13463-67-7	TWA: 15 mg/m³ total dust	TWA: 10 mg/m³

Appropriate engineering controls None under normal use conditions.

Individual protection measures, such as personal protective equipment
Eye/face Protection Not required under normal use.
Skin Protection Not required under normal use.
Respiratory Protection Not required under normal use.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance Magenta ; powder

Odor	Slight odor
Odor threshold	No data available
pH	Not Applicable
Melting/Freezing point (°C)	85-120 (Softening point)
Boiling Point/Range (°C)	Not Applicable
Flash Point (°C)	Not Applicable
Evaporation Rate	Not Applicable
Flammability (solid, gas)	Not flammable; estimated
Flammability Limits in Air	
Upper Flammability Limit	Not Applicable
Lower Flammability Limit	Not Applicable
Vapor pressure	Not Applicable
Vapor Density	Not Applicable
Relative density	1.0-1.5
Solubility(ies)	Organic solvent; partly soluble
Partition coefficient: n-octanol/water	Not Applicable
Autoignition Temperature (°C)	No data available
Decomposition Temperature (°C)	> 200
Viscosity (mPa s)	Not Applicable

Other Information

No data available

SECTION 10: Stability and reactivity

Reactivity

None

Chemical stability

Stable

Possibility of Hazardous Reactions

None

Conditions to Avoid

None

Incompatible materials

Acids, Bases, Oxidizing agents, Reducing agents.

Hazardous Decomposition Products

Carbon dioxide (CO_2), Carbon monoxide (CO)

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity	Estimate: LD50 > 2000 mg/kg (Ingestion)
Skin corrosion/irritation	Estimate: Non-irritant
Serious eye damage/eye irritation	Estimate: Transient slight conjunctival irritation only.

Sensitization	Estimate: Non-sensitizing
Germ cell mutagenicity	Ames Test (S. typhimurium, E. coli): Negative
Carcinogenicity	The IARC evaluated titanium dioxide as a Group 2B carcinogen, for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the evidence such as development of lung tumors in rats receiving chronic inhalation exposure to powdered titanium dioxide at levels that induce particle overload of the lung. However, there is an inhalation study of a toner containing titanium dioxide which suggested no association between toner exposure and tumor development in rats.
Reproductive Toxicity	No data available
STOT - single exposure	No data available
STOT - repeated exposure	Muhle et al. reported pulmonary response upon chronic inhalation exposure in rats to a toner enriched in respirable-sized particles compared to commercial toner. No pulmonary change was found at 1 mg/m^3 which is most relevant to potential human exposure. A minimal to mild degree of fibrosis was noted in 22% of the animals at 4 mg/m^3, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m^3. These findings are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged interval.
Aspiration hazard	No data available
Other Information	No data available

SECTION 12: Ecological information

Toxicity

Ecotoxicity effects
Estimate: Fish, 96h LC50 > 100 mg/l
Estimate: Crustaceans, 48h EC50 > 100 mg/l
Estimate: Algae, ErC50(0-72h) > 100 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

DO NOT put toner or a toner container into fire. Heated toner may cause severe burns. DO NOT dispose of a toner container in a plastic crusher. Use a facility with dust explosion prevention measures. Finely dispersed particles form explosive mixtures with air. Dispose of in accordance with local regulations.

SECTION 14: Transport information

UN number	None
UN Proper Shipping Name	None
Transport Hazard Class	None
Packing Group	None
Environmental Hazards	No special environmental precautions required.
Special Precautions for users	None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

TSCA Sec. 4,5,6,7,8,12b	None
SARA Title III Sec. 313	None
California Proposition 65	None
CEPA Sec. 81	None (Manufactured Item)
HPA (WHMIS)	None (Manufactured Article)
Other Information	None

SECTION 16: Other information

Key literature references and sources for data
- U.S. Department of Labor, 29CFR Part 1910
- U.S. Environmental Protection Agency, 40CFR Part 372
- U.S. Environmental Protection Agency, 40CFR Part 700-799
- U.S. Consumer Product Safety Commission, 16CFR Part 1500
- ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- U.S. Department of Health and Human Services National Toxicology Program, Annual Report on Carcinogens
- World Health Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- California EPA, Code of Regulations Title 27. Division 4. Chapter 1. Safe Drinking Water and Toxic Enforcement Act of 1986
- Environment Canada, Canadian Environmental Protection Act, 1999
- Health Canada, Hazardous Products Act, and Controlled Products Regulations
- Canada Workplace Hazardous Materials Information System

Key or legend to abbreviations and acronyms used in the safety data sheet
- OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA)
- FHSA: Federal Hazardous Substances Act
- IARC: International Agency for Research on Cancer
- OSHA PEL: PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration (USA)
- ACGIH TLV: TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists
- TWA: Time Weighted Average
- STEL: Short Term Exposure Limit
- TSCA: Toxic Substances Control Act
- SARA Title III: SARA Title III of the Superfund Amendments and Reauthorization Act of 1986
- Proposition 65: Safe Drinking Water and Toxic Enforcement Act of 1986
- CEPA: Canadian Environmental Protection Act, 1999
- HPA: Hazardous Products Act
- WHMIS: Workplace Hazardous Materials Information System
- CBI: Confidential Business Information

Issuing date : 03-Aug-2009

Revision date : 13-May-2015

Revision Note Entirely revised

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Safety Data Sheet

Issuing date : 03-Aug-2009
Revision date : 13-May-2015

SDS # : TCW 0174 R - 01 US EN
Version : 03

SECTION 1: Product and company identification

Product Identifier

Product name Canon GPR-33 Yellow Toner

Product Code(s) 2804B003

Use Toner for electrophotographic machines

Details of the supplier of the safety data sheet

Supplier
Canon USA, Inc.
One Canon Park, Melville, NY 11747, USA
Phone number : 1-800-OK-CANON
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Canon Canada Inc.
6390 Dixie Road, Mississauga, Ontario L5T 1P7, Canada
Phone number : (1) 905-795-1111
Emergency phone number : 24 Hr. Emergency CHEMTREC # 1-800-424-9300

Manufacturer
Canon Inc.
30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

SECTION 2: Hazards identification

Emergency Overview

Yellow fine powder, slight plastic odor.

Classification under OSHA HCS

Not classified

US Label Elements under OSHA HCS

Symbol
Not required

Signal word
Not required

Hazard statements
Not required

Precautionary statements
Not required

Other Information
None

Other hazards which do not result in classification

None

SECTION 3: Composition/information on ingredients

Chemical name	CAS-No	Weight %
Polyester resin	CBI	80 - 90
Pigment	CBI	5 - 10
Amorphous silica	7631-86-9	1 - 3
Titanium dioxide	13463-67-7	< 1

SECTION 4: First aid measures

Description of first aid measures

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Rinse mouth. Drink 1 or 2 glasses of water. Get medical attention immediately if symptoms occur.

Skin Contact Wash off immediately with soap and plenty of water. Get medical attention immediately if symptoms occur.

Eye Contact Flush with plenty of water. Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

Inhalation None under normal use. Exposure to excessive amounts of dust may cause physical irritation to respiratory tract.

Ingestion None under normal use.

Skin Contact None under normal use.

Eye Contact None under normal use. May cause slight irritation.

Chronic Effects None under normal use. Prolonged inhalation of excessive amounts of dust may cause lung damage.

Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Use CO2, dry chemical, or foam, Water.

Unsuitable extinguishing media
None

Special hazards arising from the substance or mixture

Special Hazard
May form explosive mixtures with air.

Hazardous combustion products
Carbon dioxide (CO_2), Carbon monoxide (CO)

Advice for firefighters

Special protective equipment for fire-fighters
None

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing dust. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Keep out of waterways.

Methods and material for containment and cleaning up

Clean up promptly by scoop or vacuum. If a vacuum cleaner is used, be sure to use a model with dust explosion safety measures. May form explosive mixtures with air.

Other Information

None

SECTION 7: Handling and storage

Precautions for safe handling

Avoid breathing dust. Avoid contact with skin, eyes and clothing. Clean contaminated surface thoroughly. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep out of the reach of children. Incompatible with oxidizing agents.

SECTION 8: Exposure controls/personal protection

Exposure guidelines

Chemical name	OSHA PEL	ACGIH TLV
Amorphous silica 7631-86-9	TWA: 20 mppcf : (80)/(% SiO2) mg/m³ TWA	None
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Appropriate engineering controls None under normal use conditions.

Individual protection measures, such as personal protective equipment
Eye/face Protection Not required under normal use.
Skin Protection Not required under normal use.
Respiratory Protection Not required under normal use.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance Yellow ; powder

Odor	Slight odor
Odor threshold	No data available
pH	Not Applicable
Melting/Freezing point (°C)	85-120 (Softening point)
Boiling Point/Range (°C)	Not Applicable
Flash Point (°C)	Not Applicable
Evaporation Rate	Not Applicable
Flammability (solid, gas)	Not flammable; estimated
Flammability Limits in Air	
Upper Flammability Limit	Not Applicable
Lower Flammability Limit	Not Applicable
Vapor pressure	Not Applicable
Vapor Density	Not Applicable
Relative density	1.0-1.5
Solubility(ies)	Organic solvent; partly soluble
Partition coefficient: n-octanol/water	Not Applicable
Autoignition Temperature (°C)	No data available
Decomposition Temperature (°C)	> 200
Viscosity (mPa s)	Not Applicable

Other Information

No data available

SECTION 10: Stability and reactivity

Reactivity

None

Chemical stability

Stable

Possibility of Hazardous Reactions

None

Conditions to Avoid

None

Incompatible materials

Acids, Bases, Oxidizing agents, Reducing agents.

Hazardous Decomposition Products

Carbon dioxide (CO_2), Carbon monoxide (CO)

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity Estimate: LD50 > 2000 mg/kg (Ingestion)

Skin corrosion/irritation Estimate: Non-irritant

Serious eye damage/eye irritation Estimate: Transient slight conjunctival irritation only.

Sensitization	Estimate: Non-sensitizing
Germ cell mutagenicity	Ames Test (S. typhimurium, E. coli): Negative
Carcinogenicity	The IARC evaluated titanium dioxide as a Group 2B carcinogen, for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the evidence such as development of lung tumors in rats receiving chronic inhalation exposure to powdered titanium dioxide at levels that induce particle overload of the lung. However, there is an inhalation study of a toner containing titanium dioxide which suggested no association between toner exposure and tumor development in rats.
Reproductive Toxicity	No data available
STOT - single exposure	No data available
STOT - repeated exposure	Muhle et al. reported pulmonary response upon chronic inhalation exposure in rats to a toner enriched in respirable-sized particles compared to commercial toner. No pulmonary change was found at 1 mg/m^3 which is most relevant to potential human exposure. A minimal to mild degree of fibrosis was noted in 22% of the animals at 4 mg/m^3, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m^3. These findings are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged interval.
Aspiration hazard	No data available
Other Information	No data available

SECTION 12: Ecological information

Toxicity

Ecotoxicity effects
Estimate: Fish, 96h LC50 > 100 mg/l
Estimate: Crustaceans, 48h EC50 > 100 mg/l
Estimate: Algae, ErC50(0-72h) > 100 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

DO NOT put toner or a toner container into fire. Heated toner may cause severe burns. DO NOT dispose of a toner container in a plastic crusher. Use a facility with dust explosion prevention measures. Finely dispersed particles form explosive mixtures with air. Dispose of in accordance with local regulations.

SECTION 14: Transport information

UN number	None
UN Proper Shipping Name	None
Transport Hazard Class	None
Packing Group	None
Environmental Hazards	No special environmental precautions required.
Special Precautions for users	None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

TSCA Sec. 4,5,6,7,8,12b	None
SARA Title III Sec. 313	None
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HPA (WHMIS)	None (Manufactured Article)
Other Information	None

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Issuing date : 03-Aug-2009

Revision date : 13-May-2015

Revision Note Entirely revised

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CARBON DIOXIDE (2-30%) in ARGON

Safety Data Sheet

1. IDENTIFICATION

Product identifier
Product Name CARBON DIOXIDE (2-30%) in ARGON

Other means of identification
Safety data sheet number LIND-M0027
UN/ID no. UN1956
Trade name Ferroline C2, Ferroline, C5, Ferroline C8, Ferroline C10, Ferroline C15, Ferroline C17, Ferroline C20, Ferroline C25

Recommended use of the chemical and restrictions on use
Recommended Use Industrial and professional use. Welding.
Uses advised against Consumer use

Details of the supplier of the safety data sheet
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500
Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359

Emergency telephone number
Company Phone Number +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. HAZARDS IDENTIFICATION

Gases under pressure	Compressed gas
Simple asphyxiants	Yes

Label elements

Signal word **Warning**

Hazard Statements
Contains gas under pressure; may explode if heated

May displace oxygen and cause rapid suffocation

May increase respiration and heart rate

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Avoid breathing gas
Use and store only outdoors or in a well ventilated place
Use a backflow preventive device in piping
Use only with equipment rated for cylinder pressure
Close valve after each use and when empty

Precautionary Statements - Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention/advice.

Precautionary Statements - Storage
Protect from sunlight when ambient temperature exceeds 52°C/125°F

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	Volume %	Chemical Formula
ARGON	7440-37-1	70 - 98	Ar
CARBON DIOXIDE	124-38-9	2 - 30	CO_2

Composition covers range of mixtures that fall within the same hazard classifications.

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Skin contact None under normal use. Get medical attention if symptoms occur.

Eye contact None under normal use. Get medical attention if symptoms occur.

Ingestion Not an expected route of exposure.

Self-protection of the first aider RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Most important symptoms and effects, both acute and delayed

Symptoms Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect

themselves. Lack of sufficient oxygen may cause serious injury or death. Depending on concentration and duration of exposure to carbon dioxide may cause increased respirations, headache, mild narcotic effects, increased blood pressure and pulse, and asphyxiation. Symptoms of overexposure become more apparent when atmospheric oxygen is decreased to 15-17%.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific extinguishing methods
Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

Specific hazards arising from the chemical
Non-flammable gas. Cylinders may rupture under extreme heat.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Monitor oxygen level. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Environmental precautions

Environmental precautions Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location.

Methods for cleaning up Return cylinder to Messer or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Protect cylinders from physical damage; do not drag, roll, slide or drop. Never attempt to lift a cylinder by its valve protection cap. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar,etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Use only with adequate ventilation. Use only with equipment rated for cylinder pressure. Use a backflow preventive device in piping. Close valve after each use and when empty. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers.

For additional recommendations consult CGA P-76.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Keep at temperatures below 52°C / 125°F. Full and empty cylinders should be segregrated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage.

Incompatible materials Carbon dioxide is incompatible with:. Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diammino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ARGON 7440-37-1	: See Appendix F: Minimal Oxygen Content	None	None
CARBON DIOXIDE 124-38-9	STEL: 30000 ppm TWA: 5000 ppm	TWA: 5000 ppm TWA: 9000 mg/m^3 (vacated) TWA: 10000 ppm (vacated) TWA: 18000 mg/m^3 (vacated) STEL: 30000 ppm (vacated) STEL: 54000 mg/m^3	IDLH: 40000 ppm TWA: 5000 ppm TWA: 9000 mg/m^3 STEL: 30000 ppm STEL: 54000 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health Immediately Dangerous to Life or Health.

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Provide general ventilation, local exhaust ventilation, process enclosure or other engineering controls to maintain airborne levels below recommended exposure limits and to maintain oxygen levels above 19.5%. Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders.

Respiratory protection Use positive pressure airline respirator with escape cylinder or self contained breathing apparatus for oxygen-deficient atmospheres (<19.5%). If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local

regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Gas
Appearance	Colorless
Odor	Odorless
Odor threshold	No information available
pH	Not applicable
Melting/freezing point	Not applicable
Boiling point / boiling range	No information available
Evaporation rate	Not applicable
Flammability (solid, gas)	Non-flammable gas
Lower flammability limit:	Not applicable
Upper flammability limit:	Not applicable
Flash point	Not applicable.
Autoignition temperature	No data available
Decomposition temperature	No data available
Partition coefficient	No data available
Kinematic viscosity	Not applicable

Component Level Information:

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m³@20°C	Critical Temperature
ARGON	39.94	-185.9 °C	Above critical temperature	1.38	1.65	-122.3 °C
CARBON DIOXIDE	44.01	-78.5 °C (Sublimes)	57780 hPa @ 21.1°C	1.522	1.839	31.1 °C

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Due to the presence of Carbon dioxide, Carbonic acid is formed in the presence of moisture.

Incompatible materials
Carbon dioxide is incompatible with:. Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diammino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Acidosis, adrenal cortical exhaustion, and other metabolic stresses have resulted from prolonged continuous exposure to 1-2% carbon dioxide (10,000 ppm-20,000 ppm). The ACGIH TLV of 5,000 ppm is expected to provide a good margin of safety from asphyxiation and undue metabolic stress provided sufficient oxygen levels are maintained in the air. Increased physical activity, duration of exposure, and decreased oxygen content can affect systemic and respiratory effects resulting from exposure to carbon dioxide.
Product is a simple asphyxiant.

Skin contact No data available

Eye contact No data available

Ingestion Not an expected route of exposure.

Information on toxicological effects

Symptoms Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<=19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death.
Depending on concentration and duration of exposure to carbon dioxide may cause increased respirations, headache, mild narcotic effects, increased blood pressure and pulse, and asphyxiation. Symptoms of overexposure become more apparent when atmospheric oxygen is decreased to 15-17%.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Not classified.
Sensitization Not classified.
Germ cell mutagenicity Not classified.
Carcinogenicity This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
Reproductive toxicity Not classified.
Developmental Toxicity Not classified.
STOT - single exposure Not classified.
STOT - repeated exposure Not classified.
Chronic toxicity None known.
Target Organ Effects Central Vascular System (CVS). Respiratory system.
Aspiration hazard Not applicable.

Numerical measures of toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50	Inhalation LC50 (CGA P-20)
CARBON DIOXIDE 124-38-9	-	-	47,000 ppm (Rat)	-

Product Information
Oral LD50 No information available
Dermal LD50 No information available
Inhalation LC50 No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
No known acute aquatic toxicity.

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Global warming potential (GWP) 1 (Carbon Dioxide)

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

14. TRANSPORT INFORMATION

TDG

UN/ID no.	UN1956
Proper shipping name	Compressed gas, n.o.s.
Hazard Class	2.2
Description	UN1956, Compressed gas, n.o.s.(Argon, Carbon Dioxide), 2.2

IATA

UN/ID no.	UN1956
Proper shipping name	Compressed gas, n.o.s.
Hazard Class	2.2
ERG Code	2L

IMDG

UN/ID no.	UN1956
Proper shipping name	Compressed gas, n.o.s.
Hazard Class	2.2
EmS-No.	F-C, S-V
Special Provisions	274

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

16. OTHER INFORMATION

NFPA **Health hazards** 0 **Flammability** 0 **Instability** 0 **Physical and Chemical Properties** Simple asphyxiant

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA Recommended Hazard Ratings for Compressed Gases, 4th Edition.

Revision Date 03-May-2021
Revision Note: SDS sections updated; 1

LIND-M0027

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

End of Safety Data Sheet

DIOXYDE DE CARBONE (2-30%) En ARGON

Fiche de données de sécurité

1. IDENTIFICATION

Identificateur de produit
Nom du produit DIOXYDE DE CARBONE (2-30%) En ARGON

Autres moyens d'identification
Numéro de la fiche signalétique LIND-M0027
N° ID/ONU UN1956
Nom commercial Ferroline C2, Ferroline, C5, Ferroline C8, Ferroline C10, Ferroline C15, Ferroline C17, Ferroline C20, Ferroline C25

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation
Utilisation recommandée Utilisation industrielle et professionnelle. Soudage.
Utilisations contre-indiquées Utilisation par le consommateur

Coordonnées du fournisseur de la fiche de données de sécurité
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Téléphone: 905-501-2500
Email: service@messer-ca.com
Site Web: www.messer-ca.com

Service à la clientèle: 888-256-7359

Numéro d'appel d'urgence
Numéro de téléphone de l'entreprise +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. IDENTIFICATION DES DANGERS

Gaz sous pression	Gaz comprimé
Asphyxiants simples	Oui

Éléments d'étiquetage

Mot indicateur **Avertissement**

Mentions de danger

Contient un gaz sous pression; peut exploser sous l'effet de la chaleur
Peut remplacer l'oxygène et causer une suffocation rapide

Peut augmenter la respiration et la fréquence cardiaque

Conseils de prudence - Prévention
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
Éviter de respirer les gaz
Utiliser et stocker seulement en plein air ou dans un endroit bien ventilé
Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie
Utiliser uniquement avec un équipement prévu pour la pression de la bouteille
Fermer le robinet après chaque utilisation et lorsque la bouteille est vide

Conseils de prudence - Réponse
EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Consulter un médecin.

Conseils de prudence - Entreposage
Protéger du rayonnement solaire lorsque la température ambiante dépasse 52 °C /125 °F

HNOC (danger non classé autrement)
Non applicable

3. COMPOSITION/INFORMATIONS SUR LES COMPOSANTS

Mélange:

Nom chimique	No. CAS	% en volume	Formule Chimique
ARGON	7440-37-1	70 - 98	Ar
DIOXYDE DE CARBONE	124-38-9	2 - 30	CO_2

La composition comprend un éventail de mélanges qui font partie de la même classification des dangers.

4. PREMIERS SOINS

Description des premiers soins

Conseils généraux Montrer cette fiche technique de santé-sécurité au médecin en consultation.

Inhalation Transporter la victime à l'air frais et la garder au repos dans une position où elle peut confortablement respirer. En cas de difficultés respiratoires, donner de l'oxygène. Pratiquer la respiration artificielle si la victime ne respire plus. Obtenir immédiatement des soins médicaux.

Contact avec la peau Aucun en utilisation appropriée. Faire appel à une assistance médicale si des symptômes apparaissent.

Contact avec les yeux Aucun en utilisation appropriée. Faire appel à une assistance médicale si des symptômes apparaissent.

Ingestion Pas une voie d'exposition prévue.

Équipement de protection individuelle pour les intervenants en premiers soins LE PERSONNEL D'INTERVENTION D'URGENCE DEVRAIT ÊTRE ÉQUIPÉ D'UN APPAREIL RESPIRATOIRE AUTONOME.

Les plus importants symptômes et effets, aigus ou retardés

Symptômes Asphyxiant simple. Peut causer une suffocation en déplaçant l'oxygène dans l'air. Une exposition à une atmosphère à faible teneur en oxygène (moins de 19,5 %) peut causer des vertiges, de la somnolence, des nausées, des vomissements, une salivation excessive, une diminution de la vivacité d'esprit, une perte de conscience et la mort. Une exposition à des atmosphères contenant de 8 à 10 % ou moins d'oxygène entraînera une perte de conscience sans avertissement et si rapide que les personnes ne peuvent s'aider ou se protéger elles-mêmes. Un manque d'oxygène suffisant peut causer une grave blessure ou la mort. Selon la concentration et la durée de l'exposition, celle-ci peut entraîner une accélération de la respiration, des maux de tête, de légers effets narcotiques, une augmentation de la pression artérielle et du pouls et l'asphyxie. Les symptômes d'une surexposition deviennent plus évidents lorsque la concentration de l'oxygène de l'air est réduite à 15 à 17 %.

Indication des éventuels besoins médicaux immédiats et traitements particuliers nécessaires

Note aux médecins Traiter en fonction des symptômes.

5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés
Utiliser des mesures d'extinctions appropriées aux circonstances locales et à l'environnement immédiat.

Méthodes d'extinction particulières
Continuer à refroidir les bouteilles exposées à un feu jusqu'à ce que les flammes soient éteintes. Les bombonnes endommagées ne doivent être manipulées que par des spécialistes.

Dangers particuliers associés au produit chimique
Gaz non inflammable. Les bouteilles peuvent se rompre sous une chaleur extrême.

Équipement de protection et précautions pour les pompiers
Comme pour tout incendie, porter un respirateur à air comprimé, NIOSH (approuvé ou équivalent), ainsi qu'une combinaison complète de protection.

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTAL

Précautions individuelles, équipement de protection et procédures d'urgence

Précautions personnelles Évacuer le personnel vers des endroits sécuritaires. Vérifier que la ventilation est adéquate, en particulier dans des zones confinées. Vérifier la teneur en oxygène. Porter un appareil respiratoire autonome lors de l'entrée dans un secteur, sauf s'il a été démontré que l'atmosphère est sûre.

Précautions pour le protection de l'environnement

Précautions pour le protection de l'environnement Empêcher la propagation des vapeurs par les égouts, les systèmes de ventilation et les zones confinées.

Méthodes et matériel de confinement et de nettoyage

Méthodes de confinement Couper le débit de gaz ou déplacer la bouteille à l'extérieur si cela peut être fait sans risque. Si le contenant ou le robinet fuit, composer le numéro de téléphone d'urgence approprié indiqué à la Section 1 ou appeler la succursale de Messer la plus proche.

Méthodes de nettoyage Retourner les contenants de gaz et d'air comprimé au distributeur agréé ou au point de collecte pour une élimination adéquate.

7. MANUTENTION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger

Conseils sur la manutention sécuritaire

Protéger les bouteilles des dommages physiques; ne pas traîner, rouler, glisser ou laisser tomber. Ne jamais tenter de soulever une bouteille par le chapeau de protection du détendeur. Lors du déplacement des bouteilles, même sur une courte distance, utiliser un chariot conçu pour le transport de bouteilles. Ne jamais insérer un objet (par ex., une clé, un tournevis, un levier, etc.) dans les ouvertures du chapeau du détendeur. Utiliser une clé à courroie réglable pour retirer les chapeaux trop serrés ou rouillés. Si l'utilisateur éprouve des difficultés à faire fonctionner le robinet de la bouteille, cesser l'utilisation et appeler le fournisseur. N'utiliser qu'avec une ventilation adéquate. Utiliser uniquement avec un équipement prévu pour la pression de la bouteille. Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie. Fermer le robinet après chaque utilisation et lorsque la bouteille est vide. Vérifier que le système de gaz complet a été vérifié pour détecter les fuites avant de l'utiliser.

Ne jamais mettre des bouteilles à gaz dans le coffre d'une voiture ou dans des lieux non ventilés d'un véhicule de tourisme. Ne jamais tenter de remplir de nouveau une bouteille de gaz comprimé sans le consentement écrit du propriétaire. Ne jamais amorcer un arc sur une bouteille de gaz comprimé ou faire d'une bouteille une partie d'un circuit électrique.

Uniquement des personnes expérimentées et adéquatement formées devraient manipulées des gas sous pression. Toujours entreposer et manipuler les bouteilles de gaz comprimé conformément à la publicacion CGA-P1 « Safe Handling of Compressed Gases in Containers » (Manutention sécuritaire des gaz comprimés dans des contenants), de la Compressed Gas Association.

Pour d'autres recommendations, consulter ICGA P-76.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Conditions d'entreposage

Entreposer dans un endroit frais, sec et bien ventilé d'une construction non combustible éloigné des zones de circulation intense et des sorties d'urgence. Les bouteilles doivent être entreposées en position verticale avec le chapeau de protection du détendeur en place et bien attachées pour éviter toute chute. Garder à des températures inférieures à 52 °C / 125 °F. Les bouteilles pleines et vides doivent être séparées. Utiliser un système d'inventaire « premier entré, premier sorti » pour éviter d'entreposer les bouteilles pleines pour une durée excessive. Les contenants devraient être régulièrement vérifiés pour déterminer leur état général et détecter les fuites.

Matières incompatibles

Le dioxyde de carbone n'est pas compatible avec :. Certains métaux réactifs, des hydrures, du monoxyde de césium humide ou de la diamine de carbure d'acétylène de lithium peuvent s'enflammer. Le passage de dioxyde de carbone au-dessus d'un mélange de peroxyde de sodium et d'aluminium ou de magnésium peut se traduire par une explosion.

8. CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition

Nom chimique	ACGIH TLV	OSHA PEL	NIOSH IDLH
ARGON 7440-37-1	: See Appendix F: Minimal Oxygen Content	Aucune.	None
DIOXYDE DE CARBONE 124-38-9	STEL: 30000 ppm TWA: 5000 ppm	TWA: 5000 ppm TWA: 9000 mg/m^3 (vacated) TWA: 10000 ppm	IDLH: 40000 ppm TWA: 5000 ppm TWA: 9000 mg/m^3

		(vacated) TWA: 18000 mg/m³ (vacated) STEL: 30000 ppm (vacated) STEL: 54000 mg/m³	STEL: 30000 ppm STEL: 54000 mg/m³

ACGIH TLV : Conférence américaine des hygiénistes industriels gouvernementaux - valeur limite d'exposition. OSHA PEL : Administration de la sécurité et de la santé professionnelle - limites d'exposition admissibles. NIOSH IDLH : Dangereux immédiatement pour la santé ou la vie Danger immédiat pour la vie ou la santé

Autres informations Limites annulées révoquées par la décision de la cour d'appel dans AFL-CIO v. OSHA, 965 F.2d 962 (11e Cir., 1992).

Contrôles techniques appropriés

Mesures d'ingénierie Assurer une ventilation générale, une ventilation par aspiration à la source, une enceinte d'isolement ou autres mesures d'ingénierie afin de maintenir les niveaux de concentration de particules en suspension dans l'air sous les limites d'exposition recommandées et de maintenir les niveaux d'oxygène au-dessus de 19,5 %. Les détecteurs d'oxygènes devraient être utilisés lorsque des gaz asphyxiants pourraient être libérés. Les systèmes sous pression devraient être régulièrement vérifiés pour détecter les fuites.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection des yeux/du visage Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques).

Protection de la peau et du corps Des gants de travail et des souliers de sécurité sont recommandés lors de la manutention de bouteilles.

Protection respiratoire Utiliser un respirateur à adduction d'air à pression positive avec bouteille d'évacuation d'urgence ou un appareil respiratoire autonome pour des atmosphères à faible teneur en oxygène (moins de 19,5 %). En cas d'irritation ou de dépassement des limites d'exposition, vous devez porter une protection respiratoire approuvée NIOSH/MSHA. Des respirateurs à pression positive à adduction d'air pur peuvent être requis pour des concentrations élevées de contaminants atmosphériques. Une protection respiratoire doit être fournie conformément à la réglementation locale en cours.

Considérations générales sur l'hygiène Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle.

9. PHYSICAL AND CHEMICAL PROPERTIES

Informations sur les propriétés physiques et chimiques essentielles

État physique	Gaz
Aspect	Incolore
Odeur	Sans odeur
Seuil olfactif	Aucun renseignement disponible
pH	Non applicable
Point de fusion/congélation	Non applicable
Point d'ébullition / intervalle d'ébullition	Aucun renseignement disponible
Taux d'évaporation	Non applicable
Inflammabilité (solide, gaz)	Gaz non inflammable
Limite inférieure d'inflammabilité:	Sans objet
Limite supérieure d'inflammabilité:	Non applicable
Point d'éclair	Sans objet.
Température d'auto-inflammation	Donnée non disponible
Température de décomposition	Donnée non disponible
Coefficient de partage	Donnée non disponible
Viscosité cinématique	Non applicable

Information sur les composants

Nom chimique	Masse moléculaire	Point/gamme d'ébullition	Pression de vapeur	Densité de vapeur (air =1)	Densité du gaz kg/m³ à 20 °C	Température critique
ARGON	39.94	-185.9 °C	Au-dessus de la	1.38	1.65	-122.3 °C

			température critique			
DIOXYDE DE CARBONE	44.01	-78.5 °C (Se sublime)	57780 hPa @ 21.1°C	1.522	1.839	31.1 °C

10. STABILITÉ ET RÉACTIVITÉ

Réactivité
Non réactif dans des conditions normales

Stabilité chimique
Stable dans des conditions normales.

Données sur les risques d'explosion

Sensibilité aux chocs Aucune.
Sensibilité aux décharges électrostatiques Aucune.

Possibilité de réactions dangereuses
Aucun dans des conditions normales de traitement.

Conditions à éviter
Il se forme de l'acide carbonique en présence d'humidité.

Matières incompatibles
Le dioxyde de carbone n'est pas compatible avec :. Certains métaux réactifs, des hydrures, du monoxyde de césium humide ou de la diamine de carbure d'acétylène de lithium peuvent s'enflammer. Le passage de dioxyde de carbone au-dessus d'un mélange de peroxyde de sodium et d'aluminium ou de magnésium peut se traduire par une explosion.

Produits de décomposition dangereux
Aucun à notre connaissance.

11. DONNÉES TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Inhalation L'exposition prolongée continue à une concentration de 1 à 2 % de dioxyde de carbone (10 000 ppm à 20 000 ppm) a causé une acidose, une fatigue liée à l'insuffisance corticosurrénale et d'autres stress métaboliques. La TLV de 5 000 ppm de l'ACGIH prévoit une bonne marge de sécurité contre l'asphyxie et le stress métabolique à condition que des niveaux d'oxygène suffisants soient maintenus dans l'air. Une activité physique accrue, la durée d'exposition et une diminution de la teneur en oxygène peuvent modifier les effets systémiques et respiratoires causés par une exposition au dioxyde de carbone.
Le produit est un asphyxiant simple.

Contact avec la peau Donnée non disponible

Contact avec les yeux Donnée non disponible

Ingestion Voie d'exposition peu probable.

Informations sur les effets toxicologiques

Symptômes Asphyxiant simple. Peut causer une suffocation en déplaçant l'oxygène dans l'air. Une exposition à une atmosphère à faible teneur en oxygène (moins de 19,5 %) peut causer

des vertiges, de la somnolence, des nausées, des vomissements, une salivation excessive, une diminution de la vivacité d'esprit, une perte de conscience et la mort. Une exposition à des atmosphères contenant de 8 à 10 % ou moins d'oxygène entraînera une perte de conscience sans avertissement et si rapide que les personnes ne peuvent s'aider ou se protéger elles-mêmes. Un manque d'oxygène suffisant peut causer une grave blessure ou la mort.
Selon la concentration et la durée de l'exposition, celle-ci peut entraîner une accélération de la respiration, des maux de tête, de légers effets narcotiques, une augmentation de la pression artérielle et du pouls et l'asphyxie. Les symptômes d'une surexposition deviennent plus évidents lorsque la concentration de l'oxygène de l'air est réduite à 15 à 17 %.

Effets retardés et immédiats et effets chroniques d'une exposition de courte et de longue durée

Irritation	Non répertorié.
Sensibilisation	Non répertorié.
Mutagénicité sur les cellules germinales	Non répertorié.
Cancérogénicité	Ce produit ne contient aucun agent cancérogène ou potentiellement cancérogène inscrit par l'OSHA, le CIRC ou le NTP.
Toxicité pour la reproduction	Non répertorié.
Toxicité pour le développement	Non répertorié.
STOT - exposition unique	Non répertorié.
STOT - exposition répétée	Non répertorié.
Toxicité chronique	Aucun à notre connaissance.
Effets sur les organes cibles	Système vasculaire central (SVC). Appareil respiratoire.
Danger par aspiration	Non applicable.

Mesures numériques de la toxicité

Nom chimique	DL50 par voie orale	DL50 par voie cutanée	CL50 par inhalation	Inhalation LC50 (CGA P-20)
DIOXYDE DE CARBONE 124-38-9	-	-	47,000 ppm (Rat)	-

Informations sur le produit	
DL50 par voie orale	Aucun renseignement disponible
DL50 par voie cutanée	Aucun renseignement disponible
CL50 par inhalation	Aucun renseignement disponible

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Aucune toxicité aquatique aiguë connue.

Persistance et dégradabilité
Aucun renseignement disponible.

Bioaccumulation
Aucun renseignement disponible.

Potentiel de réchauffement de la planète (PRP) 1 (Carbon Dioxide)

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets

Élimination des déchets Ne pas tenter d'éliminer les résidus ou les quantités inutilisées. Retourner à Messer, dans le contenant d'expédition CORRECTEMENT ÉTIQUETÉ, AVEC TOUS LES BOUCHONS DE SORTIE DU ROBINET ET PROTECTEURS DE ROBINET EN PLACE, pour une élimination adéquate.

14. INFORMATIONS RELATIVES AU TRANSPORT

TMD

N° ID/ONU	UN1956
Nom officiel d'expédition	Gaz comprimé, n.s.a.
Classe de danger	2.2
Désignation	UN1956, Gaz comprimé, n.s.a.(Argon, Carbon Dioxide), 2.2

IATA

N° ID/ONU	UN1956
Nom officiel d'expédition	Gaz comprimé, n.s.a.
Classe de danger	2.2
Code ERG	2L

IMDG

N° ID/ONU	UN1956
Nom officiel d'expédition	Gaz comprimé, n.s.a.
Classe de danger	2.2
EmS-N°	F-C, S-V
Dispositions particulières	274

15. INFORMATIONS SUR LE RÉGLEMENTATION

Inventaires internationaux

TSCA	Est conforme à (aux)
LIS/LES	Est conforme à (aux)
EINECS/ELINCS	Est conforme à (aux)

Légende :

TSCA - États-Unis - Article 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES – liste intérieure des substances/liste extérieure des substances pour le Canada
EINECS/ELINCS - Inventaire européen des substances chimiques commercialisées existantes /Liste européenne des substances chimiques modifiées

16. AUTRES INFORMATIONS

NFPA **Risques pour la santé** 0 **Inflammabilité** 0 **Instabilité** 0 **Propriétés physiques et chimiques** Asphyxiant simple

Note : Les classes sont assignées conformément aux directives de la Compressed Gas Association (CGA) telles que publiées dans la brochure P-19-2019 de la CGA, « CGA Recommended Hazard Ratings for Compressed Gases » (Classes de danger recommandées par la CGA pour les gaz comprimés), 4e édition.

Date de révision	03-mai-2021
Revision Note:	Sections de la FS mises à jour; 1

LIND-M0027

Avis de non-responsabilité

Pour les conditions, y compris les limites de la responsabilité, veuillez consulter la convention d'achat en vigueur entre l'acheteur et Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. ou Messer Canada Inc. (ou l'une ou l'autre de leurs sociétés affiliées et filiales).

AVIS DE NON-RESPONSABILITÉ DE GARANTIES EXPRESSES ET TACITES

Bien que les précautions raisonnables aient été prises pour préparer ce document, nous ne présentons aucune recommandation et n'accordons aucune garantie que les renseignements fournis sont exacts ou complets, et nous n'assumons aucune responsabilité concernant l'appropriation à l'usage de ces renseignements ou les conséquences de leur utilisation. Il relève de la responsabilité de chaque utilisateur de s'assurer que les renseignements conviennent à l'usage projeté.

Fin de la fiche signalétique

SAFETY DATA SHEET

Castrol Dex/Merc Domestic Multi-vehicle ATF

Section 1. Identification

GHS product identifier Castrol Dex/Merc Domestic Multi-vehicle ATF

Product type Liquid.

Product code 465367-US13

SDS no. 465367

Relevant identified uses of the substance or mixture and uses advised against

Product use Automatic transmission fluid
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier BP Singapore Pte Ltd
#02-01 Keppel Bay Tower
1 Harbour Front Avenue
Singapore, 098632
Tel no' +65 6371 8888

EMERGENCY TELEPHONE NUMBER Carechem: +65 3158 1074 (24/7)

Section 2. Hazards identification

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

General P103 - Read label before use.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Other hazards which do not result in classification Defatting to the skin.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	%	CAS number
Base oil - unspecified	≥90	Varies
Methacrylate copolymer	≥1 - <3	Proprietary

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Skin contact Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Base oil - unspecified	**Factories Order (PEL) (Singapore).** PEL (short term): 10 mg/m³ 15 minutes. Issued/Revised: 1/1997 Form: Mist PEL (long term): 5 mg/m³ 8 hours. Issued/Revised: 1/1997 Form: Mist

ACGIH TLVs

Base oil - unspecified	**ACGIH TLV (United States).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction

Section 8. Exposure controls/personal protection

For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Skin protection

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Section 8. Exposure controls/personal protection

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state Liquid.

Colour Red.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point Not available.

Boiling point Not available.

Flash point Open cup: >177°C (>350.6°F) [Cleveland.]

Evaporation rate Not available.

Flammability (solid, gas) Not applicable. Based on - Physical state

Lower and upper explosive (flammable) limits Not available.

Vapour pressure Not available.

Vapour density Not available.

Relative density Not available.

Density 850 kg/m³ (0.85 g/cm³) at 15.556°C

Solubility insoluble in water.

Partition coefficient: n-octanol/water Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Kinematic: 36.08 mm^2/s (36.08 cSt) at 40°C
Kinematic: 7.578 mm^2/s (7.578 cSt) at 100°C

Section 10. Stability and reactivity

Reactivity No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Incompatible materials Reactive or incompatible with the following materials: oxidising materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 10. Stability and reactivity

Section 11. Toxicological information

Information on toxicological effects

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

Environmental effects No known significant effects or critical hazards.

Persistence/degradability

Expected to be biodegradable.

Bioaccumulative potential

Section 12. Ecological information

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	IMDG	IATA
UN number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	No.
Additional information	-	-

Special precautions for user Not available.

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product No known specific national and/or regional regulations applicable to this product (including its ingredients).

Regulation according to other foreign laws

REACH Status For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 15. Regulatory information

United States inventory (TSCA 8b)	All components are listed or exempted.
Australia inventory (AICS)	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan inventory (CSNN)	All components are listed or exempted.

Section 16. Other information

History

Date of issue/Date of revision	2015 July 10
Date of previous issue	2014 November 03
Version	5
Prepared by	Product Stewardship
Key to abbreviations	ACGIH = American Conference of Industrial Hygienists CAS Number = Chemical Abstracts Service Registry Number GHS = Global Harmonised System IATA = International Air Transport Association, the organisation IMDG = International Maritime Organization Rules, rules governing shipment of goods by water. OEL = Occupational Exposure Limit SDS = Safety Data Sheet STEL = Short term exposure limit TWA = Time weighted average UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET

Castrol AP Gear 80W-90

Section 1. Identification

GHS product identifier Castrol AP Gear 80W-90

Product code 460826-US06

SDS # 460826

Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/ mixture Gear lubricant
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer
BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: (973) 633-2200

Supplier
Wakefield Canada Inc.
3620 Lakeshore Blvd West
Toronto, Ontario, Canada M8W 1P2
Phone Number - 416-252-5511

EMERGENCY HEALTH INFORMATION:
1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY TELEPHONE NUMBER
1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

Section 2. Hazard identification

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

General
P103 - Read label before use.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Other hazards which do not result in classification Defatting to the skin.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% (w/w)
Base oil - highly refined	Varies - See Key to abbreviations	≥90
Amines, C12-14-tert-alkyl	68955-53-3	≤0.3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist

Section 8. Exposure controls/personal protection

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Brown.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: >200°C (>392°F) [Pensky-Martens.]
Pour point	-36 °C
Drop Point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	895 kg/m³ (0.895 g/cm³) at 15°C
Relative density	Not available.
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 139 mm^2/s (139 cSt) at 40°C Kinematic: 13.8 to 15 mm^2/s (13.8 to 15 cSt) at 100°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Inhalation Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Section 12. Ecological information

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL and the IBC Code Not available.

Section 15. Regulatory information

Other regulations

Australia inventory (AICS) All components are listed or exempted.

Canada inventory All components are listed or exempted.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (ENCS) All components are listed or exempted.

Korea inventory (KECI) All components are listed or exempted.

Philippines inventory (PICCS) All components are listed or exempted.

Section 15. Regulatory information

Taiwan Chemical Substances Inventory (TCSI)	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

History

Date of issue/Date of revision	04/10/2017
Date of previous issue	13/12/2016.
Version	5
Prepared by	Product Stewardship
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals HPR = Hazardous Products Regulations IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006] UN = United Nations Varies = may contain one or more of the following 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2
References	Not available.

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET

Castrol Assuron 30

Section 1. Identification

GHS product identifier Castrol Assuron 30

Product code 457089-US06

SDS # 457089

Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/ mixture Engine Oils.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier

Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY TELEPHONE NUMBER 1 (800) 424-9300
CHEMTREC (USA)

Section 2. Hazard identification

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Other hazards which do not result in classification Defatting to the skin.
USED ENGINE OILS
Used engine oil may contain hazardous components which have the potential to cause skin cancer.
See Toxicological Information, section 11 of this Safety Data Sheet.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% (w/w)
Base oil - highly refined	Varies - See Key to abbreviations	≥90

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products Combustion products may include the following:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist

Section 8. Exposure controls/personal protection

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Brown.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: 218°C (424.4°F) [Pensky-Martens.]
Pour point	-21 °C
Drop Point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	894 kg/m³ (0.894 g/cm³) at 15°C
Relative density	Not available.
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 101.5 mm^2/s (101.5 cSt) at 40°C Kinematic: 11.5 mm^2/s (11.5 cSt) at 100°C

Aerosol product

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Inhalation Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL and the IBC Code Not available.

Section 15. Regulatory information

Other regulations

Australia inventory (AICS) All components are listed or exempted.

Canada inventory All components are listed or exempted.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (ENCS) All components are listed or exempted.

Korea inventory (KECI) All components are listed or exempted.

Section 15. Regulatory information

Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	Not determined.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

History

Date of issue/Date of revision	13/12/2016
Date of previous issue	12/12/2016.
Version	2.01
Prepared by	Product Stewardship
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations HPR = Hazardous Products Regulations Varies = may contain one or more of the following 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2
References	Not available.

Indicates information that has changed from previously issued version.

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1. Product and company identification

Product name Castrol GTX 5W-30

MSDS # 452871

Code 452871-US12 US13 US81

Product use Engine Oils.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer
BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier
Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION:
1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION:
1 (800) 424-9300
CHEMTREC (USA)

OTHER PRODUCT INFORMATION
1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Liquid.

Color Brown.

Emergency overview CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes May cause eye irritation.

Skin May cause skin irritation.

Inhalation May cause respiratory tract irritation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	35 - 40
Base oil - highly refined	Varies	30 - 35
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	178603-65-1 / 72623-86-0	5 - 10
Zinc O, O, O', O'-tetrakis (1,3-dimethylbutyl) bis(phosphorordithioate)	2215-35-2	1 - 5
Diphenylamine	122-39-4	0.1 - 1
Phenol, dodecyl-, branched	74499-35-7 / 121158-58-5	0.1 - 1

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

5. Fire-fighting measures

Flash point Closed cup: >200°C (>392°F) [Pensky-Martens.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
phosphorus oxides
metal oxide/oxides
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
sulfur oxides (SO, SO_2 etc.)
nitrogen oxides (NO, NO_2 etc.)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Storage	Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Not suitable	Prolonged exposure to elevated temperature

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	**CA Alberta Provincial (Canada).** 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist **CA Quebec Provincial (Canada).** TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist
Diphenylamine	**CA Alberta Provincial (Canada).** 8 hrs OEL: 10 mg/m³ 8 hours. Issued/Revised: 4/2004 **CA British Columbia Provincial (Canada).** TWA: 10 mg/m³ 8 hours. Issued/Revised: 8/2004 **CA Ontario Provincial (Canada).** TWA: 10 mg/m³ 8 hours. Issued/Revised: 5/1996 **CA Quebec Provincial (Canada).**

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state Liquid.

Color Brown.

Odor Not available.

Odor threshold Not available.

Flash point Closed cup: >200°C (>392°F) [Pensky-Martens.]

Specific gravity Not available.

Density <1000 kg/m³ (<1 g/cm³) at 15°C

pH Not available.

Viscosity Kinematic: 62.9 to 66.04 mm^2/s (62.9 to 66.04 cSt) at 40°C
Kinematic: 10.5 to 11.6 mm^2/s (10.5 to 11.6 cSt) at 100°C

Boiling point / Range Not available.

Melting point / Range Not available.

Vapor pressure Not available.

Vapor density Not available.

Evaporation rate Not available.

Solubility insoluble in water.

$LogK_{ow}$ Not available.

10. Stability and reactivity

Stability and reactivity The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other Toxicity Data USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Potential chronic health effects

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Reproductive effects No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability Expected to be biodegradable.

Mobility Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential This product is not expected to bioaccumulate through food chains in the environment.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	At least one component is not listed.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan inventory (CSNN)	Not determined.

16. Other information

Label requirements CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

History

Date of issue 12/22/2014.

Date of previous issue 10/25/2014.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Material Safety Data Sheet

1. Product and company identification

Product name Castrol GTX 10W-30

MSDS # 459835

Code 459835-US81

Product use Engine Oils.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300
CHEMTREC (USA)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Liquid.

Color Brown.

Emergency overview CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes May cause eye irritation.

Skin May cause skin irritation.

Inhalation May cause respiratory tract irritation.

Ingestion No known significant effects or critical hazards.

See toxicological information (Section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies - See Key to abbreviations	90 - 95
Base oil - highly refined	Varies - See Key to abbreviations	1 - 5

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

5. Fire-fighting measures

Flash point Closed cup: 210°C (410°F) [Pensky-Martens.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Other information

Sulfur compounds in this material may decompose when heated to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of gas may not be apparent. Exposure to concentrations of hydrogen sulfide vapor above 500 ppm may cause rapid death. Do not rely on the sense of smell to detect hydrogen sulfide.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.
Personal protection	
Eyes	Avoid contact with eyes. Safety glasses with side shields or chemical goggles.
Skin and body	Avoid contact with skin and clothing. Wear suitable protective clothing.
Respiratory	Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.
Hands	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Brown.
Odor	Not available.
Odor threshold	Not available.
Flash point	Closed cup: 210°C (410°F) [Pensky-Martens.]
Specific gravity	Not available.
Density	866 kg/m³ (0.866 g/cm³) at 15°C
pH	Not available.
Viscosity	Kinematic: 77.26 mm^2/s (77.26 cSt) at 40°C Kinematic: 11.26 mm^2/s (11.26 cSt) at 100°C
Boiling point / Range	Not available.
Melting point / Range	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
$LogK_{ow}$	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	This product may release hydrogen sulfide (H_2S) if it is heated to high temperatures.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other Toxicity Data

USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Other information

Contains low concentration of zinc alkyl dithiophosphate (ZDDP). Concentration is not expected to cause eye or skin irritation.

Potential chronic health effects

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Reproductive effects

No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure

None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability

Expected to be biodegradable.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	At least one component is not listed.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	At least one component is not listed.
Taiwan inventory (CSNN)	All components are listed or exempted.

16. Other information

Label requirements CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

History

Date of issue 02/16/2016.

Date of previous issue No previous validation.

Prepared by Product Stewardship

Key to abbreviations Varies = may contain one or more of the following 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2

Notice to reader

Indicates information that has changed from previously issued version.

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The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Material Safety Data Sheet

1. Product and company identification

Product name Castrol Pyroplex Blue 1

MSDS # 455339

Historic MSDS #: 0000002021

Code 455339-CA01 US06 US13 US81

Product use Grease for industrial applications.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer
BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier
Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION:
1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION:
1 (800) 424-9300
CHEMTREC (USA)

OTHER PRODUCT INFORMATION
1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Grease

Color Blue.

Emergency overview
WARNING !

CAUSES EYE IRRITATION.
MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes Causes eye irritation.

Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Thickening agent. Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	85 - 90
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	4259-15-8	1 - 5

4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.
Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects. Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Flash point	Open cup: 232°C (449.6°F) [Cleveland.]
Fire/explosion hazards	In a fire or if heated, a pressure increase will occur and the container may burst.
Extinguishing media	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	Do not use water jet.
Fire-fighting procedures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hazardous combustion products	Combustion products may include the following: phosphorus oxides carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide) sulfur oxides (SO, SO_2 etc.) nitrogen oxides (NO, NO_2 etc.)
Protective clothing (fire)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.
Personal protection	
Eyes	Avoid contact with eyes. Safety glasses with side shields or chemical goggles.
Skin and body	Avoid contact with skin and clothing. Wear suitable protective clothing.
Respiratory	Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.
Hands	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state	Grease
Color	Blue.
Odor	Petroleum
Odor threshold	Not available.
Flash point	Open cup: 232°C (449.6°F) [Cleveland.]
Specific gravity	Not available.
Density	890 kg/m³ (0.89 g/cm³) at 15°C
pH	Not available.
Boiling point / Range	Not available.
Melting point / Range	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
$LogK_{ow}$	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other information

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Reproductive effects	No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability	Expected to be biodegradable.
Mobility	Spillages are unlikely to penetrate the soil.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	This product is unlikely to disperse in water.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	At least one component is not listed.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan inventory (CSNN)	Not determined.

16. Other information

Label requirements

WARNING !

CAUSES EYE IRRITATION.
MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION.

History

Date of issue 05/05/2015.

Date of previous issue 03/05/2015.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Material Safety Data Sheet

1. Product and company identification

Product name Castrol Pyroplex Blue 2

MSDS # 453759

Historic MSDS #: 0000002021

Code 453759-CA01 US06 US12 US13 US81

Product use Grease for industrial applications.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer
BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier
Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION:
1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION:
1 (800) 424-9300
CHEMTREC (USA)

OTHER PRODUCT INFORMATION
1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Grease

Color Blue.

Emergency overview
WARNING !

CAUSES EYE IRRITATION.
MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes Causes eye irritation.

Skin May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Inhalation May cause respiratory tract irritation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Thickening agent. Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	85 - 90
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	4259-15-8	1 - 5

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.
Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Flash point Open cup: 232°C (449.6°F) [Cleveland.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
phosphorus oxides
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
sulfur oxides (SO, SO_2 etc.)
nitrogen oxides (NO, NO_2 etc.)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state	Grease
Color	Blue.
Odor	Characteristic.
Odor threshold	Not available.
Flash point	Open cup: 232°C (449.6°F) [Cleveland.]
Specific gravity	Not available.
Density	890 kg/m³ (0.89 g/cm³) at 15°C
pH	Not available.
Boiling point / Range	Not available.
Melting point / Range	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
$LogK_{ow}$	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Reproductive effects	No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability Expected to be biodegradable.

Mobility Spillages are unlikely to penetrate the soil.

Bioaccumulative potential This product is not expected to bioaccumulate through food chains in the environment.

Other ecological information This product is unlikely to disperse in water.

13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
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Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	At least one component is not listed.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan inventory (CSNN)	Not determined.

16. Other information

Label requirements

WARNING !

CAUSES EYE IRRITATION.
MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION.

History

Date of issue 05/05/2015.

Date of previous issue 03/05/2015.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

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It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET

Castrol Syngear 75W-90

Section 1. Identification

GHS product identifier Castrol Syngear 75W-90

Product code 464262-CA01 US06

SDS # 464262

Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/ mixture Gear lubricant .
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier

Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY TELEPHONE NUMBER 1 (800) 424-9300
CHEMTREC (USA)

Section 2. Hazard identification

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

General P103 - Read label before use.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Other hazards which do not result in classification Defatting to the skin.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% (w/w)
n-phenyl-1-naphthylamine	90-30-2	<1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products No specific data.

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Section 8. Exposure controls/personal protection

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state Liquid.

Color Amber.

Odor Pungent.

Odor threshold Not available.

pH Not available.

Melting point Not available.

Boiling point Not available.

Flash point Closed cup: 170°C (338°F) [Pensky-Martens.]

Pour point Not available.

Drop Point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable. Based on - Physical state

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits Not available.

Vapor pressure Not available.

Vapor density Not available.

Density

Relative density 0.898

Solubility insoluble in water.

Partition coefficient: n-octanol/water Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Kinematic: 14.5 to 15.5 mm^2/s (14.5 to 15.5 cSt) at 100°C

Aerosol product

Section 10. Stability and reactivity

Reactivity No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Incompatible materials Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
n-phenyl-1-naphthylamine	Category 2	Not determined	blood system

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Inhalation Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Partially biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and

Section 13. Disposal considerations

runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL and the IBC Code Not available.

Section 15. Regulatory information

Other regulations

Australia inventory (AICS) All components are listed or exempted.

Canada inventory All components are listed or exempted.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (ENCS) At least one component is not listed.

Korea inventory (KECI) All components are listed or exempted.

Philippines inventory (PICCS) All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI) At least one component is not listed.

United States inventory (TSCA 8b) All components are listed or exempted.

REACH Status For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

History

Date of issue/Date of revision 13/12/2016

Date of previous issue 12/12/2016.

Version 5.02

Prepared by Product Stewardship

Section 16. Other information

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations
Varies = may contain one or more of the following 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2

References

Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Material Safety Data Sheet

1. Product and company identification

Product name Castrol Tection Extra 15W-40 (CJ-4)

MSDS # 465297

Code 465297-CA01

Product use Engine Oils.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470

Supplier Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2
Phone Number - 416-252-5511
Fax Number - 416-252-7315

BP Lubricants USA, Inc
1500 Valley Road
Wayne, NJ USA
07470
Phone Number - 973-633-2296
Fax Number - 973-633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300
CHEMTREC (USA)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Liquid.

Color Brown.

Emergency overview CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes May cause eye irritation.

Skin May cause skin irritation.

Inhalation May cause respiratory tract irritation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	90 - 95
Zinc alkyl dithiophosphate	84605-29-8	1 - 5
Phenol, dodecyl-, branched	74499-35-7 / 121158-58-5	0.1 - 1

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point Closed cup: >210°C (>410°F) [Pensky-Martens.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Not suitable Prolonged exposure to elevated temperature

Other information Sulfur compounds in this material may decompose when heated to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of gas may not be apparent. Exposure to concentrations of hydrogen sulfide vapor above 500 ppm may cause rapid death. Do not rely on the sense of smell to detect hydrogen sulfide.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Brown.
Odor	Not available.
Odor threshold	Not available.
Flash point	Closed cup: >210°C (>410°F) [Pensky-Martens.]
Specific gravity	Not available.
Density	868 kg/m³ (0.868 g/cm³) at 15°C
pH	Not available.
Viscosity	Kinematic: 119.1 mm^2/s (119.1 cSt) at 40°C Kinematic: 15.21 mm^2/s (15.21 cSt) at 100°C
Boiling point / Range	Not available.
Melting point / Range	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
$LogK_{ow}$	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	This product may release hydrogen sulfide (H_2S) if it is heated to high temperatures.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other Toxicity Data

USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Other information

Contains low concentration of zinc alkyl dithiophosphate (ZDDP). Concentration is not expected to cause eye or skin irritation.

This product contains low levels of para-dodecylphenol. Para-dodecylphenol given orally to rats repeatedly at high dose levels caused adverse reproductive effects. The relevance of these findings to humans is uncertain. These effects are not expected to occur with the use of this product as intended when good personal hygiene is practiced.

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Reproductive effects	No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability	Expected to be biodegradable.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan inventory (CSNN)	Not determined.

16. Other information

Label requirements CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

History

Date of issue 01/30/2015.

Date of previous issue 11/29/2012.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

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1 . Identification of the substance/preparation and company/undertaking

Product name **Castrol Vecton 15W-40 CJ-4/E9**

SDS no. 468122

Use of the substance/mixture Automotive engine crankcase lubricant.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier Castrol BP Petco Ltd.
7 th Floor, Central Plaza Office Building
17 Le Duan Street, District 1
HCMC, Vietnam
Tel: 84-8-38219596 / 38219153
Fax: 84-8-38219603 / 38219152

Emergency telephone number Carechem: +65 3158 1074 (24 hours)

Code 468122-MY01

2 . Composition/information on ingredients

Substance/preparation Preparation

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

This product does not contain any hazardous ingredients at or above regulated thresholds.

3 . Hazards identification

Routes of entry Dermal contact. Eye contact. Inhalation.

Additional hazards USED ENGINE OILS
Used engine oil may contain hazardous components which have the potential to cause skin cancer. See Toxicological Information, section 11 of this Safety Data Sheet.

Effects and symptoms

Eyes No significant health hazards identified.

Skin Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

4 . First-aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

5 . Fire-fighting measures

Extinguishing media

Suitable In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Not suitable Do not use water jet.

Hazardous decomposition products Combustion products may include the following:
carbon oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides

Unusual fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Special fire-fighting procedures No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Protection of fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Environmental precautions	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Large spill	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.
Small spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling	Put on appropriate personal protective equipment.
Storage	Store and use only in equipment/containers designed for use with this product. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10).
Not suitable	Prolonged exposure to elevated temperature

8 . Exposure controls/personal protection

Occupational exposure limits	This product does not have any assigned OELs.
Exposure controls	
Occupational exposure controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.
Occupational exposure controls	
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.
Personal protective equipment	
Respiratory protection	None required. However, use of adequate ventilation is good industrial practice.
Skin and body	Avoid prolonged or repeated contact with skin. Wear protective clothing if prolonged or repeated contact is likely.
Hands	Wear protective gloves if prolonged or repeated contact is likely. Chemical-resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/ manufacturer and with a full assessment of the working conditions.
Eyes	Safety glasses with side shields.

9 . Physical and chemical properties

Physical state	Liquid.
Colour	Brown.
Odour	Mild.
Flash point	Closed cup: 200°C (392°F) [Pensky-Martens.] Open cup: 207°C (404.6°F) [Cleveland.]
Viscosity	Kinematic: 122 mm^2/s (122 cSt) at 40°C Kinematic: 14.9 mm^2/s (14.9 cSt) at 100°C
Pour point	-36 °C
Density	873 kg/m^3 (0.873 g/cm^3) at 15°C
Solubility	insoluble in water.

10 . Stability and reactivity

Stability	The product is stable.
Conditions to avoid	No specific data.
Materials to avoid	Reactive or incompatible with the following materials: oxidising materials.
Hazardous decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides phosphorus oxides metal oxide/oxides Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Chronic toxicity

Carcinogenic effects	No known significant effects or critical hazards.

12 . Ecological information

Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.

13 . Disposal considerations

14 . Transport information

International transport regulations

Not classified as dangerous for transport (IMDG, ICAO/IATA)

15 . Regulatory information

European Union - Label requirements

Risk phrases	Not classified as hazardous.
Safety phrases	

Other regulations

REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
United States inventory (TSCA 8b)	All components are listed or exempted.
Australia inventory (AICS)	At least one component is not listed.
Canada inventory	All components are listed or exempted.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	At least one component is not listed.

16 . Other information

History

Date of issue/ Date of revision	13 November 2013
Date of previous issue	No previous validation
Prepared by	Product Stewardship

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SAFETY DATA SHEET
CE001 Carbon steel Covered Electrodes

Version number: 1

Replaces SDS: 2009-11-23

Issued: 2020-03-05

Not for sale in the USA

Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Trade name Solid STRIKE 110 MSS and Solid STRIKE 115 MSS Carbon Steel Covered Electrodes

Article-№ .

Product/Article	Diameter (mm/Inch)	Packaging (kg)	Part Number
Solid STRIKE 110 Electrode E6010IP	4.0	20	11023636
Solid STRIKE 110 Electrode E6010IP	5.0	20	11023637
Solid STRIKE 110 Electrode E6011	2.4	16	11023638
Solid STRIKE 110 Electrode E6011	3.2	20	11023639
Solid STRIKE 110 Electrode E6011	4.0	20	11023640
Solid STRIKE 110 Electrode E6013V	2.4	16	11023643
Solid STRIKE 110 Electrode E6013V	3.2	20	11023644
Solid STRIKE 110 Electrode E7014IP	2.4	16	11023645
Solid STRIKE 110 Electrode E7014IP	3.4	20	11023646
Solid STRIKE 110 Electrode E7024IP	3.2	20	11023665
Solid STRIKE 110 Electrode E7024IP	4.0	20	11023666
Solid STRIKE 110 Electrode E7024IP	5.0	20	11023667
Solid STRIKE 110 Electrode E7018-1MRP	2.4	16	11023668
Solid STRIKE 110 Electrode E7018-1MRP	3.2	20	11023669
Solid STRIKE 110 Electrode E7018-1MRP	4.0	20	11023670
Solid STRIKE 110 Electrode E7018 MR PLUS	4.8	20	11023671
Solid STRIKE 110 Electrode E7018 AC	2.4	16	11023682
Solid STRIKE 110 Electrode E7018 AC	3.2	20	11023684
Solid STRIKE 110 Electrode 7018AC	3.2	20	11023685
Solid STRIKE 110 Electrode E7018AC	4.0	20	11023686
Solid STRIKE 110 Electrode 7018AC	4.0	20	11023687
Solid STRIKE 110 Electrode 7018 Extra	2.4	16	11101709
Solid STRIKE 110 Electrode 7018 Extra	3.2	20	11101710
Solid STRIKE 110 Electrode 7018 Extra	4.0	20	11101711
Solid STRIKE 110 Electrode 7018 Extra	4.8	20	11101712
Solid STRIKE 110 Electrode 7018 Extra	6.4	20	11101713
Solid STRIKE 110 Electrode E7017IP	3.2	20	11183120
Solid STRIKE 110 Electrode 7018	2.4	16	11183121
Solid STRIKE 110 Electrode E7024IP	3.2	20	11183124
Solid STRIKE 110 Electrode 7018	3.2	20	11183122
Solid STRIKE 110 Electrode 7018AC	3.2	20	11226918
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	3.4	11312710
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	4.2	11312711
Solid STRIKE115 Electrode E7018-1H4R	3.2(1/8)	4.2	11312712
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	4.6	11312713
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	5.8	11312714
Solid STRIKE 115 Electrode E7018-1H4R	5.0 (3/16)	5.6	11312715
Solid STRIKE 115 Electrode E7018-1H4R	6.0 (1/4)	5.8	11312716

Version number: 1
Replaces SDS: 2009-11-23
Issued: 2020-03-05

1.2 Relevant identified uses of the substance or mixture and uses advised against

Article type	SMAW Un- and Low-alloyed electrodes Classification: AWS SFA 5.1/5.5 or other
Use	Electric arc welding

1.3 Details of the supplier of the safety data sheet

Supplier	Messer Canada Inc.
Street address	5860 Chedworth Way, Mississauga
	Ontario L5R 0A2
	Canada
Telephone	**1-866-385-5349**
Fax	**905-501-1717**
Email	Info.mg.ca@messer-ca.com

1.4 Emergency telephone number

Available outside office hours	Yes
Emergency phone number	(24 Hour) : (905) 501-0802 or CHEMTREC (800) 424-9300

Other

Additional product information	**Web site:** **www.messer-ca.com**

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to applicable national regulations.

2.2 Label elements

Refer to label.

2.3 Other hazards

When the product is used in the welding process the most important hazards are:
Overexposure to fumes and gases from welding can be dangerous to health.
Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire.
Arc rays can injure eyes and burn skin. Electric shock can kill. Avoid touching live electrical parts.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture and please refer to Section 3.2

3.2 Mixtures

Mild steel core	Fe	Mn	Cr	Ni	Cu	Si
Typical	98-99	<0.6	<0.1	<0.1	<0.1	<0.2

Flux coating	High Cellulose E6010, 6011	Rutile E6012, 6013	Basic Low Hydrogen E7016, 7018	Rutile Iron Powder E7024	Basic Iron Powder E7028	Cas No.
Limestone and/or Calcium Carbonate	-	<10	20-30	<10	10-20	1317-65-3
Magnesite (total inhalable dust) (respirable dust)	5-10	<5	-	-	-	546-93-0
Cellulose (total inhalable dust) (respirable dust)	25-60	<15	-	-	-	9004-34-6
Iron Oxides (as Fe)	<10	<10	<10	<10		1309-37-6
Inorganic Fluorides (as F)	-	<10	10-30	<10	5-15	16984-48-8
Iron powder	-	<10	10-35	10-60	10-60	7439-89-6
Manganese and its Inorganic compounds (as Mn)	5-15	5-15	<15	<15	<10	7439-96-5 and others
Rutile/Titanium Dioxide (total inhalable dust) (respirable dust)	10-35	15-60	<10	10-30	<10	13463-67-7
Silicon and Silicon Alloys, (as Si)	-	-	<5	<5	<5	7440-21-3
Silicate Binders	<5	<5	<5	<5	<5	1344-09-8
Mica (total inhalable dust) (respirable dust)	<5	<20	<5	<5	<5	12001-26-2
Quartz/Silica Respirable crystalline	<10	<15	5-60	<10	<5	14808-60-7
Kaolin (respirable dust)	-	<20	-	<5	<5	1332-58-7
Other Mineral Silicates	5-30	5-30	5-10	5-30	5-10	1332-58-7

Section 4. FIRST AND MEASURES

4.1 Description of first aid measures

Inhalation	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.
Skin contact	Burns should be treated by a doctor.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor.
Ingestion	Contact a doctor if more than an insignificant amount has been swallowed.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation	Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons.

4.3 Indication of any immediate medical attention and special treatment needed

Not available

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO_2), powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.

5.2 Special hazards arising from the substance or mixture

Not available

5.3 Advice for fire fighters

Special protective equipment for fire fighters	No specific measures required for these electrodes prior to gouging. Gouging should not be carried out in the presence of flammable materials, vapours, tanks, cisterns and pipes and other containers which have held flammable substances unless these have been checked and certified safe. During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Skin contact should be avoided to prevent possible allergic reactions.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3 Methods and material for containment and cleaning up

Not applicable

6.4 Reference to other sections

Personal protection see section 8 and for disposal see section 13. Environmental precautions, paragraph 12. See also section 7 Precautions for safe handling.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Preventive handling precautions	Ensure adequate ventilation for the welder and others. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Remove all flammable materials and liquids before welding.
General hygiene	Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

7.3 Specific end use(s)

Welding process.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Welding fume component	CAS №	TLV- TWA	TLV-STEL	OTHER
Total welding fume (particulate)				
Iron oxide fume (as Fe)	1309-37-1	5 mg/m^3 Respirable particulate mass	N/Av	N/Av
Manganese and its inorganic compounds (as Mn)	7439-96-5	0.2 mg/m^3	N/Av	N/Av
Silica, amorphous (total inhalable particles) (respirable particles)	N/Av	N/Av	N/Av	10 mg/m^3 3 mg/m^3
Magnesium oxide (as Mg) (total inhalable dust) (fume and respirable dust)	1309-48-4	10 mg/m^3 (Inhalable fraction)	N/Av	N/Av
Titanium dioxide (total inhalable dust) (respirable dust)	13463-67-7	10 mg/m^3	N/Av	N/Av
Calcium Oxide	1305-78-8	2 mg/m^3	N/Av	N/Av
Calcium Silicate (total inhalable dust) (respirable dust)	1344-95-2	10 mg/m^3	N/Av	N/Av
Fluoride, inorganic (as F)	16984-48-8	N/Av	N/Av	N/Av
Nitrogen dioxide (NO_2)	10102-44-0	0.2 ppm	N/Av	N/Av
Ozone (O_3)	10028-15-6	*	N/Av	N/Av
Nitrogen monoxide (NO)	10102-43-9	25 ppm	N/Av	N/Av

8.2 Exposure controls

Environmental Exposure Control – Refer to Section 6 of this SDS

Technical precaution measures	General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.
Eye / face protection	Wear eye protection appropriate for welding.
Safety gloves	Skin contact should be avoided to prevent possible allergic reactions.
Other skin protection	Wear body protection which helps to prevent injury from radiation, sparks and electric shock.
Respiratory protection	Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance, colour	Grey
Appearance, physical state	Rod
Auto-ignition temperature	Not applicable
Auto-flammability	Not auto-flammable
Decomposition temperature	Not applicable
Evaporation rate	Not applicable
Explosive properties	Not explosive
Flammability (solid gas)	Not applicable
Flash point	Not applicable
Form	Metal wire with flux coating
Initial boiling point and boiling range	Not applicable
Melting point / Freezing point	Not available
Odour	Odourless
Odour threshold	Not available
Oxidising properties	Not available
Partition coefficient: n-octanol / water	Not applicable
pH value	Not applicable
Relative density	Not applicable
Solubility	Not available
Solubility in water	Insoluble
Upper / lower flammability or explosive limits	Not applicable
Vapour density	Not applicable
Vapour pressure	Not applicable
Viscosity	Not applicable

9.2 Other information

Not applicable

Other

Density	7.98g/cm^3

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 Chemical stability

Stable under the recommended storage and handling conditions prescribed. Hazardous polymerization will not occur. Incompatible materials and conditions to avoid are usually related to welding.

10.3 Possibility of hazardous reactions

Not available

10.4 Conditions to avoid

None under normal conditions

10.5 Incompatible materials

Not available

10.6 Hazardous decomposition products

Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.
Hazardous combustion products - Carbon oxides and other irritating/toxic fumes and smoke.

Welding fume component	№ CAS	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Aluminium oxide (Al)	1344-28-1	-	-	-	1.8 to 1.2
Barium (Ba)	7440-39-3	-	-	-	≤0.1
Bismuth oxide (Bi)	12640-40-3	-	-	-	≤0.1
Calcium (Ca)	1305-78-8	-	-	-	0.1 to 11.6
Cobalt oxide (Co)	1307-96-6	R22: Harmful if swallowed R43: May cause sensitisation by contact	Acute tox 4 (oral) Skin sens. 1	H302 H317	≤0.1
Chromium III compounds (as Cr)	24613-89-6	R45: May cause cancer R35: Causes severe burns R43: May cause sensitisation by skin contact	Carc. 1B Skin Corr. 1A Skin Sens. 1	H350 H314 H317	≤0.1
Copper oxide (Cu)	1317-38-0	-	-	-	≤0.1
Iron oxide (Fe)	1332-37-2	-	-	-	11.9 to 54.9
Potassium (K)	7440-09-7	R34: Causes burns	Skin Corr. 1B	H314	0.6 to 23.8
Lithium (Li)	7439-93-2	R34: Causes burns	Skin Corr. 1B	H314	0.1 to 0.8

Magnesium oxide (Mg)	1309-48-4	-	-	-	0.1 to 5.3
Manganese (Mn)	7439-96-5	-	-	-	0.7 to 8.2
Molybdenum (Mo)	7439-98-7	Molybdenum trioxide R36/37: Irritating to eyes and respiratory system R40: Limited evidence of carcinogenic effect	Molybdenum trioxide Carc. 2 Eye Irrit. 2 STOT SE 3	H351 H319 H335	≤0.1
Sodium (Na)	7440-23-5	R34: Causes burns	Skin Corr. 1B	H314	0.5 to 8.7
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	0.1 to 0.2
Lead (Pb)	7439-92-1	-	-	-	0.1 to 1.8
Silicon (Si)	7440-21-3	-	-	-	2.1 to 16.3
Titanium dioxide (Ti)	13463-67-7	-	-	-	0.1 to 3.2
Vanadium (V)	7440-62-2	-	-	-	≤0.1
Zinc (Zn)	7440-66-6	-	-	-	0.1 to 3.5
Fluoride (F-)	16984-48-8	-	-	-	0.1 to 21.4

F		
	H	**T**
Skin corrosion/irritation: Category 1B	H314	Causes severe skin burns and eye damage
Carcinogenicity: Category 1B	H350	May cause cancer

The classification information above relates to the fume during use

Fume analysis: wt %	**Fume analysis: wt %**
Al 0.1 to 1.2	Ni 0.1 to 0.2
Ca 0.1 to 11.6	Pb 0.1 to 1.8
Fe 11.9 to 54.9	Si 2.1 to 16.3

K 0.6 to 23.8	Ti 0.1 to 3.2
Li 0.1 to 0.8	Zn 0.1 to 3.5
Mg 0.1 to 5.3	F- 0.1 to 21.4
Na 0.5 to 8.7	

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied

When welding, fumes and gases generated can be dangerous to health.

Acute toxiciy	Excessive exposures may affect human health, as follows: Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
Irritation	Not available
Corrosive effects	Not available
Sensitisation	May cause sensitisation by skin contact
Mutagenicity	Not available
Carcinogenicity	Welding fumes are possibly carcinogenic to humans
Repeated dose toxicity	Not available
Reproductive toxicity	Not available
Synergistic materials	Not available

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

The welding process can effect the environment if fume is released directly into the atmosphere. Residues from welding consumables could degrade and accumulate into soils and ground water.

12.2 Persistence and degradability

Not available

12.3 Bio accumulative potential

Not available

12.4 Mobility in Soil

Not available

12.5 Results of PBT and vPvB assessment

Not available

12.6 Other adverse effects

Not available

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal considerations	Dispose of any product, residue or packing material according to national and local regulations. Spent fume extraction filters shall be disposed of as dangerous waste.

Other

Waste code	Packaging and rod scrap should be disposed of as general waste or recycled. No special precautions are required for this product. Fume collected from extraction units should be disposed of in accordance with local regulations (including Provincial and Federal Regulations). Collect all spillage.

Section 14. TRANSPORT INFORMATION

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk

Not applicable

Other

Dangerous goods	No special requirements are necessary in transporting these products. Transportation of Dangerous Goods Regulations (TDGR): TDG Classification: NOT REGULATED Special case: N/Ap

Section 15. REGUATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.

EU reguations	Refer to national Regulations.
National regulations	WHMIS Label Information: **WARNING.** Do not remove or cover this Warning. Protect yourself and others. Read and understand this information. Electric shock can kill. Keep your head out of the fume. Arc rays and fume can affect others in your workplace. Comply with your employer's safety practices and procedures: protect others. Safety data sheet available on request from www.messer-ca.com. WHMIS information: Product is regulated according to the Controlled Product Regulations (CPR) in Canada. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR. WHMIS classification: D2A - Toxic Material with other effects.

15.2 Chemical safety assessment

Not available

Section 16. OTHER INFORMATION

References to key literature and data sources	The customer should provide this Safety Data Sheet to any person involved in the materials use or further distribution. The Messer World requests the users (or distributors) of this product to read this Safety Data Sheet carefully before usage. **Prepared by Messer Canada Inc.** **References** Safety Data Sheets from manufacturer/supplier. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2014.
Phrase meaning	**Abbreviations** ACGIH American Conference of Governmental Industrial Hygienists CAS Chemical Abstract Service IARC International Agency for Research on Cancer LC Lethal concentration LD Lethal Dosage N/Ap Not applicable N/Av Not available NIOSH National Institute for Occupational Safety and Health STEL Short-term Exposure Limit TLV Threshold Limit Value TWA Time Weighted Average WHMIS Workplace Hazardous Materials Information System

Other

Manufacturer's notes	The information contained in this Safety Data Sheet relates only to the specific materials designated and may not be valid for such material used in combination with any other material or in any process. Information is given in good faith and is based on the latest information available to The Messer World and is, to the best of The Messer Canada's knowledge and belief, accurate and reliable at the time of preparation. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness of the information, and Messer World assumes no responsibility and disclaims any liability incurred in using this information.

The product is supplied on the condition that the user accepts the responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. Freedom from patent rights must not be assumed.

Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.

End of document

FICHE DE DONNÉES DE SÉCURITÉ
CE001 Électrodes de soudage d'acier au carbone enrobées

Numéro de version : 1
Remplace FDS : 2009-11-23
Date d'émission : 2020-03-05

Ce produit ne peut être vendu aux États-Unis

Section 1. IDENTIFICATION DE LA SUBSTANCE / DU MÉLANGE ET DE LA COMPAGNIE

1.1 Identificateur du produit

Nom commercial Solid STRIKE 110 MSS et Solid STRIKE 115 MSS.

(Électrodes de soudage d'acier au carbone enrobées)

№ d'article .

Produit/Article	Diamètre (mm)	Emballage (kg)	Numéro de pièce
Solid STRIKE 110 Electrode E6010IP	4.0	20	11023636
Solid STRIKE 110 Electrode E6010IP	5.0	20	11023637
Solid STRIKE 110 Electrode E6011	2.4	16	11023638
Solid STRIKE 110 Electrode E6011	3.2	20	11023639
Solid STRIKE 110 Electrode E6011	4.0	20	11023640
Solid STRIKE 110 Electrode E6013V	2.4	16	11023643
Solid STRIKE 110 Electrode E6013V	3.2	20	11023644
Solid STRIKE 110 Electrode E7014IP	2.4	16	11023645
Solid STRIKE 110 Electrode E7014IP	3.4	20	11023646
Solid STRIKE 110 Electrode E7024IP	3.2	20	11023665
Solid STRIKE 110 Electrode E7024IP	4.0	20	11023666
Solid STRIKE 110 Electrode E7024IP	5.0	20	11023667
Solid STRIKE 110 Electrode E7018-1MRP	2.4	16	11023668
Solid STRIKE 110 Electrode E7018-1MRP	3.2	20	11023669
Solid STRIKE 110 Electrode E7018-1MRP	4.0	20	11023670
Solid STRIKE 110 Electrode E7018 MR PLUS	4.8	20	11023671
Solid STRIKE 110 Electrode E7018 AC	2.4	16	11023682
Solid STRIKE 110 Electrode E7018 AC	3.2	20	11023684
Solid STRIKE 110 Electrode 7018AC	3.2	20	11023685
Solid STRIKE 110 Electrode E7018AC	4.0	20	11023686
Solid STRIKE 110 Electrode 7018AC	4.0	20	11023687
Solid STRIKE 110 Electrode 7018 Extra	2.4	16	11101709
Solid STRIKE 110 Electrode 7018 Extra	3.2	20	11101710
Solid STRIKE 110 Electrode 7018 Extra	4.0	20	11101711
Solid STRIKE 110 Electrode 7018 Extra	4.8	20	11101712
Solid STRIKE 110 Electrode 7018 Extra	6.4	20	11101713
Solid STRIKE 110 Electrode E7017IP	3.2	20	11183120
Solid STRIKE 110 Electrode 7018	2.4	16	11183121
Solid STRIKE 110 Electrode E7024IP	3.2	20	11183124
Solid STRIKE 110 Electrode 7018	3.2	20	11183122
Solid STRIKE 110 Electrode 7018AC	3.2	20	11226918
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	3.4	11312710
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	4.2	11312711
Solid STRIKE115 Electrode E7018-1H4R	3.2(1/8)	4.2	11312712
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	4.6	11312713
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	5.8	11312714
Solid STRIKE 115 Electrode E7018-1H4R	5.0 (3/16)	5.6	11312715
Solid STRIKE 115 Electrode E7018-1H4R	6.0 (1/4)	5.8	11312716

FICHE DE DONNÉES DE SÉCURITÉ
CE001 Électrodes de soudage d'acier au carbone enrobées

Numéro de version : 1
Remplace FDS : 2009-11-23
Date d'émission : 2020-03-05

1.2 Usage recommandé et restrictions d'utilisation du produit chimique

Type d'article	SMAW Un- and Low-alloyed electrodes Classification: AWS SFA 5.1/5.5 or other (Électrodes non alliées ou à faible alliage)
Usage	Soudage à l'arc sous protection gazeuse

1.3 Données relatives au fournisseur

Fournisseur	Messer Canada Inc.
Adresse complète	5860 Chedworth Way, Mississauga Ontario L5R 0A2 Canada
Téléphone	**1-866-385-5349**
Télécopieur	**905-501-1717**
Courriel	info.lg.ca@messer-ca.com

1.4 Numéro de téléphone en cas d'urgence

Disponible hors des heures d'ouverture	Oui
Numéro de téléphone d'urgence	(24 Heures) : (905) 501-0802 or CHEMTREC (800) 424-9300

Autre

Information additionnelle sur le produit	**Site Internet : www.messer-ca.com**

Section 2. IDENTIFICATION DES DANGERS

2.1 Classification de la substance ou du mélange

Classification conformément aux règlements nationaux en vigueur.

2.2 Éléments d'étiquetage

Consulter l'étiquette

2.3 Autres dangers

Lorsque le produit est utilise dans le processus de soudage les dangers les plus importants sont:
Surexposition à la fumée et aux gaz de soudage qui peuvent être dangereux pour la santé.
Éviter les éclaboussures, les métaux chauds et les scories. Cela peut causer une brûlure à la peau et causer un incendie.
Les rayonnements lumineux de l'arc de soudage peuvent causer des blessures aux yeux et à la peau. Des chocs électriques peuvent tuer. Éviter de toucher des pièces électriques branchées.

Section 3. COMPOSITION / INFORMATION SUR LES COMPOSANTS

3.1 Substances
Ce produit est un mélange. Consulter la Section 3.2.

3.2 Mélanges

Âme acier doux	Fe	Mn	Cr	Ni	Cu	Si
Typique	98-99	<0.6	<0.1	<0.1	<0.1	<0.2

Flux d'enrobage	Haute teneur en cellulose E6010, 6011	Rutile E6012, 6013	Basique à basse teneur en hydrogène E7016, 7018	Poudre fer rutile E7024	Poudre basique fer rutile E7028	No CAS
Calcaire et/ou carbonate de calcium	-	<10	20-30	<10	10-20	1317-65-3
Calcaire et/ou carbonate de calcium	5-10	<5	-	-	-	546-93-0
Magnésite (poussières inhalables totales) (poussières respirables)	25-60	<15	-	-	-	9004-34-6
Cellulose (poussières inhalables totales) (poussières respirables)	<10	<10	<10	<10		1309-37-6
Fluorures inorganiques (sous forme de F)	-	<10	10-30	<10	5-15	16984-48-8
Poudre de fer	-	<10	10-35	10-60	10-60	7439-89-6
Manganèse et ses composés inorganiques (sous forme de Mn)	5-15	5-15	<15	<15	<10	7439-96-5 et autres
Dioxyde de titane/rutile (poussières inhalables totales) (poussières respirables)	10-35	15-60	<10	10-30	<10	13463-67-7
Silicium et alliages de silicium (sous forme de Si)	-	-	<5	<5	<5	7440-21-3
Liants silicatés	<5	<5	<5	<5	<5	1344-09-8
Mica (poussières inhalables totales) (poussières respirables)	<5	<20	<5	<5	<5	12001-26-2
Quartz/Silice cristalline respirable	<10	<15	5-60	<10	<5	14808-60-7
Kaolin (poussières respirables)	-	<20	-	<5	<5	1332-58-7
Autres silicates minéraux	5-30	5-30	5-10	5-30	5-10	1332-58-7

Section 4. PREMIERS SOINS

4.1 Description des premiers soins nécessaires

Inhalation EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une

	position où elle peut confortablement respirer. Appeler un médecin en cas de symptômes.
Contact avec la peau	Brûlures devraient être traitées par un médecin.
Contact avec les yeux	EN CAS DE CONTACT AVEC LES YEUX : Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Brûlures par les rayonnements. Consulter un médecin.
Ingestion	Appeler un médecin si une quantité significative a été avalée.

4.2 Symptômes/effets les plus importants, aigus ou retardés

Inhalation	L'inhalation des vapeurs peut causer une irritation respiratoire chez les personnes sensibles.

4.3 Indications quant à la nécessité éventuelle d'une prise en charge médicale immédiate ou d'un traitement spécial

Pas disponible

Section 5. MESURES À PRENDRE EN CAS D'INCENDIE

5.1 Agents extincteurs appropriés

Agents extincteurs appropriés	Dioxyde de carbone (CO2), poudre ou jets d'eau. En cas d'incendie majeur: Éteindre l'incendie avec des jets d'eau ou de la mousse.

5.2 Dangers spécifiques du produit

Pas disponible

5.3 Mesures spéciales de protection pour les pompiers

Équipement spécifique de protection contre les incendies	Avant le soudage, aucune mesure spécifique requise. On ne doit pas souder en présence de matières et vapeurs inflammables, de bouteilles, citernes, tuyaux et autres contenants ayant contenu des matières inflammables sauf s'ils ont été vérifiés et certifiés sans danger. En cas d'incendie, des fumées et émanations irritantes et toxiques peuvent être générées. Ne pas entrer dans une zone d'incendie sans un équipement de protection approprié. Les pompiers devraient porter l'équipement de protection adéquat et un appareil respiratoire autonome avec masque respiratoire complet. Protéger le personnel contre l'échappement des gaz, la rupture ou l'éclatement des contenants. Retirer les contenants de la zone en feu si cela peut être effectué sans risque. Refroidir les contenants et équipements exposés aux flammes et à la chaleur en les arrosant d'eau.

Section 6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTEL

6.1 Précautions individuelles, équipements de protection et mesures d'urgence

Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de

protection et une protection oculaire appropriée pour le soudage à l'arc. Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.

6.2 Précautions relatives à l'environnement

Essayer d'empêcher le produit d'entrer dans les égouts ou les cours d'eau.

6.3 Méthodes et matériaux pour l'isolation et le nettoyage

Sans objet

Section 7. MANUTENTION ET STOCKAGE

7.1 Précautions à prendre pour assurer la manutention

Précautions à prendre pour la manutention	S'assurer que la ventilation est adéquate pour le soudeur et les autres. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc. Retirer tous les liquides et produits inflammables avant de souder.
Hygiène générale	Se laver les mains avant les pauses et immédiatement après avoir manipulé le produit.

7.2 Stockage dans des conditions de sécurité en tenant compte de toutes incompatibilités éventuelles

Stocker les produits de soudage dans une pièce sans humidité. Ne pas stocker les produits de soudage directement au sol ou près de murs. Stocker le produit loin des substances chimiques comme les acides qui pourraient causer des réactions chimiques.

7.3 Usage(s) spécifique(s)

Processus de soudage.

Section 8. CONTRÔLES DE L'EXPOSITION / PROTECTION INDIVIDUELLE

8.1 Paramètres de contrôle

Composant des fumées de soudage	№ CAS	VLE-MPT (TLV- TWA)	VLE-LECT (TLV-STEL)	AUTRE
Total - fumée de soudage (particule)				
Fumées d'oxyde de fer (sous forme de Fe)	1309-37-1	5 mg/m^3 masse de particules respirables	P/D	P/D
Manganèse et ses composés inorganiques (sous forme de Mn)	7439-96-5	0.2 mg/m^3	P/D	P/D
Silice, amorphe (poussières inhalables totales) (poussières respirables)	P/D	P/D	P/D	10 mg/m^3 3 mg/m^3
Oxyde de magnésium (sous forme de Mg) (poussières inhalables totales) (fumées et poussières respirables)	1309-48-4	10 mg/m^3 (Inhalable fraction)	P/D	P/D
Dioxyde de titane (poussières inhalables totales) (poussières respirables)	13463-67-7	10 mg/m^3	P/D	P/D
Oxyde de calcium	1305-78-8	2 mg/m^3	P/D	P/D
Silicate de calcium (poussières inhalables totales) (poussières respirables)	1344-95-2	10 mg/m^3	P/D	P/D
Fluorure, inorganique (sous forme de F)	16984-48-8	P/D	P/D	P/D
Dioxyde d'azote (NO_2)	10102-44-0	0.2 ppm	P/D	P/D
Ozone (O_3)	10028-15-6	*	P/D	P/D
Monoxyde d'azote (NO)	10102-43-9	25 ppm	P/D	P/D

8.2 Contrôles d'exposition

Contrôles d'exposition environnementale – Consulter la Section 6 de cette FDS

Mesures de précaution technique	Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires.
Protection des yeux/du visage	Porter une protection oculaire appropriée pour le soudage.
Gants sécuritaires	Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.
Autre protection de la peau	Porter des vêtements de protection qui aident à prévenir les blessures causées par les rayonnements, les étincelles et les chocs électriques.
Protection respiratoire	Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc.

Section 9. PROPRIÉTÉS PHYSIQUES ET CHMIQUES

9.1 Information concernant les propriétés physiques et chimiques de base

Apparence, couleur	Gris
Apparence, état physique	Baguette
Température d'auto-inflammation	Sans objet
Auto-inflammation	Non auto-inflammable
Température de décomposition	Sans objet
Taux d'évaporation	Sans objet
Propriété d'explosibilité	Non explosif
Inflammabilité (solide, gaz)	Sans objet
Point d'éclair	Sans objet
Formation	Fils en métal avec flux enrobé
Domaine et point d'ébullition initial	Sans objet
Point de fusion / Point de congélation	Pas disponible
Odeur	Inodore
Seuil olfactif	Pas disponible
Propriétés oxydantes	Pas disponible
Coefficient de partage: n-octanol / eau	Sans objet
pH	Sans objet
Densité relative	Sans objet
Solubilité	Pas disponible
Solubilité dans l'eau	Insoluble
Limites supérieures/inférieures d'inflammabilité ou d'explosibilité	Sans objet
Densité de vapeur	Sans objet
Pression de vapeur	Sans objet
Viscosité	Sans objet

9.2 Autre information

Sans objet

Autre

Densité	7,98 g/cm^3

Section 10. STABILITÉ ET RÉACTIVITÉ

10.1 Réactivité

Pas disponible

10.2 Stabilité chimique

Stable dans des conditions prescrites de stockage et de manutentions recommandées. Une polymérisation dangereuse ne se produira pas. Les matières et conditions incompatibles à éviter sont en général liées au soudage.

10.3 Risque de réactions dangereuses

Pas disponible

10.4 Conditions à éviter

Aucune dans des conditions normales

10.5 Matériaux incompatibles

Pas disponible

10.6 Produits de décomposition dangereux

Gaz et fumées de soudage. Fumées additionnelles peuvent provenir de revêtements et contaminants sur le produit de base. Produits de combustion dangereux - Oxydes de carbone et autres fumées et émanations irritantes ou toxiques.

Composant des fumées de soudage	**№** CAS	Classification (67/548EEC)	CLP (1272/2008)		Concentration des composants de fumée classifiée
Oxyde d'aluminium (Al)	1344-28-1	-	-	-	1.8 - 1.2
Baryum (Ba)	7440-39-3	-	-	-	≤0.1
Oxyde de bismuth (Bi)	12640-40-3	-	-	-	≤0.1
Calcium (Ca)	1305-78-8	-	-	-	0.1 to 11.6
Oxyde de cobalt (Co)	1307-96-6	R22 Nocif en cas d'ingestion R43: Peut entraîner une sensibilisation par contact avec la peau	Tox aiguë 4 (oral) Sensib. cut. 1	H302 H317	≤0.1
Chrome III composant (comme Cr)	24613-89-6	R45: Peut provoquer le cancer R35: Provoque de graves brûlures R43: Peut entraîner une sensibilisation par contact avec la peau	Cancérog. 1B Corr. cut. 1A Sensib. cut. 1	H350 H314 H317	≤0.1
Oxyde de cuivre (Cu)	1317-38-0	-	-	-	≤0.1
Oxyde de fer (Fe)	1332-37-2	-	-	-	11.9 - 54.9
Potassium (K)	7440-09-7	R34 Provoque des brûlures	Corr. cut. 1B	H314	0.6 - 23.8
Lithium (Li)	7439-93-2	R34 Provoque des brûlures	Corr. cut. 1B	H314	0.1 - 0.8
Oxyde de magnésium (Mg)	1309-48-4	-	-	-	0.1 - 5.3

Manganèse (Mn)	7439-96-5	-	-	-	0.7 - 8.2
Molybdène (Mo)	7439-98-7	Trioxyde de molybdène R36/37: Irritant pour les yeux et les voies respiratoires R40: Effet cancérogène suspecté – preuves insuffisantes	Trioxyde de molybdène Cancérog. 2 Irritat. oculaire. 2 Toxicité pour certains organes cible, exposition unique 3	H351 H319 H335	≤0.1
Sodium (Na)	7440-23-5	R34 Provoque des brûlures	Corr. cut. 1B	H314	0.5 - 8.7
Nickel (Ni)	7440-02-0	R40: Effet cancérogène suspecté – preuves insuffisantes R43: Peut entraîner une sensibilisation par contact avec la peau R48/23: Toxique : risque d'effets graves pour la santé en cas d'exposition prolongée par inhalation et par contact avec la peau R52/53: Nocif pour les organismes aquatiques, peut entraîner des effets néfastes à long terme pour l'environnement aquatique	Cancérog.. 2 Sensib. cut. 1 Toxicité pour certains org. cibles, toxic.Répét. 1	H351 H317 H372	0.1 - 0.2
Plomb (Pb)	7439-92-1	-	-	-	0.1 - 1.8
Silice (Si)	7440-21-3	-	-	-	2.1 - 16.3
Dioxyde de titane (Ti)	13463-67-7	-	-	-	0.1 - 3.2
Vanadium (V)	7440-62-2	-	-	-	≤0.1
Zinc (Zn)	7440-66-6	-	-	-	0.1 - 3.5
Fluorures (F-)	16984-48-8	-	-	-	0.1 - 21.4

Classification finale des fumées

Classification	**Code H**	**Mention de danger**
Corrosion/Irritation cutanée : Catégorie 1B	H314	Provoque des brûlures de la peau et des lésions oculaires graves
Cancérogénicité : Catégorie 1B	H350	Peut provoquer le cancer

Classification - information relative aux fumées pendant l'usage

Analyse fumées : % poids	**Analyse fumées** : % poids
Al 0.1 - 1.2	Ni 0.1 - 0.2
Ca 0.1 - 11.6	Pb 0.1 - 1.8
Fe 11.9 - 54.9	Si 2.1 - 16.3
K 0.6 - 23.8	Ti 0.1 - 3.2
Li 0.1 - 0.8	Zn 0.1 - 3.5
Mg 0.1 - 5.3	F- 0.1 - 21.4
Na 0.5 - 8.7	

Section 11. DONNÉES TOXICOLOGIQUES

11.1 Information sur les effets toxicologiques

Conditions à éviter: aucune pour le produit tel quel

Lors du soudage, gaz et fumées générées peuvent être dangereuses pour la santé.

Toxicité immédiate	Expositions excessives peuvent affecter la santé humaine comme suit: Aspiration peut causer un oedème pulmonaire. Surexposition à court-terme peut causer étourdissements, nausée et irritation du nez de la gorge ou des yeux.
Irritation	Pas disponible
Effets corrosifs	Pas disponible
Sensibilisation	Peut causer une sensibilisation de la peau
Mutagénicité	Pas disponible
Cancérogénicité	Fumées de soudage sont possiblement cancérogènes pour les humains
Toxicité chronique	Pas disponible
Toxicité sur la reproduction	Pas disponible
Matières synergiques	Pas disponible

Section 12. DONNÉES ÉCOLOGIQUES

12.1 Toxicité

Le processus de soudage peut affecter l'environnement si les fumées sont libérées directement dans l'atmosphère. Les résidus des produits de soudage peuvent se dégrader et s'accumuler dans le sol et l'eau de surface.

12.2 Persistance et dégradabilité

Pas disponible

12.3 Potentiel de bioaccumulation

Pas disponible

12.4 Mobilité dans le sol

Not available

12.5 Résultats de PBT et détermination vPvB

Pas disponible

12.6 Autres effets nocifs

Pas disponible

Section 13. DONNÉES SUR L'ÉLIMINATION

13.1 Méthodes d'élimination

Méthodes d'élimination	Élimination de n'importe quel produit, résidu ou matériau d'emballage conformément aux règlements nationaux ou locaux. Les filtres usés d'extraction des fumées doivent être éliminés comme résidu dangereux.

Autre

Code de résidu	Les emballages et rebuts de fils et baguettes devraient être évacués comme des déchets ordinaires ou recyclés. Aucune précaution spéciale n'est requise pour ces produits de soudage. Les fumées recueillies dans les systèmes d'aspiration devraient être éliminées conformément aux règlements fédéraux, provinciaux et municipaux. Recueillir tous les déversements accidentels.

Section 14. INFORMATIONS RELATIVES AU TRANSPORT

14.1 Numéro ONU

Sans objet

14.2 Désignation officielle de transport de l'ONU

Sans objet

14.3 Classe(s) relative(s) au transport

Sans objet

14.4 Groupe d'emballage

Sans objet

14.5 Dangers environnementaux

Sans objet

14.6 Précautions spéciales pour l'utilisateur

Sans objet

14.7 Transport en vrac

Sans objet

Autre

Marchandises dangereuses	Il n'existe aucune exigence spéciale relative au transport de ces produits. **Règlement sur le transport des marchandises dangereuses (RTMD) :** Classification du TMD : NON RÉGLEMENTÉ Cas particulier : Sans objet

Section 15. INFORMATION SUR LA RÉGLEMENTATION

15.1 Réglementation relative à la sécurité, à la santé et à l'environnement applicable au produit en question

Règlements EU ***Règlements nationaux***	Consulter les règlements nationaux. **Étiquette du SIMDUT** : **MISE EN GARDE**. Ne pas retirer ou couvrir cette mise en garde. Se protéger et protéger les autres Lire et bien comprendre ces informations Les décharges électriques peuvent

causer la mort. Ne placez pas votre tête directement dans la fumée. Les rayons de l'arc et la fumée peuvent incommoder d'autres personnes dans l'espace de travail. Respectez les pratiques et procédures de votre employeur en matière de sécurité; protégez les autres.
Fiche de données de sécurité disponible sur demande auprès de www.messer-ca.com.
Information du SIMDUT : Ce produit est réglementé en vertu du Règlement sur les produits contrôlés (RPC) au Canada. Ce produit a été classé conformément aux critères de danger énoncés dans le Règlement sur les produits contrôlés (RPC) et cette fiche de données de sécurité contient tous les renseignements exigés par le Règlement sur les produits contrôlés (RPC).
Classification du SIMDUT : D2A - Matières toxiques ayant d'autres effets.

15.2 Détermination chimique du produit

Pas disponible

Section 16. AUTRES INFORMATIONS

Références importantes et sources de données

Le client devrait fournir cette fiche de données de sécurité à toute personne intervenant dans l'utilisation ou la distribution ultérieure de ces produits. Messer World demande aux utilisateurs (ou distributeurs) de lire attentivement cette fiche avant d'utiliser le produit.
Préparé par MESSER CANADA INC.

Références

Fiches de données de sécurité du fabricant/fournisseur.
Centre canadien d'hygiène et de sécurité du travail, CCInfoWeb databases, 2014.

Signification

Abréviations

ACGIH American Conference of Governmental Industrial Hygienists
CAS Chemical Abstract Service
CIRC Centre international de recherche sur le cancer
CL Concentration létale
DL Dose létale
S/O Sans objet
P/D Pas disponible
NIOSH National Institute for Occupational Safety and Health
LECT Limite d'exposition à court terme
VLE Valeur limite d'exposition
MPT Moyenne pondérée en fonction du temps
SIMDUT Système d'information sur les matières dangereuses utilisées au travail

Autre

Notes du fabricant

Les informations contenues dans cette fiche de données de sécurité ne traitent que des produits spécifiques désignés et ne peuvent servir pour un tel produit utilisé en association avec tout autre produit ou dans tout procédé.

Les présents renseignements sont donnés de bonne foi et sont basés sur les dernières informations disponibles chez Messer World et sont, à la connaissance de Messer World, précises et fiables au moment de la préparation. Toutefois, The Messer World n'accorde aucune garantie quant à la précision, la fiabilité ou l'intégralité des renseignements et, Messer World décline toute responsabilité quant à l'utilisation de ces informations.

Le produit est fourni à la condition que l'utilisateur accepte la responsabilité de se vérifier lui-même la pertinence et l'intégralité de ces informations pour son propre usage. Les obligations liées aux droits de brevets doivent être respectées.
Lire cette fiche de données de sécurité et devenir conscient des dangers identifiés et de l'information concernant la santé.

Fin du document

Chemsafe Solvex 500 Clear High Viscosity

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/22/2020 Supersedes: All previous versions Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Chemsafe Solvex 500 Clear High Viscosity

Product form : Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Encapsulation of asbestos fibers

1.3. Details of the supplier of the safety data sheet

Aramsco Inc.
1480 Grandview Avenue
Paulsboro, NJ 08066
Toll-free: (800)767-6933
Local: (856)686-7700
www.aramsco.com

1.4. Emergency telephone number

Emergency number : 1-866-359-5661

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Not a hazardous substance or mixture

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) : None

Signal word (GHS-US) : None

Hazard statements (GHS-US) : None

Precautionary statements (GHS-US) : None

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

No hazardous ingredients at concentration levels for which they would need to be taken into account.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Remove contaminated clothing/shoes. Cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention. Wash contaminated clothing/shoes before reuse.

First-aid measures after eye contact : IF IN EYES: If this product comes in contact with eyes, gently flush with water for at least 15 minutes. If irritation persists, seek immediate medical attention.

First-aid measures after ingestion : IF SWALLOWED: Do NOT induce vomiting. Call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : Inhalation in high concentrations may cause irritation of the mucous membranes.

Symptoms/injuries after skin contact : Contact may cause mild skin irritation.

Symptoms/injuries after eye contact : Contact may cause irritation.

Symptoms/injuries after ingestion : Gastric discomfort.

Chronic symptoms : No data available.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical. Carbon dioxide. Foam.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : None.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Mop up as much as possible, then flush residue with a large volume of water.

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe mists.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from: Heat sources. Keep container closed when not in use. Do not allow to freeze, as container may burst.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No exposure limits noted

8.2. Exposure controls

Appropriate engineering controls	:	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	:	Gloves. Protective clothing. Protective goggles.

Hand protection	:	Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.
Eye protection	:	Eye protection should be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Use good industrial practice to avoid eye contact.
Skin and body protection	:	Wear suitable protective clothing if desired.
Respiratory protection	:	No protection required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Opaque
Color	:	White (Dries clear)
Odor	:	Slight acrylic odor
Odor Threshold	:	No data available
pH	:	7-8
Relative evaporation rate (butyl acetate=1)	:	Slower than ether
Melting point	:	No data available
Freezing point	:	0 °C (32 °F)
Boiling point	:	>100 °C (212 °F)
Flash point	:	None to boiling
Self ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Heat, freezing.

10.5. Incompatible materials

May cause coagulation: Acids, Multivalent metal salts.

10.6. Hazardous decomposition products

Thermal decomposition generates : Oxides of carbon and nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: Inhalation in high concentrations may cause irritation of the mucous membranes.
Symptoms/injuries after skin contact	: Contact may cause irritation.
Symptoms/injuries after eye contact	: Contact may cause irritation.
Symptoms/injuries after ingestion	: May be irritating to the mucous membranes.
Chronic symptoms	: No data available.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : Latex Emulsion

Department of Transportation (DOT) Hazard Classes : Not Regulated

Transport by sea

No additional information available

Air transport

No additional information available

In accordance with ADR / RID / IMDG / IATA / ADN

SECTION 15: Regulatory information

15.1. US Federal regulations

Chemsafe Solvex 500 Clear High Viscosity	
All chemical substances in this product are listed in the EPA (Environmental Protection Agency) TSCA (Toxic Substances Control Act) Inventory	
SARA Section 311/312 Hazard Classes	No SARA Hazards

15.2. International regulations

CANADA

No additional information available

15.2.2. National regulations

No additional information available

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

SECTION 16: Other information

Indication of changes : Revision 1.0 – 22 October 2020 - New SDS Created.

Other information : Author. KAD

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health : 1

Flammability : 0

Physical : 0

Personal Protection :

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this product or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

H.B. Fuller CONSTRUCTION PRODUCTS

CHILDERS CP-240
801871PM

Print Date: 01-09-2017

SAFETY DATA SHEET

REVISION DATE: 04-12-2016 SUPERSEDES: 05-13-2015

SECTION 1: IDENTIFICATION OF THE PRODUCT AND SUPPLIER

PRODUCT INFORMATION

PRODUCT:	CHILDERS CP-240
PRODUCT DESCRIPTION:	Sealant
INTENDED USE:	Sealant
PRODUCT IDENTIFIER:	801871PM

COMPANY INFORMATION

H.B. Fuller Construction Products Inc.
1105 S. Frontenac Street
Aurora, IL 60504
Phone: 1-800-552-6225

Medical Emergency Phone Number (24 Hours): 1-888-853-1758
Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification:	Hazardous to the aquatic environment - Acute Category 3; Hazardous to the aquatic environment - Chronic Category 3
GHS Hazard Phrases:	Harmful to aquatic life with long lasting effects.
GHS Precautions:	
Safety Precautions:	Avoid release to the environment.
First Aid Measures:	IF SWALLOWED: Do not induce vomiting. Seek medical attention if symptoms develop. IF IN EYES: Use an eye wash to remove chemical from the eye. IF ON SKIN: Wash with soap and water. IF INHALED: Remove individual to fresh air after an airborne exposure if any symptoms develop.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	PERCENT	Classification	Note
Chlorinated paraffin	63449-39-8	1 - 5	Aquatic Acute 1; H400	
Chlorinated paraffin	63449-39-8	1 - 5	Aquatic Acute 1; H400 STOT SE 3; H335	
Chlorinated paraffin, C14-C17	61788-76-9	1 - 5	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	

Unlisted ingredients are not 'hazardous' per the Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200) and/or are not found on the Canadian Workplace Hazardous Materials Information System ingredient disclosure list. See Section 8 for exposure limit guidelines.

SECTION 4: FIRST AID MEASURES

IF IN EYES: None expected to be needed, however, use an eye wash to remove a chemical from your eye regardless of the level of hazard.

IF ON SKIN: Wash with soap and water.

IF INHALED: Remove individual to fresh air after an airborne exposure if any symptoms develop, as a precautionary measure.

IF SWALLOWED: Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis that may be fatal.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:	Use water spray, foam, dry chemical or carbon dioxide.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	There is a possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers.
SPECIAL FIRE FIGHTING INSTRUCTIONS:	Persons exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide, Carbon monoxide Chlorine containing gases

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPECIAL PROTECTION:	No adverse health effects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this SDS.
METHODS FOR CLEAN-UP:	Dike if necessary, contain spill with inert absorbent and transfer to containers for disposal. Keep spilled product out of sewers, watersheds, or water systems.

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION 7: HANDLING AND STORAGE

Handling: No special handling instructions due to toxicity.

Storage: Store in a cool, dry place.Protect from freezing.
Consult the Technical Data Sheet for specific storage instructions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:

Chemical Name	Note	ACGIH EXPOSURE LIMITS	OSHA PEL
No data available.			

ENGINEERING CONTROL METHODS:

VENTILATION:	General room ventilation might be required under normal conditions of use.
EYE PROTECTION:	Wear safety glasses when handling this product.
SKIN PROTECTION:	Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

GLOVES:	Not normally required. Use nitrile gloves if conditions warrant.
RESPIRATORY PROTECTION:	No respiratory protection required under normal conditions of use. Respirators should be selected by and used following requirements found in OSHA's respirator standard (29 CFR 1910.134).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Colorless
ODOR:	Sweet
ODOR THRESHOLD:	Not established
pH:	Not established
FREEZING/MELTING POINT (deg. C):	Not established
BOILING POINT (deg. C):	Not established
FLASH POINT:	Non flammable
EVAPORATION RATE:	Not established
FLAMMABILITY:	Not a flammable solid or gas
UPPER EXPLOSIVE LIMIT (% in air):	Not established
LOWER EXPLOSIVE LIMIT (% in air):	Not established
VAPOR PRESSURE (mm Hg):	Not established
VAPOR DENSITY:	Not established
WEIGHT PER GALLON (lbs.):	8.40
SPECIFIC GRAVITY:	1.000
SOLUBILITY:	Not established
OCTANOL/WATER COEFFICIENT:	Not established
AUTOIGNITION TEMPERATURE:	Not established
DECOMPOSITION TEMPERATURE:	Not established
VISCOSITY:	No data available.
SOLIDS (% by weight):	10.0
VOC, weight percent	0.00
VOC, U.S. EPA Method 24, less water and exempt solvents (theoretically determined)	0g/liter of material

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	Stable under normal conditions.
CHEMICAL INCOMPATIBILITY:	Not established
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS:	Chlorine containing gases Carbon monoxide, carbon dioxide

SECTION 11: TOXICOLOGICAL INFORMATION

Component Toxicity / Toxicology Data:

COMPONENT NAME	LD50/LC50
No data available.	

This product is a mixture. Unless noted, the information below is based on components.

Skin corrosion / irritation: No irritation hazard in normal industrial use.

Serious eye damage / irritation :No irritation hazard in normal industrial use.

Respiratory / skin sensitization: No data available.
Germ cell mutagenicity: No data available.
Carcinogenicity: Contains a material that is suspected of causing cancer.
Reproductive toxicity: No data available.
Specific target organ toxicity-single exposure: No data available.
Respiratory irritation / Narcotic effects: May cause respiratory irritation.
Specific target organ toxicity-repeated exposure: No data available.
Target organs potentially affected by exposure: Kidneys Liver
Aspiration hazard: Not an aspiration hazard.

Medical Conditions Aggravated by Exposure: Liver disease, Kidney disease

SECTION 12: ECOLOGICAL INFORMATION

OVERVIEW:	No ecological information available for this product.
MOBILITY:	No data available.
PERSISTENCE:	No data available.
BIOACCUMULATION:	No data available.

This product has not been tested for ecological effects. Relevant information for components is listed below:

Component:	Ecotoxicity values:
Chlorinated paraffin	**Acute Toxicity (Fish):** 96 Hr LC50 Oncorhynchus mykiss: >0.0109 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 94.5 - 271 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >0.1 mg/L [flow-through] **Acute Toxicity (Daphnia):** Not established **Acute Toxicity (Algae):** Not established
Chlorinated paraffin	**Acute Toxicity (Fish):** 96 Hr LC50 Oncorhynchus mykiss: >0.0109 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 94.5 - 271 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >0.1 mg/L [flow-through] **Acute Toxicity (Daphnia):** Not established **Acute Toxicity (Algae):** Not established

SECTION 13: DISPOSAL CONSIDERATIONS

To the best of our knowledge, this product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Solidify and dispose of in an approved landfill. Consult state, local or provincial authorities for more restrictive requirements.

SECTION 14: TRANSPORT INFORMATION

Consult Bill of Lading for transportation information.

US DOT:	NOT REGULATED
IATA:	NOT REGULATED
IMDG:	NOT REGULATED

SECTION 15: REGULATORY INFORMATION

INVENTORY STATUS

U.S. EPA TSCA:	This product is in compliance with the Toxic Substances Control Act's Inventory requirements.
CANADIAN CEPA DSL:	The components of this product are included on the DSL or are exempt from DSL requirements.

EUROPEAN REACH:	As a result of the introduction of REACH into Europe, this product cannot be imported into Europe unless the REACH requirements are met.
AUSTRALIA AICS:	This product is in compliance with the Australian Inventory of Chemical Substances requirements.
JAPAN ENCS:	This product is in compliance with the Japanese Existing and New Chemical Substances requirements.
KOREAN TCCL:	This product is in compliance with the Korean Existing Chemicals List requirements.
PHILIPPINES:	This product is in compliance with the Philippine Inventory of Chemicals and Chemical Substances requirements.
CHINA IECSC INVENTORY:	This product is in compliance with the Inventory of Existing Chemical Substances in China (IECSC) requirements.

If you need more information about the inventory status of this product call 651-236-5858.

This product may contain chemical substances that are regulated for export by various government agencies (such as the Environmental Protection Agency, the Bureau of Industry and Security, or the Drug Enforcement Administration, among others). Before exporting this product from the USA or Canada, we recommend you contact us at reg.request@hbfuller.com to request an export review.

FEDERAL REPORTING
EPA SARA Title III Section 313
Unless listed below, this product does not contain toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372. EPA has advised that when a percentage range is listed the midpoint may be used to fulfill reporting obligations.

Chemical Name	CAS#	%

STATE REPORTING
Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986:
Unless listed below, this product does not contain known levels of any chemical known to the State of California to cause cancer or reproductive harm.

Chemical Name/List		CAS	Percent
Acetaldehyde	(Carcinogen)	75-07-0	0.001 - 0.01
Formaldehyde	(Carcinogen)	50-00-0	0.001 - 0.01
ISOBUTYL METHYL KETONE	(Carcinogen)	108-10-1	< 10 ppm
Methanol	(Developmental toxin)	67-56-1	< 10 ppm
Methyl isobutyl ketone	(Developmental toxin)	108-10-1	< 10 ppm

Substances of Very High Concern (SVHC) Content:
Unless listed below, this product does not contain SVHC's at 0.1% or greater, as of the version date of this SDS.

SECTION 16: OTHER INFORMATION

SDS VERSION DATE: 04-12-2016

This Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

HMIS RATING: HEALTH -- 0 FLAMMABILITY -- 0 REACTIVITY -- 0
See SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for personal protective equipment recommendations.

Prepared by: The Global Regulatory Department
Phone: 651-236-5842

The information and recommendations set forth herein are believed to be accurate. Because some of the information is derived from information provided to H.B. Fuller Construction Products, Inc. from its suppliers, and because H.B. Fuller Construction Products, Inc. has no control over the conditions of handling and use, H.B. Fuller Construction Products, Inc. makes no warranty, expressed or implied, regarding the accuracy of the data or the results to be obtained from the use thereof. The information is supplied solely for your information and consideration, and H.B. Fuller Construction Products, Inc. assumes no responsibility for use or reliance thereon. It is the responsibility of the user of H.B. Fuller Construction Products, Inc. products to comply with all applicable federal, state and local laws and regulations.

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** New **Revision Number** 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Green Works® Glass & Surface Cleaner - 95% Naturally-Derived**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Multi-surface spray cleaner

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company of Canada Ltd.
150 Biscayne Crescent
Brampton, Ontario L6W 4V3

Phone: 1-905-595-8200

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This product is not considered hazardous under GHS.

GHS Label elements, including precautionary statements

Emergency Overview

This product is not considered under GHS.

Appearance Clear, blue **Physical State** Thin liquid **Odour** Fresh Lemon

Precautionary Statements - Prevention
None

Precautionary Statements - Response
None

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
0.2% of the mixture consists of ingredient(s) of unknown toxicity

Other information
May cause slight eye irritation.

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Ethanol	64-17-5	1 - 5	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice	Show this safety data sheet to the doctor in attendance.
Eye Contact	Hold eye open and rinse slowly and gently with water for 15–20 minutes. If present, remove contact lenses after the first 5 minutes of rinsing, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact	Rinse skin with plenty of water. If irritation persists, call a doctor.
Inhalation	Move to fresh air. If breathing problems develop, call a doctor.
Ingestion	Drink a glassful of water. Call a doctor or poison control center.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	May cause slight eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Hazardous Combustion Products
Oxides of carbon.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed.

Incompatible Products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m^3	IDLH: 3300 ppm 10% LEL TWA: 1000 ppm TWA: 1900 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers, eyewash stations, and ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.

Skin and Body Protection No special protective equipment required.

Respiratory Protection No protective equipment is needed under normal use conditions. If irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Thin liquid		
Appearance	Clear	**Odour**	Fresh lemon
Colour	Blue	**Odour Threshold**	No information available

Property	Values	Remarks/ Method
pH	10 - 11	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	>93°C (closed cup)	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Specific Gravity	~1.0	None known
Water Solubility	Complete	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point No data available

VOC Content (%) No data available
Particle Size No data available
Particle Size Distribution No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None known.

Conditions to avoid
None known.

Incompatible materials
None known.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Exposure to vapour or mist may irritate respiratory tract.

Eye Contact May cause slight irritation.

Skin Contact May cause slight irritation.

Ingestion Ingestion of liquid may cause slight irritation to mucous membranes and gastrointestinal tract.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanol 64-17-5	-	-	125 mg/L (Rat, 4 h)

Information on toxicological effects

Symptoms May cause slight redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol 64-17-5	A3	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity Contains a known or suspected carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage. Contains a known or suspected reproductive toxin. Ethanol has been shown to be a reproductive toxin only when consumed as an alcoholic beverage. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects. Repeated abuse can have long-term health effects.

Target Organ Effects Eyes, blood, central nervous system (CNS), liver, reproductive system, respiratory system.

Aspiration Hazard Not an aspiration hazard.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (inhalation-dust/mist)
4.6 g/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethanol 64-17-5		LC50: 12.0 - 16.0 mL/L (96 h static) Oncorhynchus mykiss LC50: 13400 - 15100 mg/L (96 h flow-through) Pimephales promelas LC50: > 100 mg/L (96 h static) Pimephales promelas	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	LC50: 9268 - 14221 mg/L (48 h) Daphnia magna EC50: 10800 mg/L (24 h) Daphnia magna EC50: 2 mg/L (48 h Static) Daphnia magna

Persistence and Degradability
No information available.

Bioaccumulation

Chemical Name	Log Pow
Ethanol 64-17-5	-0.32

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, provincial, and local regulations.

Contaminated Packaging
Do not reuse empty containers. Dispose of in accordance with all applicable federal, provincial, and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated.

TDG Not regulated.

ICAO Not regulated.

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

Chemical Inventories

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Canada Regulations

WHMIS Hazard Class
Not controlled.

16. OTHER INFORMATION

NFPA	**Health Hazard** 0	**Flammability** 1	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazard** 0	**Flammability** 1	**Physical Hazard** 0	**Personal Protection** -

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Preparation/Revision Date January 5, 2015

Revision Note New

Reference 1077060/111857.002

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET
CLR CALCIUM, LIME & RUST REMOVER

1 - PRODUCT AND COMPANY IDENTIFICATION

SDS ID: 521012

Product Name **CLR Calcium, Lime & Rust Remover**

Product Use Aqueous Acidic Cleaner for Removal of Calcium, Lime, and Rust from Hard Surfaces Retail Package: [28 fl. oz., 42 fl. oz., and 128 fl. oz. (one gallon)}

CAS# Proprietary Mixture

Restrictions on Use Incompatible with strong oxidizing agents, metals (except stainless steel, chrome), acids, bases, and bleach**.**

Manufacturer: **Jelmar, LLC**
Address: 5550 W. Touhy Ave.
Skokie, IL 60077

Emergency Phone Number: 1(800) 323-5497 (USA)
Monday – Friday 8:30 A.M. – 4:30 P.M. CST
Emergency 24 hour Contact: Chemtrec 1(800) 424-9300

2 – HAZARDS IDENTIFICATION

Emergency Overview: WARNING: EYE IRRITATANT. GHS Toxicity Category 2A Causes eye irritation and possible SKIN IRRITATANT GHS Category 3 – on sensitive skin.DO NOT get in eyes, on skin or clothing. DO NOT mix with bleach or other household chemicals as harmful fumes may result. DO NOT ingest. DO NOT breathe vapor or mist. Use in well ventilated areas. Keep container closed when not in use.

KEEP OUT OF REACH OF CHILDREN

Potential Short Term Health Effects

Routes of Exposure Eyes, Skin, Inhalation, Ingestion.

Eyes Irritant
Avoid eye contact
Effects may vary depending on length of exposure, solution concentration

Skin Irritant. Prolonged contact may cause dermatitis, and itching.

Inhalation No adverse effects expected under typical use conditions.

Ingestion Oral burns, vomiting, and gastrointestinal disturbance.

Target organs Eyes. Skin.

SECTION 3 - COMPOSITION /INFORMATION ON INGREDIENTS

Component	CAS#	OSHA HAZARD	% by Weight
1. Lactic Acid	79-33-4	YES	12.00-18.00
2. Gluconic Acid	526-95-4	YES	2.50-3.75
3. Lauramine Oxide	1643-20-5	YES	1.50-3.25

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: In case of eye contact, immediately rinse eye thoroughly with plenty of water. Remove contact lenses, and continue rinsing for at least 15 minutes. If irritation persists, get medical attention.
SKIN CONTACT: Can be irritating to skin, prolonged contact can be more severe, no adverse effects during normal usage. In case of skin contact, rinse area for at least 15 minutes. Remove contaminated clothing and shoes, wash thoroughly before reuse. If irritation persists get medical attention.
INHALATION: Not a significant route of exposure. Remove to fresh air. If breathing is difficult, GET MEDICAL ATTENTION IMMEDIATELY.
INGESTION: DO NOT induce vomiting. If fully conscious, drink 16 ounces of water. CALL A PHYSCIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER give an unconscious person anything to ingest.

SECTION 5 – FIRE FIGHTING MEASURES

FLAMMABILTY: Not flammable
FLASH POINT: None; Method: ASTM D-56
EXPLOSIVE LIMITS IN AIR: Not available
EXTINGUISHING MEDIA: Not flammable. Use appropriate media for area. Use water spray, dry chemical, alcohol foam or carbon dioxide.
FIRE FIGHTING METHODS: Evacuate area of personnel. Wear protective NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Run-off of large quantities of product from fire control may cause pollution. Contact appropriate agencies.
HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide. Thermal decomposition can lead to irritating gases and vapors.
FIRE AND EXPLOSION HAZARDS: None known.

SECTION 6 – ACCIDENTAL RELEASES MEASURES

Steps to be taken in Case Material is Released or Spilled: Avoid contact with skin and eyes
Small Spill: No special clean-up procedure is necessary for small (less than 1 gallon) spills. Flush spill area with water. Wear rubber gloves.
Large Spill: Use personal protection recommended in Section 8. Isolate area, and deny entry to unnecessary and unprotected personnel. Dam spill, and absorb with earth, sand or similar material. Place in non-leaking containers. Dispose of collected material according to local, state, and federal regulations. Flush residue with large amount of water. Avoid direct discharge to sewers and surface waters.

SECTION 7- HANDLING AND STORAGE

STORAGE: Store in cool, well-ventilated area, away from heat. Keep containers tightly closed. Avoid contact with combustible materials, wood, and organic materials. Store in original container in a secure area away from children and pets.
HANDLING: Avoid contact with eyes, skin or clothing. May be harmful or if swallowed. Use with adequate ventilation. Avoid breathing vapors or mist. Do not eat, drink, or smoke in work area. Wash hand thoroughly after use. Consumer size containers (28, and 42 fluid ounces and gallon containers), should be rinsed and recycled. DO NOT PRESSURIZE, CUT OR EXPOSE THESE CONTAINERS TO HEAT, FLAME,

SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY.

DO NOT MIX WITH BLEACH, OR ANY OTHER PRODUCTS AS TOXIC FUMES MAY RESULT. KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION REQUIREMENT: Avoid prolonged breathing mists or dusts of this product. Use with adequate ventilation. Do not use in closed or confined spaces.

RESPIRATORY PROTECTION: None required during normal household use.

EYE PROTECTION: Not required during normal household usage. Do not wear contact lenses. Emergency responders should wear full eye and face protection.

SKIN PROTECTION: Rubber gloves with protective cuff. Emergency responders should wear impermeable gloves.

OTHER PROTECTION: Emergency responders should wear chemical type (impermeable) protective clothing and footwear where direct contact with chemicals in this product is possible.

WORK/HYGIENIC PRACTICES: Wash thoroughly with soap and water after use or handling.

EXPOSURE GUIDELINES:	OSHA		ACGIH	
COMPONENT	**PEL**	**STEL/C**	**TWA**	**STEL/C**
1. Lactic Acid	N.E	N.E.	N.E.	N.E.
2. Gluconic Acid	N.E.	N.E.	N.E.	N.E.
3. Lauramine Oxide	N.E.	N.E.	N.E.	N.E.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling point:	99ºC / 210º F	**Specific Gravity @20ºC:**	1.04 – 1.06
Vapor Pressure:	N.D.	**Percent Volatiles:**	~77.2% (Calculated)
Freezing Point:	N.D.	**Evaporation Rate:**	N.D. (nBuAc=1)
Melting Point:	N.D.	**Total VOC (wt. %):**	0% - does not include any
Vapor Density (mm Hg):	N.D.	**(Volatile Organic Compounds/ California Air Resource Board)**	CARB applicable exemptions
pH: @20ºC	2.10-2.30		
Solubility in Water:	100%		

SECTION 10 – STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid elevated temperatures.

INCOMPATIBLE MATERIALS: Strong oxidizing agents, metals (except stainless steel and chrome), acids, and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition can lead to release of irritating gases, vapors and carbon oxides.

POSSIBILITY OF HAZARDOUS REACTIONS: No data.

SECTION 11 – TOXICOLOGICAL INFORMATION

LD_{50} ACUTE EYE IRRITATION: OPPTS 8740.2400 Toxicity - Irritant; GHS Toxicity Category 2A - Irritant

LD_{50} ACUTE DERMAL IRRATION - RABBITS: OPPTS 870.2500 Toxicity Category IV – Mild or Slight Skin Irritation; GHS Category 3 – Mild Skin Irritation.

LD_{50}ACUTE ORAL TOXICITY – RATS: OPPTS 870.1100 Toxicity Category IV >5,000 mg/kg; GHS Category 5 >5,000 mg/kg - Not Toxic

LD_{50}ACUTE DERMAL TOXICITY - RABBITTS: OPPTS 870-1200 Toxicity Category IV >5 g/kg; GHS Category 5 >5,000 mg/kg – Not Toxic
LD_{50} ACUTE INHALATION TOXICITY – RATS: OPPTS 870.1300 Toxicity Category IV - Not toxic by inhalation; GHS Category 5 - Not toxic by inhalation

SECTION 12- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

LACTIC ACID:

Persistence / degradability

Readily biodegradable, according to appropriate OECD test.
Biochemical oxygen demand (BOD)5 = 0.45 mg O2 /mg
Biochemical oxygen demand (BOD)20= 0.60 mg O2/mg
Chemical oxygen demand (COD) =0.90 mg O2 /mg

Bioaccumulation

None.

Ecotoxicity

EC50/48h/Daphnia = 240mg/l LC50/48h/Fish = 320 mg/l
EC50/Algae = 3500 mg/l(neutral) No data available.

GLUCONIC ACID:

Fish 96-h LC50 > 1000.0 mg/L
Daphnid 48-h LC50 > 1000.0 mg/L
Green algal 96-h EC50 > 1000.0 mg/L
Fish Chronic Value (ChV) > 100.0 mg/L
Daphnid ChV > 100.0 mg/L
Algal ChV > 100.0 mg/L
Biological Fate: No bioconcentration in aquatic organisms and rapid biodegradation/disappearance in the environment, i.e. 40% in 5 days.

LAURAMINE OXIDE: Acute Aquatic Toxicity

Reviewed Category ≤1 mg/L
Algae IC_{50} 0.01 mg/L
Invertebrate EC_{50} 1.01 mg/L
Fish LC_{50} 2.6 mg/L
Biodegradation: % degraded in 28 days ≥60% ThOD/ThCO2 (≥70% DOC)

DOWANOL DPNB:

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 3.78E-07 atm*m3/mole; 25 °C Estimated.
Partition coefficient, n-octanol/water (log Pow): 1.13 Estimated.
Partition coefficient, soil organic carbon/water (Koc): 10 - 21 Estimated.
Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
Indirect Photodegradation with OH Radicals
Rate Constant Atmospheric Half-life Method
4.97E-11 cm3/s 2.6 h Estimated.
OECD Biodegradation Tests:
Biodegradation Exposure Time Method
91 % 28 d OECD 301E Test
96 % 28 d OECD 302B Test
Theoretical Oxygen Demand: 2.35 mg/mg

ECOTOXICITY
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Fish Acute & Prolonged Toxicity
LC50, guppy (Poecilia reticulata), static, 96 h: 841 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna, static, 48 h, immobilization: > 1,000 mg/l

CLR CHEMICAL FATE INFORMATION: 28-day biodegradation. The matter is readily biodegradable. OECD 301D

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Rinse empty bottles and recycle. Dispose of unused product in a permitted hazardous waste management facility following all local, state, and federal regulations.

DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.
Follow label warnings, since containers may retain some reside of the product.
Processing, use or contamination of this product may change the waste management options. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. State and local disposal regulations may differ from federal disposal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

DOT (Department of Transportation Proper Shipping Name): Not regulated by DOT.
Identification Number: N.A.
Packaging Group: N.A.

MATERIAL SAFETY DATA SHEET
CLR CALCIUM, LIME & RUST REMOVER

UN Number: N.A.
TDG Classification: Not Regulated
IMDG Classification: Not Regulated
IATA Classification: Passenger – Not Regulated
WHIMS (Canada): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by CPR.

SECTION 15 – REGULATORY INFORMATION

FEDERAL REGULATIONS:
TSCA INVENTORY STATUS: All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA TITTLE III SECTION 311/312 CATEGORY:

IMMEDIATE (ACUTE) HEALTH HAZARARD:	YES
DELAYED (CHRONIC) HEALTH HAZARD:	NO
FIRE HAZARD:	NO
SUDDEN RELEASE OF PRESSURE:	NO
REACTIVE HAZARD:	NO

SARA SECTIONS 302/304/313/HAP: NO

INTERNATIONAL CHEMICAL INVENTORY STATUS:

EUROPEAN UNION (EINECS)	YES
JAPAN (METI)	YES
AUSTRALIA (ACIS)	YES
KOREA (KECL)	YES
CANADA (DSL)	YES
CANADA (NDSL)	NO
PHILIPPINES	YES

STATES RIGHT TO KNOW: California, New Jersey, Pennsylvania, Minnesota, Massachusetts, and Wisconsin. Complies with listed States Right to Know Act.

The following statement is made in order to comply with the California State Drinking Water Act. California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer and/or to cause birth defects and other reproductive harm.

SECTION 16 – OTHER INFORMATION

Precautions to be taken in Handling and Storing: Avoid exposure to excess heat, and prevent from freezing.
Other Precautions: None required.

MSDS ABBREVIATIONS:

N. A.:	Not Applicable
HAP:	Hazardous Air Pollutant
VOC:	Volatile Organic Compound
N. D.:	Not Determined
N.E.:	Not Established

MATERIAL SAFETY DATA SHEET
CLR CALCIUM, LIME & RUST REMOVER

C:	Ceiling Limit
HAP:	Hazardous Air Pollutant
VOC:	Volatile Organic Compound

Revision: New Formula, GHS Format **October 2012** **R. A. Gaudreault**

Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, JELMAR offers no representations as to the completeness or accuracy thereof. Information is provided upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will JELMAR be responsible for damages of any nature whatsoever resulting from use of or reliance upon said information.

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SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	COMET Powder Cleanser
MANUFACTURER:	Prestige Brands Inc. 90 North Broadway Irvington, NY 10533
EMERGENCY PHONE:	800-926-9441
CHEMICAL NAME:	Mixture
PRODUCT USE:	Household, Industrial and commercial powder cleanser

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:	A free flowing green powder with fragrance. May irritate the skin and eyes. Dusts may irritate respiratory tract.

POTENTIAL HEALTH EFFECTS

EYES:	May irritate the eyes.
SKIN:	May irritate the skin.
INGESTIONS:	May cause irritation and stomach distress.
INHALTION:	May cause irritation to the respiratory tract.
CHRONIC HAZARDS:	Crystalline silica impurity when inhaled above safe exposure limits can cause respiratory system injury and potentially cancer.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	Dermatitis

CARCINOGENICITY

Ingredient Name	OSHA	ACGIH	NTP	IARC
Crystalline Silica	---	Suspect human carcinogen	Known carcinogen	Human carcinogen

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NO.	%WT
Limestone	1317-65-3	80 – 90
Crystalline Silica, quartz (impurity)	14808-60-7	0.1 – 2
Sodium Carbonate	497-19-8	5 – 15
SodiumDodecylbenzene Sulfonate	25155-30-0	0.1 – 2
Dichloroisocyanuric Acid	87-90-1	0.1 – 2
Sodium Acetate	127-09-3	0.1 - 2
Calcium Hydroxide	1305-62-0	0.1 - 2
Sodium Alkyl Sulfate	151-21-3	0.1 - 2

SECTION 4: FIRST AID MEASURES

EYES:	Wash with plenty of water for at least 15 minutes. If wearing contact lenses, remove first. If irritation persists, get medical attention.
SKIN:	Wash with plenty of water. If irritation persists, get medical attention.
INGESTION:	If conscious, drink several glasses of water. Do not induce vomiting. Consult a physiciam or poison control center.
INHALTION:	Remove victim to fresh air. Get medical attention if excessive inhalation occurs .

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT:	Not flammable
FLASH POINT METHOD:	Not applicable
AUTOIGNITION TEMPERATURE:	Not flammable
EXTINGUISHING MEDIA:	Use any standard agent appropriate for the surrounding fire.
SPECIAL FIRE FIGHTING PROCEDURES:	Wear sefl contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None
HAZARDOUS DECOMPOSITION PRODUCTS:	Traces of sulfer oxides, carbon monoxide and carbon dioxide are potential thermal decomposition materials.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Sweep and place into container for reuse or disposal.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Avoid Contact with eyes. Avoid breathing dust. Store in cool, dry ventilated area.
OTHER PRECAUTIONS:	None indicated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:	Use local exhaust if dusty or misty conditions prevails.
VENTILATION :	Use local exhaust
RESPIRATORY PROTECTION:	A NIOSH approved dust or mistrespirator should be worn in areas where product dusts or mists are present.
EYE PROTECTION:	Wear safety glasses or googles, if needed for dusty conditions.
SKIN PROTECTION:	For sensitive skin or prolonged use, wear work gloves.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:	A source of running water in the work area is advisable for first aid purposes.

EXPOSURE GUIDELINES:

Ingredient Name	OSHA	ACGIH
Limestone	15 mg/m^3 Total Dust (TWA) 5 mg/m^3 Respirable Dust (TWA)	None established
Crystalline Silica, quartz (impurity)	(10 mg/m^3)/(%Si02 + 2) Respirable dust (TWA) 30 mg/m^3)/(%Si02 + 2) Total dust (TWA)	0.05 mg/m3 Respirable dust (TWA)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Green Powder
ODOR:	Odor
PHYSICAL STATE:	Powder
pH (10% aq.):	9..50 – 12.00
BOILING POINT	Not determined
MELTING POINT:	Not determined
FREEZING POINT:	Not determined
VAPOR PRESSURE (mmHg):	Negligible
VAPOR DENSITY (AIR = 1):	Not determined
SPECIFIC GRAVITY (H2O = 1)	1.30
EVAPORATION RATE:	Not determined
VOLATILE ORGANIC COMPOUNDS	0.0 – 0.5%

(VOC):	
VISCOSITY:	Not applicable (solid)
SOLUBILITY IN WATER:	Partially soluble
PERCENT SOLIDS BY WEIGHT:	99.00 – 99.50%
PERCENT VOLATILE:	Less than 0.5%

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	Stable under anticipated storage and use conditions.
CONDITIONS TO AVOID (STABILITY):	Do not mix with ammonia or other house chemicals as this releases toxic gases.
INCOMPATIBILITY (MATERIAL TO AVOID):	None anticipated
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None anticipated
HAZARDOUS POLYMERIZATION:	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute	Product has not been tested as a mixture. Oral toxicity is estimated to be low.
Chronic	Crystalline silica impurity can cause decreased pulmonary function and/or lung cancer when inhaled above established safe limits over a prolonged perioid of time.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:	Data not available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:	Conform to state, federal and local regulations.
RCRA HAZARD CLASS:	Not a RCRA Hazardous waste if discarded.

The information listed in section 13 is for the product as shipped.

SECTION 14: TRANSPORT INFORMATION

U.S. DOT HAZARD CLASS:	Not regulated in surface transporation
PROPER SHIPPING NAME:	COMET Powder Cleanser (non-hazardous goods)

SECTION 15: REGULATORY INFORMATION

TOXIC SUBSTANCE CONTROL ACT (TSCA):	All ingredients are listed on the TSCA inventory.
SARA TITLE III (CERCLA):	No RQs or TPQs
311/312 HAZARD CATEGORIES:	Immediate, Delayed

Ingedient Name	RQ	TPQ	SARA 313 Reportable Ingredient
Sodium dodecylbenzene sulfonate	1000	None	No

CALIFONRIA PROPOSITION 65:	This product contains impurity known to the State of California to cause cancer (crystalline silica).
WHMIS CLASSIFICATION (CANADA):	Class D2A, D2B This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS

	contains all the information required by the Controlled Products Regulations.
CANADIAN CHEMICAL INVENTORY	Ingredients listed on Domestic Substances List (DSL) and Non Domestic Substance List (NDSL).

SECTION 16: OTHER INFORMATION

NFPA HAZARD CLASSIFICATION: Health: 1 Flammability: 0 Instability: 0 Other: Not Applicable
HMIS HAZARD CLASSIFICATION: Health: 1* Flammability: 0 Physical Hazard: 0

CURRENT ISSUE DATE:	02/02/2010
PREVISOUS ISSUE DATE:	01/11/2010
CHANGES FROM PREVIOUS ISSUE:	Reformated to ANSI Z129.1-2004 format and updated text throughtout SDS

DISCLAIMER: The information contained on this Safety Data Sheet is believed to be reliable and acuurate, but is provided without warranty regarding its accuracy. Users must determine safe conditions for use and assume liability for any loss, injury, demage or expense resulting from use of this product.

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier:
Product Name Concrobium Mold Control

Other Identification Means:
Synonyms None

Use of Substance/Preparation and Restrictions:

Recommended Use: Biocidal Products (e.g. disinfectants, pest control)
Uses Advised Against: No information available

SDS Supplier Details:
Company Name: Siamons International Inc.
Company Identification: 48 Galaxy Blvd., Unit 413
Toronto, Ontario Canada
M9W 6C8
Company Emergency Telephone Number Emergency Phone: 866 811 4148

2. HAZARDS IDENTIFICATION

Classification:
This product is not considered hazardous under the 2012 OSHA Hazard Communication Standard (29 CER 1910.1200) and WHMIS 2015.

GHS Label Elements, including precautionary statement:

Emergency Overview:

The product contains no substances which at given concentration, are considered to be hazardous to health.

Appearance: Clear/Colourless **Physical State: Liquid** **Odour: Odourless**

Signal Word (GHS-US):
None

Hazard Pictograms (GHS-US):
None

Hazard Statements (GHS-US):
Causes mild skin irritation
May cause slight eye irritation.

Precautionary Statements (GHS-US) - Prevention:
None

Precautionary Statements (GHS-US) - Response:
None

Precautionary Statements (GHS-US) - Storage:
None

Precautionary Statements (GHS-US) - Disposal:
None

Hazards not otherwise classified (HNOC):
None

Interactions with Other Chemicals:
None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS #	% by Wt	Trade Secret
Trisodium phosphate	7601-54-9	1-5	*
Sodium Carbonate	497-19-8	< 1	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First Aid Measures:

Eye Contact: Remove contacts. Flush with water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin Contact: Thoroughly wash exposed skin with soap and water. Remove any contaminated clothing and wash before reuse.

Inhalation: Remove to fresh air. If symptoms persist consult physician.

Ingestion: Wash out mouth with water. Drink plenty of water. Do not induce vomiting unless directed by medical personal. Never give anything to an unconscious person. Get medical aid.

Notes to Physician: Treatment based on judgment of attending physician.

Most Important symptoms and effects, both acute and delayed: No information available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Flood with water for extinguishing agent. CO2, dry chemical, alcohol resistant foam
Unsuitable Extinguishing Media	No information available.
Specific Exposure Hazards	Thermal decomposition releases irritating gases.
Hazardous Combustion Products	Carbon Oxides.

Explosion Data:

Sensitivity to Mechanical Impact:	None.
Sensitivity to Static Discharge:	None.
Special safety equipment:	Self-contained positive pressure breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe mist.

Environmental Precautions:

Environmental Precautions: Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up:

Method for Containment:	Contain any spills with dikes to prevent migration and entry into sewers or streams.
Methods for Cleaning Up:	Clear up spills immediately with absorbent and dispose of waste safely.

Procedures for Non-Emergency Personnel:

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

Procedures for Emergency Personnel:

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Reference to Other Sections: See Heading 8. Exposure Controls and Personal Protection.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Handling: Ensure good ventilation/exhaustion at the workplace.

Information about fire and explosion protection: Keep respiratory protective device available.
No special measures required.

Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles: Store in a cool location.
Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
Keep container tightly sealed.

Specific end use(s): No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate Engineering Controls:

Engineering Measures Showers. Eyewash Stations. Ventilation Systems.

Individual Protection Measures:

Eye protection: Safety goggles.
Skin protection: Use body-covering impervious clothing.
Hand protection: Chemical resistant gloves.

Respiratory protection: Use local exhaust or dilution ventilation.
Working hygiene: Take usual precautions when handling. Workers should wash hands before eating, drinking or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Liquid		
Appearance	Clear, Colourless	**Odour**	Typical
Colour	Clear water white.	**Odour Threshold**	No information available.

Property	**Values**	**Remarks/Method**
pH	11.1-11.5	None known
Melting/Freezing Point	No data available	None known
Boiling Point/Range	Est 100 C / 212 F	None known
Flash Point	None	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air:		
Upper Limit	No data available	None known
Lower Limit	No data available	None known
Vapour Pressure	No data available	None known
Vapour density	No data available	None known
Specific Gravity	1.00 g/cm3	
Water Solubility	Soluble in water.	None known
Solubility Other Solvents	NO data available	None known
Partition Coefficient:		
n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition Temperature	No data available	None known
Kinematic Viscosity	No data available	None known
Dynamic Viscosity	No data available	None known
Explosive Properties	No data available	None known
Oxidizing Properties	No date available	None known

Other Properties:

Softening Point	No data available
VOC Content %	0
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under recommended storage conditions
Possibility of Hazardous Reactions:	None under normal processing
Hazardous Polymerization:	Does not occur.
Conditions to avoid:	Incompatible agents
Incompatible materials:	Oxidizing agents, acids.
Hazardous Decomposition Products:	Carbon oxides.
Thermal Decomposition / Conditions to be avoided:	Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Product Information

Inhalation	Specific test data for substance/mixture not available
Eye Contact	Slight irritation
Skin Contact	Specific test data for substance/mixture not available
Ingestion	Specific test data for substance/mixture not available

Component Information:

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Tri sodium Phosphate	3120 mg/kg (rat)	4640 mg/kg (rabbit)	› 2.16 mg/L (Rat) 1 h

Information on Toxicological Effects:

Symptoms	None known

Delayed/Immediate/Chronic Effects from short and long term exposure:

Sensitization	None known
Mutagenic Effects	None known
Carcinogenicity	No ingredients listed as a carcinogen
Reproductive Toxicity	None known
STOT- Single Exposure	None known
STOT Repeated exposure	None known
Chronic Toxicity	None known
Target Organ Effects	None Known
Numerical Measures of Toxicity (based on GHS Chapter 3.1)	Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Not classified
Persistence and Degradability:	No information available
Bioaccumulative Potential:	No information available
Mobility in Soil:	No information available
Other Adverse Effects:	No information available
Other Information:	Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment Methods

Disposal Methods	This material, as supplied, is not a hazardous waste according to Federal regulations

	(40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste. If chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate stare, regional, or local regulations for additional requirements.
Contaminated Packaging:	Dispose of contents/containers in accordance with local regulations.
California Hazardous Waste Codes	232
Ecology – Waste Materials:	Avoid release to the environment.

13. TRANPORT INFORMATION

DOT:	Not Regulated
Proper Shipping Name	Not Regulated
Hazard Class	Not Applicable
TDG	Not Regulated
MEX	Not Regulated
ICAO	Not Regulated
IATA:	Not Regulated
Proper Shipping Name	Not Regulated
Hazard Class	Not Applicable
IMDG/IMO:	
Hazard Class	Not Applicable
RID	Not Regulated
ADR	Not Regulated
ADN	Not Regulated

15. REGULATORY INFORMATION

International Inventories:

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL

TSCA – Untied States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List.

Canadian Regulations:

Canadian WHMIS Classification:	Not WHMIS regulated
Health Canada DIN:	Registered.
Canadian DSL:	Appears.

US Federal Regulations:

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories:

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA–Reportable Qtys.	CWA–Toxic Pollutants	CWA–Priority Pollutants	CWA–Hazardous Substances
Trisodium Phosphate 7601-54-9	5000 lb /2270 kg	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Tri sodium Phosphate 7601-54-9	5000 lb / 2270 kg		RQ 5000 lb final RQ RQ 2270kg final RQ

US State Regulations:

California Proposition 65

This product does not contain any Proposition 65 Chemicals.

US State Right-To-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Tri sodium Phosphate 7601-54-9	X	X	X	X	X

16. OTHER INFORMATION

	Health Hazard	Flammability	Instability	Physical Hazard	Physical and Chemical Hazards – Personal Protections
NFPA	0	0	0	n/a	X
HMIS	0	0	n/a	0	B

HMIS III Rating

Health: 0 Slight Hazard - Minor reversible injury possible

Flammability: 0 Minimal Hazard

Physical: 0 Minimal Hazard

Personal Protection: B

Prepared By: Lizmar
32 Louisa Street
Toronto Ontario
M8V 2k6
416-436-5054

Issuing Date: August 26, 2014
Revision Date: September 11, 2015
Revision Note: Format changes only.

Disclaimer:
The manufacturer warrants that this product conforms to its standard specification when used according to direction. To the best of our knowledge the information contained herein is accurate. However we do not assume accuracy or completeness of the information contained herein.

Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

End of Safety Data Sheet

DRUMMOND™
A LAWSON BRAND

Material Safety Data Sheet

Revision Date *02-May-2014*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DA6631
Product name Core
Recommended Use Lubricant

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Flammable. Irritating to respiratory system. Irritating to eyes. Vapors may cause flash fire or explosion.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Skin contact. Skin absorption. Inhalation. Eyes.

Potential health effects

Eyes Exposure to vapors or mists may cause the following effects:. Irritation. Pain. Tearing. Reddening. Swelling. Stinging sensation. Feeling like that of fine dust in the eye.

Skin Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. Defatting.

Inhalation Harmful by inhalation. Long-term exposure may cause the following effects:. Headaches. Dizziness. Nausea. Decreased blood pressure. Changes in heart rate. Cyanosis. Chronic overexposure can cause: . Central nervous system damage. Lung damage. Kidney damage. Liver damage.

Ingestion Harmful or fatal if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	20-30
Residual oils (petroleum), solvent dewaxed	64742-62-7	20-30
Propane/Isobutane/N-Butane	68476-86-8	10-20
Alkylphenol Ethoxylate	68987-90-6	1-10
N-Hexane	110-54-3	1-10

4. FIRST AID MEASURES

Eye contact Flush eyes with plenty of water. Seek medical attention if irritation persists.

Skin contact Wash area thoroughly with soap and water. Seek medical attention if irritation persists.

Ingestion Seek medical attention immediately. Do Not induce vomiting. Give victim a glass of water or milk. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Inhalation Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C -96
Flash point °F -141
Method Pensky-Martens C.C.

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 9.5
Lower 1.0

Suitable extinguishing media
Alcohol foam. Carbon dioxide (CO2). Dry chemical powder. Foam. Water fog.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special Fire-Fighting Procedures
Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. Avoid breathing of vapors. Avoid skin and eye contact.

Specific hazards
Flash back possible over considerable distance . Keep product and empty container away from heat and sources of ignition.

Fire and Explosion Hazards
Empty containers contain residue and/or vapors. Do not weld, cut, pressurize, braze, solder, drill, grind, or expose such containers to heat, sparks, flame, static electricity, or other sources of ignition. They may explode and cause injury or death. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches.

Sensitivity to shock
No information available.

Sensitivity to static discharge
Yes. Take precautionary measures against static discharges.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid contact with the skin and the eyes. Ensure adequate ventilation. Pay attention to flashback.

Methods for cleaning up
Dam and contain spill using sand or other inert material. Place in suitable container for disposal as hazardous waste.

7. HANDLING AND STORAGE

Handling
Thoroughly wash hands and exposed skin after handling. Keep in a well-ventilated place. Use only according to label directions. Handle empty containers as if they were full. Minimize skin contact. Avoid breathing vapors. Avoid contact with skin, eyes and clothing.

Storage
Keep container away from heat, sparks and flame . Do not freeze.

NFPA Storage Code
Store as Level 3 Aerosol (NFPA 30B)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Petroleum distillates, hydrotreated heavy naphthenic	-	-	-	-
Residual oils (petroleum), solvent dewaxed	-	-	-	-
Propane/Isobutane/N-Butane	-	-	-	N/D
N-Hexane	500 ppm 1800 mg/m^3	-	50 ppm	-
Alkylphenol Ethoxylate	-	-	-	-

Ventilation and Environmental Controls
Provide general exhaust ventilation. Local exhaust ventilation may be necessary to control any air contaminants to within their TLV's during the use of this product.

Hygiene measures
Wash hands before eating or using the washroom. Remove and wash contaminated clothing before re-use. Use only with adequate ventilation. Follow label cautions even after the container is empty since empty containers could retain product residues. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists.

Other precautions
Avoid contact with skin, eyes and clothing.

Respiratory protection
If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a NIOSH approved air purifying organic cartridge respirator. Seek professional advise prior to respirator selection and use. Protection provided by air purifying respirators is limited. Use a positive pressure supplied air respirator. if there is any potential for an uncontrolled release:. where exposure levels are not known. or other circumstances where an air purifying respirator (P100) may not provide adequate protection .

Hand Protection
The following glove(s) must be worn:. Chemical resistant gloves. Consult glove manufacturer to determine the proper type for a specific operation.

Eye protection
Wear safety glasses with side shields. Face shield is recommended.

Skin and body protection
Wear appropriate clothing to prevent skin contact. Wear protective suit. Rubber boots.

Other Protective Equipment
A safety shower and eye wash station should be available for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol
Color	Dark green
Odor	Petroleum
Odor Threshold	No information available
pH	Not Applicable
Specific Gravity	0.8138
Vapor pressure	No data available
Vapor density	>Air
Evaporation Rate	>1 (Butyl Acetate = 1)
Water solubility	Negligible
VOC Content	16.69 %; 1.12 lbs/gal, 134 g/l
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	-41 - 200
Boiling point/range °F	-23 - 159
Melting point/range °C	0
Melting point/range °F	32
Flash point °C	-96
Flash point °F	-141

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to avoid
Contact with ignition sources, hot-glowing surfaces, electrical arcs, sparks, and open flame.

Incompatability
Strong acids. Oxidizers. Alkalies.

Hazardous Decomposition Products
Carbon oxides. Nitrogen oxides (NOx). Hydrocarbons.

Polymerization
None under normal processing.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Petroleum distillates, hydrotreated heavy naphthenic 64742-52-5	28710 mg/kg	-	-
Residual oils (petroleum), solvent dewaxed 64742-62-7	5000 mg/kg	2000 mg/kg	2.18 mg/L
Propane/Isobutane/N-Butane 68476-86-8	-	-	-
N-Hexane 110-54-3	-	3000 mg/kg	48000 ppm
Alkylphenol Ethoxylate 68987-90-6	-	-	-

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2.

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Petroleum distillates, hydrotreated heavy naphthenic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Residual oils (petroleum), solvent dewaxed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Propane/Isobutane/N-Butane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
N-Hexane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Alkylphenol Ethoxylate	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Petroleum distillates, hydrotreated heavy naphthenic

Water Flea Data
Daphnia magna EC50>1000 mg/L (48 h)

Residual oils (petroleum), solvent dewaxed

Water Flea Data
Daphnia magna EC50>1000 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Disposal Information
Emptied container retains product residue. When contents are depleted, depress button until all gas is expelled.

Waste from residues / unused products
Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D.

TDG
Consumer commodity, ORM-D.

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Propane/Isobutane/N-Butane	Listed
N-Hexane	Listed

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Petroleum distillates, hydrotreated heavy naphthenic	Not Listed	Not Listed	Not Listed
Residual oils (petroleum), solvent dewaxed	Not Listed	Not Listed	Not Listed
Propane/Isobutane/N-Butane	Not Listed	Not Listed	Not Listed
N-Hexane	Not Listed	Listed	Not Listed
Alkylphenol Ethoxylate	Not Listed	Not Listed	Not Listed

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Petroleum distillates, hydrotreated heavy naphthenic	X	X	-	X
Residual oils (petroleum), solvent dewaxed	X	X	-	X
Propane/Isobutane/N-Butane	X	X	-	X
N-Hexane	X	X	-	X
Alkylphenol Ethoxylate	-	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 1
Flammability - 4
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Conforms to ANSI Z400.5-2004 Standard (Canada).

Material Safety Data Sheet

CR60

1. Product and company identification

Product name : CR60

Material uses : Concrete and masonry structures waterproofing coating.

Supplier/Manufacturer : CONDOR CHIMIQUES
2645-B, Boul. Terra-Jet
St-Cyrille-de-Wendover, Qc
J1Z 1B3, Canada
Tél : (819) 474-6661
Fax : (819) 474-6681
Courriel : info@condor.pro

Validation date : 2016-01-03

Responsible name : SIMDUT Group.

In case of emergency : (819) 474-6661 ou CANUTEC (613) 996-6666

2. Hazards identification

Physical state : Liquid.

Odor : Solvent.

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Contains material that can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Slightly irritating to the respiratory system.

Ingestion : No known significant effects or critical hazards.

Skin : Irritating to skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : Contains material that can cause target organ damage.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which causes damage to the following organs: kidneys, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

2. Hazards identification

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by overexposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS Number	%
Stoddart solvent	8052-41-3	15 - 40

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section

4. First aid measures

Eye contact : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention.

Skin contact : Wash with soap and water. Get medical attention if symptoms occur.

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : Combustible

Extinguishing media

Suitable : Use dry chemical, CO2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

5. Fire-fighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not re-use container.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Product name	Exposure limits
Stoddart solvent	**ACGIH TLV (United States, 1/2006).** TWA: 525 mg/m³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses.

Skin : Wear appropriate personal protective suit.

Respiratory : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Natural rubber (latex).

Personal protective equipment (Pictograms) :

HMIS Code/Personal protective equipment : B

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 43°C (109.4°F) [Pensky-Martens.]

Flammable limits : Lower: 1% Upper : 6 %

Self-burning temperature : 245ºC (solvent)

Color : Black.

Odor : Solvent.

Relative density : 0.965 g/ml

Vapor pressure (38ºC) : 0.93 kPa (7 mm Hg)

Vapor density : 3.9 [Air = 1]

Volatility : 30 to 35% (v/v)

Evaporation rate : 0.10 à 0.15 (Butyl acetate. = 1)

Boiling point : 90-150ºC

Viscosity : 48000-60000 Cps

VOC : <350 g/L Maximum

Solubility : Insoluble in water.

10. Stability and reactivity

Stability : The product is stable.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure - obtain special instructions before use.

Materials to avoid : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Conditions of reactivity : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Slightly flammable in the presence of the following materials or conditions: heat.

11. Toxicological information

Acute toxicity

Product/ingredient name	Species	Dose	Result	Exposure
Stoddart solvent	Rabbit	>3 g/kg	LD Dermal	-
	Rat	>5 g/kg	LD Oral	-

Inhalation : Slightly irritating to the respiratory system.

Ingestion : No known significant effects or critical hazards.

Skin : Irritating to skin.

Eyes : Irritating to eyes.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	CIRC	EPA	NIOSH	NTP	OSHA
	-	-	-	-	-	-

12. Ecological information

Environmental effects : No known significant effects or critical hazards

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any byproducts should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

AERG : 130

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN 1999	Tars liquid including road asphalt and tar cut backs	3	III		-
IMDG Class	UN 1999	Tars liquid including road asphalt and tar cut backs	3	III		-
IATA-DGR Class	UN 1999	Tars liquid including road asphalt and tar cut backs	3	III		-

15. Regulatory information

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists : **CEPA Toxic substances**: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Stoddart solvent
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

GHS (United Nation, Purple Book)

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) Respiratory tract irritation - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) central nervous system (CNS), kidneys and respiratory tract - Category 2

GHS label elements

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Causes skin irritation.
Causes eye irritation.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure if inhaled. (respiratory tract)
May cause damage to organs through prolonged or repeated exposure if swallowed. (central nervous system (CNS), kidneys)

15. Regulatory information

Precautionary statements

Prevention : Read label before use. Wear protective gloves. Wear eye/face protection. Keep away from ignition sources such as heat/sparks/open flame. - No smoking. Keep container tightly closed. KEEP OUT OF REACH OF CHILDREN. Do not breathe vapor. Wash thoroughly after handling. If medical advice is needed: Have product container or label at hand.

Response : IF ON SKIN (or hair): Take off contaminated clothing and wash before re-use. Rinse skin with water and/or take a shower. Wash with plenty of soap and water. If skin irritation occurs, seek medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. Wash hands after handling. Get medical attention/advice if you feel unwell.

Storage : Store locked up. Store in cool/well-ventilated place.

Disposal ; Dispose of contents and container in accordance with all local, regional, national and international regulations.

Symbole :

Other hazards which do not result in classification : Not available.

International regulations

International lists : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16. Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.) :

Health	*	1
Fire hazard		2
Physical Hazard		0
Protection individuelle		B

HAZARD RATINGS

4- Extreme
3- Serious
2- Moderate
1- Slight
0- Minimal
See section 8 for more detailed information on personal protection

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

Health

Flammability

Instability

Special

16. Other information

References	:	ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.
Date of issue		January 03, 2016.
Version		1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

1. Identification

Product identifier	**Chain and Wire Rope Lubricant**
Other means of identification	
Product code	03050
Recommended use	Lubricant
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Serious eye damage/eye irritation	Category 2B
	Reproductive toxicity (fertility)	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe gas, mist or vapor. Avoid release to the environment.
Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If exposed or concerned: Get medical attention.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Naphtha (petroleum), hydrotreated light		64742-49-0	40 - 50
Liquefied Petroleum Gas		68476-86-8	20 - 30
2-Methylpentane		107-83-5	10 - 20
Acrylic copolymer		Proprietary	5 - 10
n-Hexane		110-54-3	1 - 3
White mineral oil		8042-47-5	< 1
2,2-Dimethylbutane		75-83-2	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off contaminated clothing and wash before reuse. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Exposed individuals may experience eye tearing, redness, and discomfort. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause drowsiness or dizziness. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Water fog. Foam. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. In the event of fire, cool tanks with water spray.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Remove all possible sources of ignition in the surrounding area. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid breathing gas. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Collect spillage. Dike far ahead of spill for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not breathe mist or vapor. Do not breathe gas. Do not taste or swallow. Avoid contact with skin and eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3 500 ppm	
White mineral oil (CAS 8042-47-5)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1000 ppm	
	TWA	500 ppm	
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm	
	TWA	500 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
White mineral oil (CAS 8042-47-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
2,2-Dimethylbutane (CAS 75-83-2)	Ceiling	1800 mg/m3 510 ppm	
	TWA	350 mg/m3 100 ppm	
2-Methylpentane (CAS 107-83-5)	Ceiling	1800 mg/m3 510 ppm	
	TWA	350 mg/m3 100 ppm	
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3 50 ppm	
White mineral oil (CAS 8042-47-5)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC). Viton®.

Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Aerosol.
Color	Green.
Odor	Mild solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	< -76 °F (< -60 °C)
Initial boiling point and boiling range	95 °F (35 °C) estimated
Flash point	< 0 °F (< -17.8 °C) Tag Closed Cup
Evaporation rate	Very fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1 % estimated
Flammability limit - upper (%)	8 % estimated
Vapor pressure	1562.8 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.64 estimated
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	437 °F (225 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	93 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Chlorine.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May be fatal if swallowed and enters airways.
Inhalation	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause damage to organs by inhalation.

Skin contact Prolonged skin contact may cause temporary irritation.

Eye contact Causes eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Exposed individuals may experience eye tearing, redness, and discomfort. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Prolonged or excessive inhalation may cause respiratory tract irritation.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects.

Product	Species	Test Results
Chain and Wire Rope Lubricant		
Acute		
Dermal		
LD50	Rabbit	3436.5364 mg/kg estimated
Inhalation		
LC50	Rat	62747.5625 ppm, 4 hours estimated
		53.1125 mg/l, 4 hours estimated
Oral		
LD50	Rat	8211.2344 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

White mineral oil (CAS 8042-47-5) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Suspected of damaging fertility.

Specific target organ toxicity - single exposure Narcotic effects.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
Chain and Wire Rope Lubricant			
Aquatic			
Crustacea	EC50	Daphnia	2094.2 mg/l, 48 hours estimated
Fish	LC50	Fish	1557.55 mg/l, 96 hours estimated
Components		**Species**	**Test Results**
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)	
2,2-Dimethylbutane	3.82
2-Methylpentane	3.74
n-Hexane	3.9

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products If discarded, this product is considered a RCRA ignitable waste, D001. Empty container can be recycled. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

- **UN number** UN1950
- **UN proper shipping name** Aerosols, flammable, limited quantity
- **Transport hazard class(es)**
  - **Class** 2.1
  - **Subsidiary risk** -
  - **Label(s)** 2.1
- **Packing group** Not applicable.
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
- **Special provisions** N82
- **Packaging exceptions** 306
- **Packaging non bulk** None
- **Packaging bulk** None

IATA

- **UN number** UN1950
- **UN proper shipping name** Aerosols, flammable, limited quantity
- **Transport hazard class(es)**
  - **Class** 2.1
  - **Subsidiary risk** -
- **Packing group** Not applicable.
- **Environmental hazards** No.
- **ERG Code** 10L
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
- **Other information**
  - **Passenger and cargo aircraft** Allowed.
  - **Cargo aircraft only** Allowed.

IMDG

- **UN number** UN1950
- **UN proper shipping name** AEROSOLS, LIMITED QUANTITY
- **Transport hazard class(es)**
  - **Class** 2
  - **Subsidiary risk** -
- **Packing group** Not applicable.
- **Environmental hazards**
  - **Marine pollutant** No.
- **EmS** Not available.
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

n-Hexane (CAS 110-54-3)

CERCLA Hazardous Substance List (40 CFR 302.4)

n-Hexane (CAS 110-54-3)

CERCLA Hazardous Substances: Reportable quantity

n-Hexane (CAS 110-54-3)	5000 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

n-Hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

2,2-Dimethylbutane (CAS 75-83-2)
2-Methylpentane (CAS 107-83-5)
n-Hexane (CAS 110-54-3)

US. Massachusetts RTK - Substance List

2-Methylpentane (CAS 107-83-5)
n-Hexane (CAS 110-54-3)

US. Pennsylvania Worker and Community Right-to-Know Law

2,2-Dimethylbutane (CAS 75-83-2)
2-Methylpentane (CAS 107-83-5)
n-Hexane (CAS 110-54-3)
White mineral oil (CAS 8042-47-5)

US. Rhode Island RTK

n-Hexane (CAS 110-54-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	92.1 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as a Gear, Chain or Wire Lubricant (aerosol). This product is not compliant to be sold for use in California. This product is compliant in all other states.

VOC content (CA) 92.1 %

VOC content (OTC) 92.1 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-26-2013

Revision date 03-30-2015

Prepared by Allison Cho

Version # 02

Further information CRC # 572B-E

HMIS® ratings Health: 2*
Flammability: 4
Physical hazard: 0
Personal protection: B

NFPA ratings Health: 2
Flammability: 4
Instability: 0

NFPA ratings

Disclaimer The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: 9/8/2014

1.) Identification of the Mixture and of the Company

Product identifier**: Crown Dry Graphite Lubricant - Aerosol**

Product name: **8078 Dry Graphite Lubricant**

Relevant identified uses of the substance: Use on bearings, locks, oven parts, pre-assembled moving parts, sliding windows and doors. Use as a parting compound on dies, sand cores, match plates, drawing extrusions, die casting, and pewter moldings. Also use as a coating on conductive material, or sealant. Uses advised against: Poorly ventilated areas.

CAS No:	**Not Applicable (mixture)**
EC No:	**Not Applicable (mixture)**
Index No:	**Not Applicable (mixture)**
Manufacturer/Supplier:	**Aervoe Industries Incorporated**
Street address/P.O. Box:	**1100 Mark Circle**
Country ID/Postcode/Place	**Gardnerville, Nevada 89410**
Telephone number:	**001 (0) 1-775-782-0100**
e-mail:	**mailbox@aervoe.com**
National contact:	**Aervoe industries Incorporated**
For Product Information:	00**1 (0) 1-800-227-0196**
Emergency telephone number:	**001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)**
	English Language Service

2. Hazards identification

Classifications

Physical Hazards:	Aerosol - Category 1
	Flam. Gas 1
	Flam. Liq. 2
	Press. Gas
Health Hazards:	
	Carc. 1B
	Muta. 1B
	Eye Irrit. 2
	STOT SE3
Environmental Hazards:	N/AV

Labeling

Signal Word: Danger

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: 9/8/2014

Hazard Statements:

H220 – Extremely flammable gas.
H222 – Extremely Flammable Aerosol
H225 – Highly flammable liquid and vapour.
H229 - Pressurized container: may burst if heated
H319 – Causes serious eye irritation.
H336 – May cause drowsiness or dizziness.
H340 – May cause genetic defects
H350 – May cause cancer

Precautionary Statements:

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P262 - Do not get in eyes, on skin, or on clothing
P264 - Wash … thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation

Symbols/Pictograms:

3. Composition / Information on Ingredients

Composition

Chemical	Synonyms	CAS Number	EINECS Number	Weight Percent	Hazard Category	H-Code
Acetone	Propanone	67-64-1	200-662-2	15-40%	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225, H319, H336
Hydrocarbon Propellant	LPG	68476-86-8	270-705-8	15-40%	Press. Gas Flam. Gas 1 Carc. 1B	H220 H350 H340

					Muta. 1B	
Dimethyl Carbonate	D.M.C.	616-38-6	210-478-4	15-40%	Flam. Liq. 2	H225
Graphite Powder	Graphite	7782-42-5	231-955-3	1-5%	N/AV	N/AV

Other Product Information

Chemical Identity: Mixture

4.) First Aid Measures

General Advice: If symptoms persist, always call a doctor.

Inhalation First Aid: Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.

Skin Contact First Aid: Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

Eye Contact First Aid: If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.

Ingestion First Aid: If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most Important Symptoms/Effects: Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

5. Fire Fighting Measures

Flammable Properties: Aerosol

Auto Ignition Temperature: Not Available

Suitable extinguishing media: Carbon dioxide, dry chemical, water spray.

Unsuitable extinguishing media: None known

Special hazards arising from the substance or mixture: None known

Hazardous combustion products: Carbon dioxide, Carbon monoxide

Fire & Explosion Hazards: Closed Containers may rupture due to the buildup of pressure from extreme temperatures.

Precautions for fire-fighters: Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

PERSONAL PRECAUTIONARY MEASURES:
1) Follow personal protective equipment recommendations found in section 8.
2) Maintain adequate ventilation.

SPILL CLEAN-UP PROCEDURES:
1.) Evacuate unprotected personnel from the area.
2.) Remove sources of ignition if safe to do so.
3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
4.) Contain spill to prevent material from entering sewage or ground water systems.
5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

7. Handling and Storage

Handling:

Flammable Aerosol, use in a well ventilated area.
Do not use near sources of ignition.
Do not to eat, drink and smoke while working with this material.
Wash hands after use.

Conditions for safe storage, including any incompatibilities:

Store out of direct sunlight.
Storage Temperature: 32° to 120°F (0° to 49°C).
No known incompatibilities.

8. Exposure Controls / Personal Protection

Appropriate engineering controls:
Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.
Keep away from sources of ignition.
Take precautionary measures against static discharge.

Personal Protection:
Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

Skin protection
Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection:
Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

Hazardous Ingredient	CAS Number	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Acetone	67-64-1	500ppm	750ppm	1000ppm	N/AV
Hydrocarbon Propellant	68476-86-8	N/AV	N/AV	N/AV	N/AV
Dimethyl Carbonate	616-38-6	N/AV	N/AV	N/AV	N/AV
Graphite Powder	7782-42-5	N/AV	N/AV	N/AV	N/AV

***Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH**

9. Information on Basic Physical and Chemical Properties

Appearance: Black liquid	Odor: Ethereal
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° F (-18° C)	Evaporation Rate: Faster than n-Butyl Acetate
Flammability Solid/Gas: Flammable gas	LEL: 1.2% UEL: 12.8%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions
Chemical stability: Stable under normal conditions
Conditions to avoid: Heat and ignition sources
Incompatible materials: Strong Oxidizing Agents
Hazardous decomposition products: Will not occur

11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

Acute toxicological data: (Acetone) LD50: 5800 mg/kg (Rat-Oral)
(Acetone) LC50: 21000 ppm/8 hr (Rat-Inha)

Eye irritation data: N/AV

Skin irritation/sensitization/absorption data:	N/AV
Reproductive toxicity data:	N/AV
Mutagenicity data:	Muta. 1B
Symptoms associated with physical contact:	N/AV
Acute/chronic effects from short/long term exposure:	Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer.

Known reportable carcinogens via the following agencies:

NTP:	N/AV
IARC:	N/AV
OSHA:	TLV-A4

* Petroleum distillates may contain chemical carcinogens in limited quantities (< 0.01%). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.

12. Ecological Information

Ecotoxicity: **No Data Available**
Persistence and degradability: **No Data Available**
Bioaccumulative potential: **No Data Available**
Mobility in soil: **No Data Available**
Results of PBT and vPvB assessment: **No Data Available**
Other adverse effects: **No Data Available**

13. Disposal Considerations

Waste Disposal: Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.
Product / Packaging disposal: Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

14. Transportation Information

US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference 49 CFR 172.101

IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference IMDG code part 3

IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols, Flammable	2.1	Not Applicable	Not Applicable	Reference IATA Dangerous Goods Regulation

15. Regulatory Information

Workplace classification:
This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.
SARA Title 3:
Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.
TSCA status: All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.
WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.
PROP 65 (CA): WARNING: This product may contain chemicals know to the state of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 7/29/2015
Supersedes: (9/8/2014)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: 9/8/2014

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo Syn-Gear XDM SAE 75W-90

Product Use: Automotive Gear Lubricant
Product Number(s): 223030
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 1.

Signal Word: Warning

Environmental Hazards: Very toxic to aquatic life.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment.
Response: Collect spillage.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	15 - 69 %weight
1-Decene homopolymer hydrogenated	68037-01-4	15 - 20 %weight
Phosphoric acid ester, amine salt	Confidential	1 - 5 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause

respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Nitrogen.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Silver Shield, Viton, Nitrile Rubber.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
1-Decene homopolymer	Not Applicable	--	--	--	--

hydrogenated					
Phosphoric acid ester, amine salt	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Amber
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 0.8650 @ 15.6°C (60.1°F) (Typical)
Density: 7.21 lb/gal @ 15.6°C (60°F) (Typical)
Viscosity: 14.60 mm2/s @ 100°C (212°F) Minimum
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Pensky-Martens Closed Cup) 100 °C (212 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is expected to be very toxic to aquatic organisms.

The product has not been tested. The statement has been derived from the properties of the individual

components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

ICAO/IATA Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO

4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Gear oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1,2,3,7,8,9,10,12,14,15,16
Revision Date: FEBRUARY 25, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code

API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	**DEOXIT® D-SERIES, 5% SPRAY, 142 grams, VOC COMPLIANT (P/N D5S-6)**
1.2	Chemical Name:	See ingredients listed in section 3
1.3	Synonyms:	DeoxIT® D Series, 5% Spray (PN D5S-6, D5S-6P, D5S-6ET and D5S-6-LMH)
1.4	Trade Names:	DeoxIT® D Series, 5% Spray (PN D5S-6, D5S-6P, D5S-6ET and D5S-6-LMH)
1.5	Product Use:	Clean, deoxidize & improve electrical contacts & connectors
1.6	Distributor's Name:	CAIG Laboratories, Inc.
1.7	Distributor's Address:	12200 Thatcher Court, Poway, CA 92064-6876 USA
1.8	Emergency Phone:	CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN205206)
1.9	Business Phone / Fax:	+1 (800) 224-4123

2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	This product is classified as a HAZARDOUS SUBSTANCE and as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia). **DANGER! EXTREMELY FLAMMABLE AEROSOL. PRESSURIZED CONTAINER: MAY BURST IF HEATED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.** Classification: Aerosols 1, Asp Tox 1
2.2	Label Elements:	Hazard Statements (H): H222 – Extremely flammable aerosol. H229 – Pressurized container: may burst if heated. H304 – May be fatal if swallowed and enters airways. Precautionary Statements (P): P210 – Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P211 – Do not spray on an open flame or other ignition source. P251 – Do not pierce or burn, even after use. P261 – Avoid breathing fume/gas/mist/vapor/spray. P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor. P331 – Do NOT induce vomiting. P332+P313 – If skin irritation occurs: get medical advice/attention. P405 – Store locked up. P410+P412 – Protect from sunlight. Do not expose to temperatures exceeding 50 °C (122 °F). P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).
2.3	Other Warnings:	**KEEP OUT OF REACH OF CHILDREN.**

3. COMPOSITION & INGREDIENT INFORMATION

					EXPOSURE LIMITS IN AIR (mg/m³)								
					ACGIH		NOHSC			OSHA			
					ppm		ppm			ppm			
CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	OTHER
ODORLESS MINERAL SPIRITS	64742-47-8	OA5504000	265-149-8	40-70	(5)	NA	NF	NF	NF	(5)	NA	NA	MIST
	REACH Reg. No. 02678590001; Asp. Tox. 1; H304												
DIFLUOROETHANE (R-152A)	75-37-6	K14100000	200-866-1	10-30	1000	NA	1000	NF	NF	NA	NA	NA	SKIN
	REACH Reg. No. 100000788; Flam. Gas 1, Liq. Gas; H220, H280												
DEOXIT® D-SERIES, D100L	PROPRIETARY – TRADE SECRET			3-7	NA	NA	NF	NF	NF	NA	NA	NA	
	REACH Reg. No. Non-hazardous/Proprietary												

4. FIRST AID MEASURES

4.1	First Aid:	Ingestion:	If ingested immediately call a Poison Control Center/ doctor. Do not induce vomiting. If product has been swallowed, drink plenty of water or milk IMMEDIATELY. If the patient is vomiting, continue to offer water or milk. Never give water or milk to an unconscious person. Contact the nearest Poison Control Center or local emergency number. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed.
		Eyes:	Splashes are not likely; however, if product gets in the eyes, flush with copious amounts of lukewarm water for at least 15 minutes lifting upper and lower lids, occasionally. Remove contact lenses if present and easy to do- continue rinsing. If irritation persists repeat flushing. Get medical attention.
		Skin:	Wash thoroughly with soap and water. In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Treat for frostbite if necessary, be gently warming affected area. If irritation, redness or swelling persists, contact a physician immediately.
		Inhalation:	Remove victim to fresh air at once. If breathing difficult, administer oxygen. If breathing stops give artificial respiration. Keep person warm, quiet and get medical attention.
4.2	Effects of Exposure:	Ingestion:	If product is swallowed, may cause nausea, vomiting and/or diarrhea.
		Eyes:	Moderately irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and watering.
		Skin:	May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals.
		Inhalation:	None expected.

4. FIRST AID MEASURES – cont'd

4.3	Symptoms of Overexposure:	Ingestion: Nausea, intestinal discomfort, vomiting and/or diarrhea. Eyes: Overexposure in eyes may cause redness, itching and watering. Skin: Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Frostbite like symptoms. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some individuals.
4.4	Acute Health Effects:	Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea. Frostbite like effect to skin.
4.5	Chronic Health Effects:	Overexposure may trigger asthma-like symptoms in some sensitive individuals. May also induce skin sensitization and respiratory hypersensitivity. Possible allergic dermatitis.
4.6	Target Organs:	Eyes, Skin, Respiratory System.
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, and respiratory system).

HEALTH	1
FLAMMABILITY	3
PHYSICAL HAZARDS	0
PROTECTIVE EQUIPMENT	B
EYES / SKIN	

5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	Level 3 Aerosol (NFPA 30B). Aerosols may burst at temperatures above 120 °F. Cool uninvolved containers to prevent possible bursting. Aerosols may be projectile hazards when bursting. If aerosols are bursting, stay clear until bursting is complete. This product is not flammable. However, if involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, hydrogen fluoride).
5.2	Extinguishing Methods:	Water, Foam, CO_2, Dry Chemical. Use water spray to cool unopened containers.
5.3	Firefighting Procedures:	Fight fires as for surrounding materials. As in any fire, wear MSHA/NIOSH approved self-contained breathing apparatus (pressure-demand) and full protective gear. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fight fire upwind. Avoid spraying water directly into storage containers because of danger of boil-over. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

6. ACCIDENTAL RELEASE MEASURES

6.1	Spills:	Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment. Plastic or rubber gloves, respirator, eye protection and apron may be required for clean-up of large spills. Small Spills: Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible material such as vermiculite or sand to soak up the product and place into a container for later disposal. Do not use water or a material such as "speedy dry" to soak up material. Sweep up material using non-sparking materials (e.g., plastic brooms, shovels, dustpans) and place into a plastic container or plastic liner within another container. Large Spills: Keep incompatible materials (e.g., organics such as oil) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant.

7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Do not eat, drink or smoke when handling this product. Contents under pressure. Handle as to avoid puncturing container(s). When used as intended, no additional protective equipment is necessary. Use chemical goggles if eye contact is possible. Wash unintentional residues with soap and warm water.
7.2	Storage & Handling:	Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Avoid temperatures above 120 °F. Keep away from incompatible substances. Protect containers from physical damage. To avoid unintentional spraying keep cap in place when not in use.
7.3	Special Precautions:	Clean all spills promptly.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 Exposure Limits: ppm (mg/m³)

	ACGIH		NOHSC			OSHA			OTHER
CHEMICAL NAME(S)	TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
ODORLESS MINERAL SPIRITS	(5)	NA	NF	NF	NF	(5)	NA	NA	MIST
DIFLUOROETHANE (R-152A)	1000	NA	1000	NF	NF	NA	NA	NA	SKIN
DEOXIT® D-SERIES, D100L	NA	NA	NF	NF	NF	15	NA	NA	

8.2	Ventilation & Engineering Controls:	General mechanical (e.g., fans) or natural ventilation is sufficient when this product is in use. Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station).

8. EXPOSURE CONTROLS & PERSONAL PROTECTION – cont'd

8.3	Respiratory Protection:	No special respiratory protection is required under typical circumstances of use or handling. In instances where dusts of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia.	
8.4	Eye Protection:	Avoid eye contact. None required under normal conditions of use. Safety glasses could be used when handling or using large quantities of this product.	
8.5	Hand Protection:	None required under normal conditions of use. However, may cause skin irritation in some sensitive individuals. When handling large quantities (e.g., ≥ 1 gallon (3.8 L)), wear rubber, nitrile or impervious plastic gloves.	
8.6	Body Protection:	No apron required when handling small quantities. When handling large quantities (e.g., ≥ 5 lbs), eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product, wash any exposed areas thoroughly with soap and water.	

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Light red aerosol spray/mist
9.2	Odor:	Ethereal hydrocarbon odor
9.3	Odor Threshold:	NA
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	171.1-204 °C @ 760 mm Hg
9.7	Flashpoint:	48.8 – 54.4 °C (120 - 130 °F)
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	4.9 (air = 1.0)
9.11	Relative Density:	0.75
9.12	Solubility:	Not soluble in water
9.13	Partition Coefficient (log P_{ow}):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	10.0 cPs
9.17	Other Information:	VOC: 588 g/L

10. STABILITY & REACTIVITY

10.1	Stability:	Stable under normal conditions; unstable with heat or contamination.
10.2	Hazardous Decomposition Products:	Change in color signifies exposure to ultraviolet light or exceeding shelf life. Will not degrade to unstable products. Discard solution.
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Open flames, sparks, high heat, incompatible substances and direct sunlight.
10.5	Incompatible Substances:	Avoid extreme heat and ignition sources. Store away from oxidizers.

11. TOXICOLOGICAL INFORMATION

11.1	Routes of Entry:	Inhalation:	YES	Absorption:	YES	Ingestion:	YES
11.2	Toxicity Data:	This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientific literature, is available for some of the components of the product.					
11.3	Acute Toxicity:	Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.					
11.4	Chronic Toxicity:	This material may aggravate any pre-existing skin condition (e.g., dermatitis).					
11.5	Suspected Carcinogen:	This product contains less than 3% Dimethyl Sulfoxide (DMSO) per IP 346. This product does not contain any chemicals known to the State of California to cause cancer or other reproductive harm. For more information go to www.P65Warnings.ca.gov					
11.6	Reproductive Toxicity:	This product is not reported to produce reproductive toxicity in humans.					
	Mutagenicity:	This product is not reported to produce mutagenic effects in humans.					
	Embryotoxicity:	This product is not reported to produce embryotoxic effects in humans.					
	Teratogenicity:	This product is not reported to cause teratogenic effects in humans.					
	Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.					
11.7	Irritancy of Product:	The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure.					
11.8	Biological Exposure Indices:	NE					
11.9	Physician Recommendations:	Treat symptomatically.					

12. ECOLOGICAL INFORMATION

12.1	Environmental Stability:	There is no specific data available for this product.
12.2	Effects on Plants & Animals:	There are no specific data available for this product.
12.3	Effects on Aquatic Life:	There are no specific data available for this product.

13. DISPOSAL CONSIDERATIONS

13.1	Waste Disposal:	Dispose of in accordance with federal, state and local regulations.
13.2	Special Considerations:	U.S. EPA RCRA Hazardous Waste: D001 (Characteristic – Ignitability). California Waste Code: 331 (liquid concentrate).

14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1	49 CFR (GND):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L); or CONSUMER COMMODITY, ORM-D (IP VOL ≤ 1.0 L) – until 12/31/2020	
14.2	IATA (AIR):	UN1950, AEROSOLS, FLAMMABLE, 2.1 (LTD QTY, IP VOL ≤ 0.5 L); or ID8000, CONSUMER COMMODITY, ORM-D (IP VOL ≤ 0.5 L)	
14.3	IMDG (OCN):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.4	TDGR (Canadian GND):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L); or MARK PACKAGE "LIMITED QUANTITY," "LTD QTY," or "QUANT LTÉE" or "QUANTITÉ LIMITÉE"	
14.5	ADR/RID (EU):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.6	SCT (MEXICO):	UN1950, AEROSOLES, 2.1 (CANTIDAD LIMITADA, IP VOL ≤ 1.0 L)	
14.7	ADGR (AUS):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product does not contain any substances subject to SARA Title III, section 313 reporting requirements.
15.2	SARA TPQ:	There are no specific Threshold Planning Quantities for the components of this product.
15.3	TSCA Inventory Status:	The components of this product are listed on the TSCA Inventory.
15.4	CERCLA Reportable Quantity:	NA
15.5	Other Federal Requirements:	None of the ingredients in this mixture are listed as Hazardous Air Pollutants (HAPs). None of the ingredients in this mixture are listed as a Priority Pollutant under the CWA. None of the ingredients in this mixture are listed as a Toxic Pollutant under the CWA.
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS Class B5, D2B (Flammable Aerosol, Other Toxic Effects). 
15.7	State Regulatory Information:	Difluoroethane can be found on the following state criteria lists: MA and NJ. No ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
15.8	Other Requirements:	NA

16. OTHER INFORMATION

16.1	Other Information:	**DANGER! EXTREMELY FLAMMABLE AEROSOL. PRESSURIZED CONTAINER: MAY BURST IF HEATED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.** Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. Provide good ventilation in process area to prevent formation of vapor. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid breathing fume/gas/mist/vapor/spray. WARNING – ELECTRIC SHOCK HAZARD: This can will conduct electricity – keep away from all live electrical sources including battery terminals, electrical panels, and other electrical components. Failure to observe this warning may result in serious injury. Wear protective gloves, eye protection and face protection. Wash hands and exposed skin areas with soap and water thoroughly after handling. In case of fire, CO_2 Halon (if permitted), dry chemical, or foam for extinction. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If skin irritation occurs: get medical advice/attention. Keep Cool. Protect from sunlight. Do not expose to temperatures exceeding 50 °C (122 °F). **KEEP LOCKED UP. KEEP OUT OF REACH OF CHILDREN.**
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.
16.3	Disclaimer:	This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & CAIG Laboratories, Inc.'s knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.
16.4	Prepared for:	**CAIG Laboratories, Inc.** 12200 Thatcher Court Poway, CA 92064-6876 Tel: +1 (800) CAIG-123 (244-4123) Fax: +1 (858) 486-8398 fax http://www.caig.com/
16.5	Prepared by:	**ShipMate, Inc.** P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number
RTECS No.	Registry of Toxic Effects of Chemical Substances Number
EINECS No.	European Inventory of Existing Commercial Chemical Substances Number

EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
IDLH	Immediately Dangerous to Life and Health
NOHSC	National Occupational Health and Safety Commission (Australia)
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average

FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

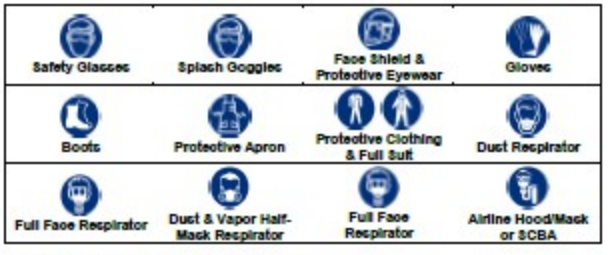
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard

HEALTH
FLAMMABILITY
PHYSICAL HAZARDS
PERSONAL PROTECTION

PERSONAL PROTECTION RATINGS:

A		G	
B		H	
C		I	
D		J	
E		K	
F		X	Consult your supervisor or SOPs for special handling directions.



OTHER STANDARD ABBREVIATIONS:

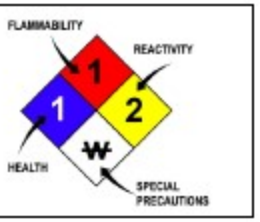
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity – Repeat Exposure
STOT SE	Specific Target Organ Toxicity – Single Exposure

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:	
Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
W	Use No Water
OX	Oxidizer
TREFOIL	Radioactive



TOXICOLOGICAL INFORMATION:

LD_{50}	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC_{50}	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD_{Lo}	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD_{Lo}, LD_{Lo}, & LD_0 or TC, TC_0, LC_{Lo}, & LC_0	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL_m	Median threshold limit
log K_{OW} or log K_{OC}	Coefficient of Oil/Water Distribution

REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)
WGK	Wassergefährdungsklassen (German Water Hazard Class)

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

Class A	Class B	Class C	Class D1	Class D2	Class D3	Class E	Class F
Compressed	Flammable	Oxidizing	Toxic	Irritation	Infectious	Corrosive	Reactive

CLP/GHS (1272/2008/EC) PICTOGRAMS:

GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment

SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, European Union CLP EC 1272/2008 and the Global Harmonization Standard

PART I *What is the material and what do I need to know in an emergency?*

1 – IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

IDENTIFICATION of the SUBSTANCE or PREPARATION:

TRADE NAME (AS LABELED): **DeWALT CHALKS**
SYNONYMS: DeWALT Black Chalk; DeWALT Blue Chalk; DeWALT Red Chalk; DeWALT White Chalk
CHEMICAL NAME/CLASS: Calcium Carbonate/Pigment/Silica Mixtures
RELEVANT USES of the MIXTURE: Chalks
USES ADVISED AGAINST: Other than Relevant Use

SUPPLIER OF THE SAFETY DATA SHEET:

U.S. MANUFACTURER'S NAME: **STANLEY WORKS**
ADDRESS: 480 Myrtle Street
New Britain, CT 06053
BUSINESS PHONE: 1-800-262-2161
EUROPEAN SUPPLIER/IMPORTER'S NAM:
ADDRESS:
BUSINESS PHONE:
EMERGENCY PHONE: CHEMTREC: 1-800-424-9300 (U.S., Canada, Puerto Rico. U.S. Virgin Islands)
+1-703-527-3887 (outside areas above, call collect)
DATE OF PREPARATION: December 11, 2007
DATE OF REVISION: July 18, 2013

ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2010 format. This material has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. The material is also classified per all applicable EU Directives through EC 1907: 2006, the European Union CLP EC 1272/2008 and the Global Harmonization Standard.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with CLP Regulation (EC) 1272/2008.
Classification: Carcinogenic Cat. 2
Signal Word: Warning
Hazard Statement Codes: H351; For Blue Chalk Only: EUH032
Precautionary Statement Codes: P201, P202, P280, P308 + P313, P405, P501
Hazard Symbol/Pictogram: GHS08

EU 67/548/EEC LABELING AND CLASSIFICATION: Classified in accordance with the European Community Council Directive 67/548/EEC or subsequent Directives.
Classification: Carcinogenic Cat. 3
Risk Phrase Codes: R45; For Blue Chalk Only: R32
Safety Phrase Codes: S(1/2), S22, S25, S36/37/39, S38, S45, S53
Hazard Symbol: Xn

See Section 16 for full text of Classification

EMERGENCY OVERVIEW: Product Description: These products are colored, finely powdered, odorless chalks. **Health Hazards:** Inhalation of dusts from this product may irritate the respiratory system. Skin and eye contact may cause mechanical abrasion. These chalks contain Crystalline Silica, a known human carcinogen by inhalation. **Flammability Hazards:** These chalks are not flammable. Finely divided dusts from these products can form explosive mixtures in air. If involved in a fire, these products may decompose to form iron oxides, aluminum oxides, silicon dioxide, sulfur dioxide, magnesium oxides, carbon oxides and calcium oxides. **Reactivity Hazards:** These chalks are not normally reactive. For the Blue Chalk, contact with acids can release toxic hydrogen sulfide. **Environmental Hazards:** These products are not expected to pose significant harm to the environment, however all release to the environment should be avoided. **Emergency Recommendations:** Emergency responders must wear the personal protective equipment suitable for the situation to which they are responding.

3. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	EINECS #	% w/w	**LABEL ELEMENTS** **EU Classification (67/548/EEC)** **GHS & EU Classification (1272/2008 EC)** **Risk Phrases/Hazard Statements**
Limestone/Calcium Carbonate ($CaCO_3$)	1317-65-3	215-279-6	70-100%	EU 67/548: Classification: Not applicable. GHS & EU 1272/2008: Classification: Not applicable.

See Section 16 for full text of Classification

3. COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

CHEMICAL NAME	CAS #	EINECS #	% w/w	**LABEL ELEMENTS** **EU Classification (67/548/EEC)** **GHS & EU Classification (1272/2008 EC)** **Risk Phrases/Hazard Statements**
Crystalline Silica	14808-60-7	238-878-4	0.1-1.5%	SELF-CLASSIFICATION EU 67/548 Classification: Carcinogenic Cat. 3 Risk Phrase Codes: R45 GHS and EU 1272/2008 Classification: Carcinogenic Cat. 2 Hazard Codes: H351
The following are pigments in each of the chalks:				
Blue Chalk: Sodium Alumino Sulphosilicate/C.I. Pigment Blue 29	57455-37-5	Unlisted	20-30%	SELF-CLASSIFICATION EU 67/548 Classification: None Risk Phrase Codes: R32 GHS and EU 1272/2008 Classification: None Supplemental Hazard Codes: EUH032
Red Chalk: Hematite/Iron Oxide (Fe_2O_3)	1317-60-8	215-275-4	20-30%	EU 67/548: Classification: Not applicable. GHS & EU 1272/2008: Classification: Not applicable.
Black Chalk: Carbon Black	1333-86-4	215-609-9	17-23%	EU 67/548: Classification: Not applicable. GHS & EU 1272/2008: Classification: Not applicable.
White Chalk: Magnesium Carbonate ($MgCo_3$)	546-93-0	208-915-6	0-2%	EU 67/548: Classification: Not applicable. GHS & EU 1272/2008: Classification: Not applicable.

See Section 16 for full text of Classification

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES: Contaminated individuals must be taken for medical attention if any adverse effects occur. Remove contaminated clothing and shoes. Take a copy of this SDS to health professional with victim. Wash clothing and thoroughly clean shoes before reuse.

SKIN EXPOSURE: If skin contact with this material occurs, flush affected area with water. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effects occur after flushing.

EYE EXPOSURE: If this material enters the eyes, open contaminated individual's eyes while under gently running water. Use sufficient force to open eyelids. Have contaminated individual "roll" eyes. Minimum flushing is for 20 minutes. Contaminated individual must seek medical attention if adverse effect occurs or continues after flushing.

INHALATION: If dusts of this material are inhaled, remove victim to fresh air. The contaminated individual must seek medical attention if any adverse effects occur.

INGESTION: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, seek immediate medical attention. If alert, victim should drink up to three glasses of water. Do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain emergency medical attention.

IMPORTANT SYMPTOMS AND EFFECTS: See Sections 2 (Hazard Identification) and 11 (Toxicological Information).

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting respiratory problems, dermatitis, and other skin disorders may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %): Not applicable.

FIRE EXTINGUISHING MEDIA: Unless incompatibilities exist for surrounding materials, carbon dioxide, water spray, 'ABC' type chemical extinguishers, foam, dry chemical and halon extinguishers can be used to fight fires involving this material.

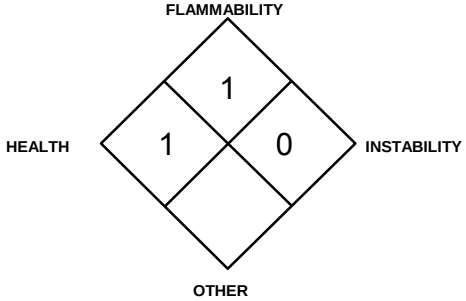
UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE: Finely divided dusts from these products can form explosive mixtures in air. If involved in a fire, these products may decompose to form iron oxides, aluminum oxides, silicon dioxide, sulfur dioxide, magnesium, carbon and calcium oxides.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Finely divided dusts from this material pose a hazard of an air/dust explosion in presence of an ignition source.

NFPA RATING



Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe

5. FIRE-FIGHTING MEASURES (Continued)

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. Water fog or spray can also be used to cool fire-exposed containers. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly before returning such equipment to service.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: It is suggested that kits include a respirator, chemical splash goggles, two pairs of gloves, two sheets (12" x 12") of absorbent material, 250-mL and 1-liter spill control pillows, a small scoop to collect glass fragments (if applicable) and two large waste disposal bags. Absorbents should be able to be incinerated. Avoid generating airborne dusts of this material during spill response procedures as described below.

PROTECTIVE EQUIPMENT:

Small Spills/Spills in Hoods: Personnel wearing nitrile or other appropriate gloves, labcoat or other protective clothing and eye protection should immediately clean incidental spills of less than 5 g.

Large Spills: Use proper protective equipment, including double nitrile or appropriate gloves, and protective clothing (e.g., disposable Tyvek coveralls). When there is any danger of airborne dusts being generated, use a full-face respirator equipped with a High Efficiency Particulate (HEPA) filter. Self-Contained Breathing Apparatus (SCBA) can be used instead of an air-purifying respirator.

METHODS FOR CLEAN-UP AND CONTAINMENT:

Cleanup of Small Spills: Solids should be gently covered with wet absorbent pads. Clean spill with pad and dispose of properly. Decontaminate the spill area (three times) using a bleach and detergent solution and then rinse with clean water.

Large Spills: Restrict access to the spill areas. For spills of greater than 5 g, be sure not to generate dusts by gently covering with damp absorbent sheets, spill-control pads, pillows, cloths, or towels. The dispersion of particles into surrounding air and the possibility of inhalation is a serious matter and should be treated as such. Do not apply chemical in-activators as they may produce hazardous by-products. Sweep up or vacuum spilled solid (an explosion-proof vacuum should be used), avoiding the generation of airborne dusts. Decontaminate the area thoroughly.

All Spills: Use procedures described above and then place all spill residues in an appropriate, labeled container and seal. Move to a secure area. Dispose of in accordance with Federal, State, and local hazardous waste disposal regulations (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewer or confined spaces, waterways, soil or public waters. Do not flush to sewer. For spills on water, contain, minimize dispersion and collect.

REFERENCE TO OTHER SECTIONS: Review Sections 2, 8, 11, & 12 before proceeding with cleanup. See Section 13, Disposal Considerations for more information.

PART III *How can I prevent hazardous situations from occurring?*

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: All employees who handle this material should be trained to handle it safely. Open containers slowly on a stable surface. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing airborne dusts generated by this product. Use in a well-ventilated location. Ensure this product is used with adequate ventilation and personal protective equipment (see Section 8, Exposure Controls and Personal Protection). Avoid airborne dusts generated by this product. Clean work areas routinely to prevent accumulation of dust. Clean up spills promptly.

CONDITIONS FOR SAFE STORAGE: Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers). Keep container tightly closed when not in use. Refer to NFPA 654, *Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids* for additional information on storage.

SPECIFIC END USE(S): These products are used in chalk line devices in construction. Follow all industry standards for use of this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment thoroughly, before maintenance begins. Collect all rinsates and dispose of according to applicable or applicable federal, state, provincial and local standards.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in this Section if applicable. Ensure eyewash/safety shower stations are available near areas where this product is used.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

EXPOSURE LIMITS/CONTROL PARAMETERS (continued):

WORKPLACE EXPOSURE LIMITS/CONTROL PARAMETERS (continued):

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELs		NIOSH	OTHER
		TWA mg/m^3	STEL mg/m^3	TWA mg/m^3	STEL mg/m^3	TWA mg/m^3	STEL mg/m^3	IDLH mg/m^3	mg/m^3
Calcium Carbonate	1317-65-3	NE	NE	15 (total dust); 5 (resp. fract.)	NE	10 (total dust); 5 (resp. fract.)	NE	NE	NE
Carbon Black	1333-86-4	3 (inhal. fract.)	NE	3.5	NE	3.5 (0.1 in presence of PAHs, as PAHs; 10-hr TWA)	NE	1750	DFG MAK: as Inhalable Dust Carcinogen: IARC-2B, MAK-3B, NIOSH-Ca (in presence of PAHs), TLV-A3
C.I. Pigment Blue 29	57455-37-5	NE	NE	NE	NE	NE	NE	NE	NE
Crystalline Silica	14808-60-7	0.025 (resp. fract.)	NE	30 mg/m^3 (total dust) % SO_2 + 2 250 mppcf (resp. dust) % SiO2 + 5 or 10 mg/m^3 (resp. dust) % SO_2 + 2		0.05 (resp. dust)	NE	0.05	Carcinogen: IARC-1, MAK-1 (respirable), NIOSH-Ca, NTP-K (respirable), TLV-A2
Iron Oxide/Hematite Exposure Limits given are for Iron oxide CAS# 1309-37-1	1317-60-8	3 (resp. fract.)	NE	10 (fume)	NE	5 (dust and fume as Fe)	NE	NE	DFG MAK: With the exception of iron oxides which are not biologically available. Carcinogen: IARC-3, MAK-3B, TLV-A4
Magnesium Carbonate Exposure limits given are for talc, containing no asbestos fibers, CAS # 14807-96-6)	546-93-0	2 (resp. fract.)	NE	20 mppcf (containing < 1% quartz)	NE	2 (resp. dust) & < 1% quartz	NE	NE	Carcinogen: IARC-3, MAK-3B, TLV-A4 (respirable)

NE = Not Established. See Section 16 for Definitions of Terms Used.

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS: Currently, the following additional international exposure limits are established for some components of this product.

CALCIUM CARBONATE:
Belgium: TWA = 10 mg/m^3, MAR 2002
Hungary: TWA = 10 mg/m^3, SEP 2000
Japan: OEL = 2 mg/m^3 (resp. dust), 84 mg/m^3 (total dust), MAY 2009
Korea: TWA = 10 mg/m^3, 2006
Mexico: TWA = 10 mg/m^3; STEL 20 mg/m^3 (inhalable), 2004
The Netherlands: MAC-TGG = 10 mg/m^3, 2003
New Zealand: TWA = 10 mg/m^3 (inspirable dust), JAN 2002
Poland: MAC(TWA) dust = 10 mg/m^3, JAN 1999
Russia: STEL = 6 mg/m^3, JUN 2003
Switzerland: MAK-W = 3 mg/m^3, DEC 2006
United Kingdom: TWA = 10 mg/m^3 (inhal. dust), OCT 2007
United Kingdom: TWA = 4 mg/m^3 (respirable dust), OCT 2007
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

CARBON BLACK:
Australia: TWA = 2.5 mg/m^3, JUL 2008
Austria: MAK-TMW = 2 mg/m^3, resp, 2007
Belgium: TWA = 2 mg/m^3, MAR 2002
Denmark: TWA = 0.3 f/cc, carc, MAY 2011
Finland: TWA 0.5 mg/m^3, NOV 2011
France: VME = 3.5 mg/m^3, FEB 2006
Iceland: TWA = 0.3 f/cc, NOV 2011
Japan: OEL = 0.5 mg/m^3 (resp. dust), 2 mg/m^3 (total dust), MAY 2009
Korea: TWA = 2 mg/m^3, 2006

CARBON BLACK (continued):
Mexico: TWA = 2 mg/m^3; STEL = 7 mg/m^3, 2004
The Netherlands: MAC-TGG = 1 mg/m^3, 2003
New Zealand: TWA = 2 mg/m^3 (respirable dust), JAN 2002
Norway: TWA = 3.5 mg/m3, JAN 1999
Peru: TWA = 2 mg/m^3, JUL 2005
The Philippines: TWA = 3.5 mg/m^3, JAN 1993
Russia: STEL = 4 mg/m^3, JUN 2003
Sweden: TWA = 2 mg/cm^3 (total dust); TWA = 1 mg/cm^3 (resp. dust), JUN 2005
Switzerland: MAK-W = 2 mg/m^3, DEC 2006
United Kingdom: TWA = 1 mg/m^3 (resp. dust), OCT 2007
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

CRYSTALLINE SILICA:
Australia: TWA = 0.1 mg/m^3, JUL 2008
Belgium: TWA = 0.1 mg/m^3 (resp. dust), MAR 2002
Denmark: TWA = 0.1 mg/m^3 (respirable), carc, MAY 2011
Denmark: TWA = 0.1 mg/m^3 (resp.), carc, MAY2011
Denmark: TWA = 0.3 mg/m^3 (total), MAY 2011
Finland: TWA = 0.05 mg/m^3, resp. dust, SEP 2009
France: VME = 0.1 mg/m^3, (resp), FEB 2006
Iceland: TWA = 0.1 mg/m^3 (resp. dust), NOV 2011
Japan: OEL-C = 0.03 mg/m^3 (respirable), APR 2007
Korea: TWA = 0.1 mg/m^3, 2006
Mexico: TWA = 0.1 mg/m^3 (respirable), 2004
The Netherlands: MAC-TGG = 0.075 mg/m^3, 2003
New Zealand: TWA = 0.2 mg/m^3 (respirable dust), JAN 2002
Norway: TWA = 0.1 mg/m^3 (resp. dust), JAN 1999

CRYSTALLINE SILICA (continued):
Norway: TWA = 0.3 mg/m^3 (total dust), JAN 1999
Peru: TWA = 0.05 mg/m^3, JUL 2005
Russia: TWA = 1 mg/m^3, STEL = 3 mg/m^3, JUN 2003
Sweden: TWA = 0.1 mg/m^3 (resp. dust), JUN 2005
Switzerland: MAK-W = 0.15 mg/m^3, DEC 2006
Thailand: TWA = 10 mg/m^3 (resp. dust), JAN 1993
Thailand: TWA = 30 mg/m^3 (total dust), JAN 1993
United Kingdom: TWA = 0.1 mg/m^3 (resp. dust), OCT 2007
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

IRON OXIDE/MAGNETITE:
Russia: STEL = 4 mg/m^3, JUN 2003

MAGNESIUM CARBONATE (TALC):
Australia: TWA = 2.5 mg(F)/m^3, JUL 2008
Belgium: TWA = 10 mg/m^3, MAR 2002
France: VME = 10 mg/m^3, FEB 2006
Korea: TWA = 10 mg/m^3, 2006
Mexico: TWA = 10 mg/m^3; STEL = 20 mg/m^3 (inhalable), 2004
The Netherlands: MAC-TGG = 10 mg/m^3, 2003
New Zealand: TWA = 10 mg/m^3 (inspirable dust), JAN2002
Norway: TWA = 0.6 mg(F)/m^3, JAN 1999
Peru: TWA = 10 mg/m^3, JUL 2005
Russia: STEL = 10 mg/m^3, JUN 2003
Switzerland: MAK-W = 3 mg/m^3, DEC 2006
United Kingdom: TWA = 4 mg/m^3 (resp. dust), OCT 2007
United Kingdom: TWA = 10 mg/m^3 (inhal. dust), OCT 2007
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

PROTECTIVE EQUIPMENT: *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including* U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hand Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR1910.132), *equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02,* Z94.3-M1982, *Industrial Eye and Face Protectors and* CSA Standard Z195-02, *Protective Footwear), or standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection). Please reference applicable regulations and standards for relevant details.*

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PROTECTIVE EQUIPMENT (continued):

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below exposure limits listed above. For materials without listed exposure limits, minimize respiratory exposure. If necessary, use only respiratory protection authorized under appropriate regulations. Oxygen levels below 19.5% are considered IDLH by U.S. OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. OSHA's Respiratory Protection Standard (1910.134-1998). The following are NIOSH Respiratory Protection Equipment Guidelines for some components of these products:

CARBON BLACK

CONCENTRATION	RESPIRATORY PROTECTION
Up to 17.5 mg/m3:	Any Dust and Mist Respirator.
Up to 35 mg/m3:	Any Dust and Mist Respirator except single-use and quarter-mask respirators, or any Supplied-Air Respirator (SAR).
Up to 87.5 mg/m3:	Any SAR operated in a continuous-flow mode, or any Powered, Air-Purifying Respirator (PAPR) with a dust and mist filter.
Up to 175 mg/m3:	Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any PAPR with a tight-fitting facepiece and a high-efficiency particulate filter, or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece, or any SAR with a full facepiece.
Up to 1750 mg/m3:	Any SAR operated in a pressure-demand or other positive-pressure mode.
Emergency or Planned	Entry into Unknown Concentrations or IDLH Conditions: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
Escape:	Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any appropriate escape-type, SCBA.
In Presence of Polycyclicaromatic Hydrocarbons:	
Based on NIOSH REL	at Concentrations Above the NIOSH REL, or Where There is No REL, at Any Detectable Concentration: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.
Escape:	Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any appropriate escape-type, SCBA.

CRYSTALLINE SILICA

CONCENTRATION	RESPIRATORY PROTECTION
Up to 0.5 mg/m^3:	Any Air-Purifying Respirator with a high-efficiency particulate filter.
Up to 1.25 mg/m^3:	Any Powered, Air-Purifying Respirator (PAPR) with a high-efficiency particulate filter, or any Supplied-Air Respirator (SAR) operated in a continuous-flow mode.
Up to 2.5 mg/m^3:	Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any PAPR with a tight-fitting facepiece and a high-efficiency particulate filter.
Up to 25 mg/m^3:	Any SAR operated in a pressure-demand or other positive-pressure mode.
Emergency or Planned	Entry into Unknown Concentrations or IDLH Conditions: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.
Escape:	Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any appropriate escape-type, SCBA.

EYE PROTECTION: Wear safety goggles/glasses as appropriate for the task if dust or other particulates are present. Face shields are recommended if solutions are made. If necessary, refer to appropriate regulations.

HAND PROTECTION: Wash hands and wrists before putting on and after removing gloves. None needed under normal conditions of use and handling. Wear appropriate glove for work being done. Resistance of specific materials can vary from product to product. Evaluate resistance under conditions of use and maintain gloves carefully. Because all gloves are to some extent permeable and their permeability increases with time, they should be changed regularly or immediately if torn or punctured. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS. If necessary refer to appropriate regulations.

SKIN PROTECTION: Use appropriate protective clothing for the task. Full-body chemical protective clothing is recommended for emergency response procedures. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations. If necessary, refer to the U.S. OSHA Technical Manual (Section VII: Personal Protective Equipment) or other appropriate regulations.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Finely divided, powdered solids
COLOR: Black, red, white or blue.
ODOR: Odorless.
ODOR THRESHOLD: Not applicable.
MOLECULAR FORMULA: Mixture.
MOLECULAR WEIGHT: Mixture.
RELATIVE VAPOR DENSITY (air = 1): Not established.
EVAPORATION RATE (n-BuAc = 1): Not established.
MELTING/FREEZING POINT: Not established.
BOILING POINT: Not established.
VAPOR PRESSURE: Not established.
pH: Not available.
FLAMMABILITY: Dusts may present ignition hazard.
DECOMPOSITION TEMPERATURE: 120°C (248°F)
SPECIFIC GRAVITY (water = 1): Black Chalk: 2.49-2.52; Blue Chalk: 2.60-2.62; Red Chalk: 3.1-3.3; White Chalk: 2.71
SOLUBILITY IN ORGANIC SOLVENTS: Not known.
SOLUBILITY IN WATER: Black and Blue Chalks: Insoluble. Red Chalk: 0.1%; White Chalk: Insoluble.
HOW TO DETECT THIS SUBSTANCE IN EVENT OF ACCIDENTAL SPILL (warning properties): The color of these products may be a method to identify them in event of an accidental spill.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Normally stable.
DECOMPOSITION PRODUCTS: *Combustion:* Thermal decomposition of this product can produce iron oxides, aluminum oxides, silicon dioxide, sulfur dioxide, magnesium, carbon and calcium oxides. The Blue Chalk may release hydrogen sulfide in contact with acids. *Hydrolysis:* None known.

10. STABILITY and REACTIVITY (Continued)

MATERIALS WITH WHICH PRODUCT IS INCOMPATIBLE: Calcium carbonate ignites on contact with fluorine. It is incompatible with acids, aluminum, and ammonium salts and mercury/hydrogen mixtures. Due to other components, these products may also be incompatible with formaldehyde, strong oxidizing agents, hydrofluoric acid, manganese trifluoride, sodium, and xenon hexafluoride.

POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure to or contact with light, extreme temperatures, and incompatible chemicals.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of industrial exposure to this product are by skin or eye contact and inhalation.

INHALATION: If dusts or particulates from these products are inhaled, irritation of the nose, throat, and lungs can occur. Symptoms may include sneezing, coughing, nasal congestion, and difficulty breathing. Symptoms are generally alleviated upon exposure to fresh air. If heated, chronic exposure to concentrations of silicon dioxide fume may cause chronic obstructive lung disease. Inhalation of iron oxide fume or dust is cause of pulmonary roentgenographic appearance called siderosis, or an accumulation of iron that leads to reduced lung capacity. These products contain Crystalline Silica, which is a known human carcinogen. Chronic inhalation exposure to this material may cause silicosis, pulmonary fibrosis, bronchitis or present a hazard of cancer, due to the presence of Crystalline Silica.

CONTACT WITH SKIN or EYES: Skin contact may cause abrasion, redness, and discomfort. Prolonged or repeated skin exposure may cause dermatitis (dry, red skin). Direct eye contact with these products may cause stinging, tearing, and redness. Dust can cause mechanical irritation to the eye. Repeated contact of iron dusts with the eyes can cause conjunctivitis, or can cause discoloration of the eyes.

SKIN ABSORPTION: This product does not pose a hazard of skin absorption.

INGESTION: Ingestion is an unlikely route of occupational exposure to this product. In the unlikely event that dusts from the product are ingested nausea, vomiting, and diarrhea may result.

Repeated ingestion of iron compounds can cause vomiting, diarrhea, pink urine, black stool, and liver or kidney damage. Repeated ingestion of iron compounds can also cause siderosis, which is an accumulation of iron in tissues.

INJECTION: These products do not pose a hazard of injection.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD	(BLUE)	2*
FLAMMABILITY HAZARD	(RED)	1
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT

EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe * = Chronic hazard

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in **Lay Terms**. In the event of exposure, the following symptoms may be observed:

Acute: Acute exposure to the skin and eyes can cause mechanical irritation. Inhalation of dusts can cause pulmonary irritation.

Chronic: Repeated inhalation exposure may cause adverse effects to the respiratory system. Chronic inhalation may result in pulmonary fibrosis. This product contains crystalline silica, which is a known human carcinogen.

HEALTH EFFECTS OR RISKS FROM EXPOSURE (continued):

TARGET ORGANS: Acute: Skin, eyes, respiratory system. Chronic: Skin, respiratory system.

TOXICITY DATA: Currently, toxicity data are available for the following components of these products:

LIMESTONE/CALCIUM CARBONATE:

TCLo (Inhalation-Rat) 84 mg/m^3/4 hohrs/40 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial); Liver: other changes Kidney/Ureter/Bladder: other changes

TCLo (Inhalation-Rat) 250 mg/m^3/2 hours/24 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis)

CARBON BLACK:

LD_{50} (Oral-Rat) > 15,400 mg/kg: Behavioral: somnolence (general depressed activity)

LD_{50} (Skin-Rabbit) > 3 gm/kg

TDLo (Intravenous-Rat) 10 mg/kg/2 minutes: Liver: changes in liver weight; Blood: changes in spleen

TDLo (Intravenous-Rat) 10 mg/kg/2 minutes: Biochemical; Enzyme inhibition, induction, or change in blood or tissue levels: hepatic microsomal mixed oxidase (dealkylation, hydroxylation, etc.)

TDLo (Skin-Rat) 11 gm/kg/4 weeks-intermittent: Blood: pigmented or nucleated red blood cells; Liver: changes in liver weight; Nutritional and Gross Metabolic: weight loss or decreased weight gain

TDLo (Intratracheal-Rat) 16 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

CARBON BLACK (continued):

TDLo (Intratracheal-Rat) 15 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: cytochrome oxidases (including oxidative phosphorylation)

TDLo (Intratracheal-Rat) 10 mg/kg: Lungs, Thorax, or Respiration: sputum; Biochemical: Metabolism (Intermediary): other proteins, effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 20 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 20 mg/kg/4 days-intermittent: Lungs, Thorax, or Respiration: sputum; Immunological Including Allergic: increase in cellular immune response; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Parenteral-Mouse) 36 µg/kg/3 days-intermittent: Immunological Including Allergic: increase in humoral immune response

TCLo (Inhalation-Rat) 7 mg/m^3: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

CARBON BLACK (continued):

TCLo (Inhalation-Rat) 1.66 mg/m^3/7 hours: Lungs, Thorax, or Respiration: sputum; Blood: changes in leukocyte (WBC) count; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 50 mg/m^3: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 50 mg/m^3/6 hours/90 days-intermittent: Lungs, Thorax, or Respiration: other changes

TCLo (Inhalation-Rat) 1 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 1 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes, changes in lung weight; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 50 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): other

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA (continued):

CARBON BLACK (continued):

TCLo (Inhalation-Rat) 50 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): other, effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 7 mg/m3/6 hours/13 weeks-intermittent: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Mouse) 50 mg/m^3/6 hours: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified

TCLo (Inhalation-Mouse) 1 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Mouse) 1 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Lungs, Thorax, or Respiration: changes in lung weight; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Mouse) 7 mg/m^3/6 hours/13 weeks-intermittent: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Hamster) 7 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Hamster) 50 mg/m^3/6 hours/13 weeks-intermittent: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified

C.I. PIGMENT BLUE 29:

LD_{50} (Oral-Rat) 10 gm/kg

LD_{50} (Oral-Mouse) 10 gm/kg

TDLo (Oral-Rat) 450 mg/kg/90 days-continuous: Gastrointestinal: other changes; Kidney/Ureter/Bladder: other changes

CRYSTALLINE SILICA, CRYSTALLINE-QUARTZ:

LCLo (Inhalation-Human) 300 mg/m^3/10 years-intermittent: Systemic effects

TCLo (Inhalation-Human) 16 mppcf/8 hours/17.9 years-intermittent: Pulmonary system effects

TCLo (Inhalation-Rat) 58 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Endocrine: changes in thymus weight; Blood: changes in leukocyte (WBC) count

CRYSTALLINE SILICA, CRYSTALLINE-QUARTZ (continued):

TCLo (Inhalation-Rat) 50 mg/m^3/6 hours/71 weeks-intermittent: Carcinogenic effects

TCLo (Inhalation-Rat) 80 mg/m^3/26 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis); Blood: changes in spleen; Immunological Including Allergic: decrease in cellular immune

TCLo (Inhalation-Rat) 108 mg/m^3/6 hours/3 days-intermittent: Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: phosphatases, Enzyme inhibition, induction, or change in blood or tissue levels: other oxidoreductases, Metabolism (Intermediary): other proteins

TCLo (Inhalation-Mouse) 1475 μg/m^3/8 hours/21 weeks-intermittent: Lungs, Thorax, or Respiration: other changes

TCLo (Inhalation-Mouse) 4932 μg/m^3/24 hours/39 weeks-continuous: Endocrine: changes in spleen weight; Immunological Including Allergic: decrease in humoral immune response

TCLo (Inhalation-Guinea Pig) 28 mg/m^3/3 weeks-continuous: Lungs, Thorax, or Respiration: other changes, changes in lung weight; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: other

TDLo (Intraperitoneal-Rat) 45 mg/kg: Carcinogenic effects

TDLo (Intratracheal-Rat) 90 mg/kg: Equivocal tumorigenic agent

TDLo (Intratracheal-Rat) 90 mg/kg: AR

TDLo (Intratracheal-Rat) 111 mg/kg: Carcinogenic effects

TDLo (Intratracheal-Rat) 111 mg/kg: AR

TDLo (Intratracheal-Rat) 100 mg/kg/19 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: tumors

TDLo (Intrapleural-Rat) 90 mg/kg: Carcinogenic effects

TDLo (Intrapleural-Hamster) 83 mg/kg: Tumorigenic: neoplastic by RTECS criteria, tumors at site of application

TDLo (Implant-Rat) 900 mg/kg: Neoplastic effects

TDLo (Implant-Mouse) 4000 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Kidney, Ureter, Bladder: tumors

TDLo (Implant-Mouse) 4000 mg/kg: Equivocal tumorigenic agent

TDLo (Intravenous-Rat) 90 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Blood: lymphoma, including Hodgkin's disease

CRYSTALLINE SILICA, CRYSTALLINE-QUARTZ (continued):

TD (Intraperitoneal-Rat) 90 mg/kg/4 weeks-intermittent: Equivocal tumorigenic agent

TD (Intraperitoneal-Rat) 450 mg/kg/4 weeks-intermittent: Neoplastic effects

TD (Implant-Rat) 4554 mg/kg: Equivocal tumorigenic agent

TD (Intrapleural-Rat) 200 mg/kg: Equivocal tumorigenic agent

TD (Intrapleural-Rat) 100 mg/kg: Carcinogenic effects

TD (Intrapleural-Rat) 100 mg/kg: Neoplastic effects

TD (Intrapleural-Rat) 100 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis), tumors

LDLo (Intravenous-Rat) 90 mg/kg

LDLo (Intratracheal-Rat) 200 mg/kg

LDLo (Intravenous-Mouse) 40 mg/kg

LDLo (Intravenous-Dog, adult) 20 mg/kg

Micronucleus test (Human-Lung) 40 μg/cm^2

Micronucleus test (Hamster-Lung) 160 μg/cm^2

HEMATITE/IRON OXIDE:

TDLo (Intratracheal-Rat) 12 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: multiple enzyme effects

TCLo (Inhalation-Rat) 3900 mg/m^3/6 hours/68 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial)

TCLo (Inhalation-Dog) 3900 mg/m^3/6 hours/68 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial)

MAGNESIUM CARBONATE/TALC:

LD_{50} (Oral-Rat) 7000 mg/kg

LD_{50} (Oral-Mouse) 8000 mg/kg

LD_{50} (Intraperitoneal-Mouse) 1033 mg/kg

TCLo (Inhalation-Rat) 76 mg/m^3/4 hours: Cardiac: pulse rate increase, without fall in BP; Liver: liver function tests impaired; Kidney/Ureter/Bladder: other changes in urine composition

TCLo (Inhalation-Rat) 76 mg/m^3/4 hours: Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: phosphatases

TDLo (Unreported-Mammal-Species Unspecified) 18,000 mg/kg/7 days-intermittent: Gastrointestinal: other changes; Related to Chronic Data: death

CARCINOGENIC POTENTIAL OF COMPONENTS: The components of these products are listed by agencies tracking the carcinogenic potential of chemical compounds, as follows:

CARBON BLACK: ACGIH TLV-A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans); IARC-2B (Possibly Carcinogenic to Humans), MAK-3B (Substances for Which *in vitro* Tests or Animal Studies Have Yielded Evidence of Carcinogenic Effects that is Not Sufficient for Classification of the Substance in One of the Other Categories); In the Presence of PAHS: NIOSH-Ca (Potential Occupational Carcinogen, with No Further Categorization)

CRYSTALLINE SILICA: ACGIH TLV-A2 (Suspected Human Carcinogen); IARC-1 (Carcinogenic to Humans); Respirable: MAK-1 (Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk); NIOSH-Ca (Potential Occupational Carcinogen, with No Further Categorization); Respirable: NTP-K (Known to Be a Human Carcinogen)

IRON OXIDE/HEMATITE: ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); IARC-3 (Unclassifiable as to Carcinogenicity in Humans); MAK-3B (Substances for Which *in vitro* Tests or Animal Studies Have Yielded Evidence of Carcinogenic Effects that is Not Sufficient for Classification of the Substance in One of the Other Categories)

MAGNESIUM CARBONATE (TALC containing no asbestos fibers): ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); IARC-3 (Unclassifiable as to Carcinogenicity in Humans); Respirable: MAK-3B (Substances for Which *in vitro* Tests or Animal Studies Have Yielded Evidence of Carcinogenic Effects that is Not Sufficient for Classification of the Substance in One of the Other Categories)

The remaining components of this product are not found on the following lists: U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, or ACGIH and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: These products may cause skin, eye and respiratory irritation.

SENSITIZATION TO THE PRODUCT: Components of these products are not known to cause human skin or respiratory sensitization.

REPRODUCTIVE TOXICITY INFORMATION: The components of these products are not known to cause human mutagenic, embryotoxic, teratogenic or reproductive toxicity in humans.

ACGIH BIOLOGICAL EXPOSURE INDICES: Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components of these products.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: These products have not been tested for mobility in soil; due to form they are not expected to be mobile.

PERSISTENCE AND BIODEGRADABILITY: These products have not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: These products have not been tested for bio-accumulation potential.

ECOTOXICITY: These products have not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided.

12. ECOLOGICAL INFORMATION (Continued)

OTHER ADVERSE EFFECTS: The components of these products are not listed as having ozone depletion potential.
EFFECT OF CHEMICAL ON AQUATIC LIFE: These products have not been tested for aquatic toxicity. Releases of large quantities of this material may be detrimental to an aquatic environment.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of Canada. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.
U.S. EPA WASTE NUMBER: Not applicable.
EUROPEAN EWC CODE: Wastes Not Otherwise Specified: 16 10 99

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: These products are NOT classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.
TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: These products are NOT classified as Dangerous Goods, per regulations of Transport Canada.
INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): These products are NOT classified as Dangerous Goods, per rules of IATA.
INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: These products are NOT classified as Dangerous Goods, per rules of IMO.
EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): These products are NOT classified by the United Nations Economic Commission for Europe to be dangerous goods.
TRANSPORT IN BULK ACCORDING TO THE IBC CODE: Not applicable.
ENVIRONMENTAL HAZARDS: These products do not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN); components are not specifically listed in Annex III under MARPOL 73/78.

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of these products are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.
U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of these products. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) therefore applies, per 40 CFR 370.20.
U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.
U.S. TSCA INVENTORY STATUS: Components of these products are on the TSCA Inventory.
OTHER U.S. FEDERAL REGULATIONS: Not applicable.
CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Crystalline Silica is on the California Proposition 65 lists. Carbon Black, with particles of respirable size, is on the Proposition 65 Lists as well. WARNING! These products contain compounds known to the State of California to cause cancer.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of these products are on the DSL Inventory.
OTHER CANADIAN REGULATIONS: Not applicable.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of these products are not on the CEPA Priority Substances Lists.
CANADIAN WHMIS CLASSIFICATION and SYMBOLS: Class D2A-Chronic Toxic Effects

ADDITIONAL EUROPEAN REGULATIONS:

SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE PRODUCT: None applicable.
CHEMICAL SAFETY ASSESSMENT: No Data Available. The chemical safety assessment is required for some substances according to European Union Regulation (EC) 1907/2006, Article 14.

16. OTHER INFORMATION

ANSI LABELING (Z129.1, Provided to Summarize Occupational Hazard Information): **CAUTION!** MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION. CONTAINS CRYSTALLINE SILICA, WHICH IS A KNOWN HUMAN CARCINOGEN; CONTAINS CARBON BLACK, WHICH IS A KNOWN ANIMAL CARCINOGEN. INGESTION MAY BE HARMFUL. Avoid breathing dusts. Avoid contact with skin, eyes, and clothing. Keep container closed. Use with adequate ventilation. Prevent dust accumulation. Wash thoroughly after handling. Wear gloves, goggles, dust mask, and appropriate body protection during operations that can generate dust.

16. OTHER INFORMATION (Continued)

ANSI LABELING (continued)): FIRST-AID: In case of contact, flush skin or eyes with plenty of water. If inhaled, remove to fresh air. If ingested do not induce vomiting. Get medical attention if adverse effects continue after exposure ends. IN CASE OF FIRE: Use water fog, dry chemical, CO_2, or "alcohol" foam. IN CASE OF SPILL: Sweep up spill, avoiding the generation of airborne dusts. Place residual in appropriate container and seal. Consult Safety Data Sheet for additional information.

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with CLP Regulation (EC) 1272/2008.

Classification: Carcinogenic Cat. 2
Signal Word: Warning
Hazard Statements: H351: Suspected of causing cancer. For Blue Chalk Only: EUH032: Contact with acids liberates very toxic gas (hydrogen sulfide).
Precautionary Statements:
Prevention: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response: P308 + P313: IF exposed or concerned: Get medical advice/attention.
Storage: P405: Store locked up.
Disposal: P501: Dispose of contents/containers in accordance with all local, regional, national and international regulations.
Hazard Symbol/Pictograms: GHS08

EU 67/548/EEC LABELING AND CLASSIFICATION: Classified in accordance with the European Community Council Directive 67/548/EEC or subsequent Directives.

Classification: Carcinogenic Cat. 3
Risk Phrases: R45: May cause cancer. For Blue Chalk Only: R32: Contact with acids liberates very toxic gas (hydrogen sulfide).
Safety Phrases: S(1/2): Keep locked up and out of the reach of children. (Can be omitted when product is for industrial use only). S22: Do not breathe dust. S25: Avoid contact with eyes. S36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S38: In case of insufficient ventilation wear suitable respiratory equipment. S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible). S53: Avoid exposure - obtain special instructions before use.
Hazard Symbol: Xn

CLASSIFICATION FOR COMPONENTS**:**

Full Text Global Harmonization AND EU CLP Regulation (EC) 1272/2008:
Crystalline Silica: This is a self-classification.
Classification: Carcinogenic Category 2
Hazard Statement Codes: H351: Suspected of causing cancer.
C.I. Pigment Blue 29: This is a self-classification.
Classification: None.
Hazard Statement Codes: EUH032: Contact with acids liberates very toxic gas (hydrogen sulfide).
All Other Components: No classification has been published or is applicable.

Full Text EU 67/548/EEC:
Crystalline Silica: This is a self-classification.
Classification: Carcinogenic Category 3
Risk Phrases: R45: May cause cancer.
Crystalline Silica: This is a self-classification.
Classification: None.
Risk Phrases: R32: Contact with acids liberates very toxic gas (hydrogen sulfide).
All Other Components: No classification has been published or is applicable.

PREPARED BY:	CHEMICAL SAFETY ASSOCIATES, Inc. PO Box 1961, Hilo, HI 96721 •(800) 441-3365
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REVISION INFORMATION:	July 2010: Review of SDS and up-date. Format up-dated. Section 3 EU Crystalline Silica self-classification added. Section 8 Exposure limits up-dated. Section 11 Cancer ratings up-dated. Section 15 EU component classification added. July 2013: Review and revise entire SDS to add GHS compliance. Up-date Section 8 Exposure Limits. Section 11 Cancer ratings up-dated.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on an SDS. Some of these, which are commonly used, include the following:

CAS #: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens which have been shown to increase the mutant frequency in the progeny of exposed humans. **2:** Germ cell mutagens which have been shown to increase the mutant frequency in the progeny of exposed mammals. **3A:** Substances which have been shown to induce genetic damage in germ cells of human of animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form.

EXPOSURE LIMITS IN AIR (continued):

DFG MAK Germ Cell Mutagen Categories (continued): 3B: Substances which are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but which are clearly mutagenic *in vitro* and structurally related to known in vivo mutagens. **4:** Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) **5:** Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DEFINITIONS OF TERMS (Continued)

EXPOSURE LIMITS IN AIR (continued):

DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed.

DFG MAK Pregnancy Risk Group Classification (continued): Group B: Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH-Immediately Dangerous to Life and Health: This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

MAK: Federal Republic of Germany Maximum Concentration Values in the workplace.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL-Permissible Exposure Limit: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL that was vacated by Court Order.

SKIN: Used when a there is a danger of cutaneous absorption.

STEL-Short Term Exposure Limit: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV-Threshold Limit Value: An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA-Time Weighted Average: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 (Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. PII or Draize = "0". *Eye Irritation*: Essentially non-irritating, or minimal effects which clear in < 24 hours [e.g. mechanical irritation]. Draize = "0". *Oral Toxicity LD_{50} Rat*: < 5000 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: < 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: < 20 mg/L.); **1** (Slight Hazard: Minor reversible Injury may occur; slightly or mildly irritating. *Skin Irritation*: Slightly or mildly irritating. *Eye Irritation*: Slightly or mildly irritating. *Oral Toxicity LD_{50} Rat*: > 500-5000 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: > 1000-2000 mg/kg. *Inhalation Toxicity LC_{50}* 4-hrs *Rat*: > 2-20 mg/L);**2** (Moderate Hazard: Temporary or transitory injury may occur. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize > 0, < 5. *Eye Irritation*: Moderately to severely irritating and/or corrosive; reversible corneal opacity; corneal involvement or irritation clearing in 8-21 days. Draize > 0, ≤ 25. *Oral Toxicity LD_{50} Rat*: > 50-500 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: > 200-1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.5-2 mg/L.); **3** (Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may destroy dermal tissue, cause skin burns, dermal necrosis. PII or Draize > 5-8 with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: > 1-50 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: > 20-200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05-0.5 mg/L.); **4** (Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposure. *Skin Irritation*: Not appropriate. Do not rate as a "4", based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a "4", based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L).

FLAMMABILITY HAZARD: 0 (Minimal Hazard-Materials that will not burn in air when exposure to a temperature of 815.5°C [1500°F] for a period of 5 minutes.); **1** (Slight Hazard-Materials that must be pre-heated before ignition can occur. Material require considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur, Including: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C [200°F] (e.g. OSHA Class IIIB, or; Most ordinary combustible materials [e.g. wood, paper, etc.]; **2** (Moderate Hazard-Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres in air, Including: Liquids having a flash-point at or above 37.8°C [100°F]; Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp; Solids and semisolids that readily give off flammable vapors.);

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued): 3 (Serious Hazard- Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions, including: Liquids having a flash point below 22.8°C [73°F] and having a boiling point at or above 38°C [100°F] and below 37.8°C [100°F] [e.g. OSHA Class IB and IC]; Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air [e.g., dusts of combustible solids, mists or droplets of flammable liquids]; Materials that burn extremely rapidly, usually by reason of self-contained oxygen [e.g. dry nitrocellulose and many organic peroxides]); **4** (Severe Hazard-Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and which will burn readily, including: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C [73°F] and a boiling point below 37.8°C [100°F] [e.g. OSHA Class IA; Material that ignite spontaneously when exposed to air at a temperature of 54.4°C [130°F] or below [e.g. pyrophoric]).

PHYSICAL HAZARD: 0 (*Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. Unstable *Compressed Gases*: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No "0" rating allowed. *Unstable Reactives*: Substances that will not polymerize, decompose, condense or self-react.); **1** (*Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy. *Explosives*: Division 1.5 & 1.6 substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose, condense or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosive hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors.); **2** (*Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 – Explosive substances where the explosive effect are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature);**3** (*Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source, or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.2 – Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3.:2 potassium bromate/cellulose mixture. Liquids: Any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a moderate potential to cause significant heat generation or explosion.); **4** (*Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2-explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability "4". *Oxidizers*: No "4" rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a high potential to cause significant heat generation or explosion.).

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS:

HEALTH HAZARD: **0** (materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials): Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 10,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 200 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 2000 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 2000 mg/kg. Materials that are essentially non-irritating to the respiratory tract, eyes and skin. **1** (materials that, under emergency conditions, can cause significant irritation): Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 10 mg/L but less than or equal to 200 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 500 mg/kg but less than or equal to 2000 mg/kg. Materials that cause slight to moderate irritation to the respiratory tract, eyes and skin.

DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

HEALTH HAZARD (continued): **2** (materials that, under emergency conditions, can cause temporary incapacitation or residual injury): Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 3,000 ppm but less than or equal to 5,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 2 mg/L but less than or equal to 10 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 200 mg/kg but less than or equal to 1000 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. **3** (materials that, under emergency conditions, can cause serious or permanent injury): Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 1,000 ppm but less than or equal to 3,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 5 mg/kg but less than or equal to 50 mg/kg. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials that are respiratory irritants. Cryogenic gases that cause frostbite and irreversible tissue damage. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials that are corrosive to the skin. **4** (materials that, under emergency conditions, can be lethal): Gases and vapors whose LC_{50} for acute inhalation toxicity less than or equal to 1,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} for acute oral toxicity is less than or equal to 5 mg/kg. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm.

FLAMMABILITY HAZARD: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand: Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur: Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D. Liquids, solids and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the Method of Testing for Sustained Combustibility, per 49 CFR 173, Appendix H or the UN Recommendation on the Transport of Dangerous Goods, Model Regulations (current edition) and the related Manual of Tests and Criteria (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85 percent by weight. Liquids that have no fire point when tested by ASTM D 92 Standard Test Method for Flash and Fire Points by Cleveland Open Cup, up to a boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed up flash point of the solvent. Most ordinary combustible materials. **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air: Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures in air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that, on account of their physical form or environmental conditions, can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with a representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued): **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily: Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air, Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. **1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100W/mL. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the **N**ational **F**ire **P**rotection **A**ssociation (**NFPA**). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

ECOLOGICAL INFORMATION:

EC is the effect concentration in water. **BCF =** Bioconcentration Factor, which is used to determine if a substance will concentrate in lifeforms which consume contaminated plant or animal matter. **TL_m** = median threshold limit; Coefficient of Oil/Water Distribution is represented by **log K_{ow}** or **log K_{oc}** and is used to assess a substance's behavior in the environment.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD_{50}** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC_{50}** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m^3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information: BEI** - ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REGULATORY INFORMATION:

U.S. and CANADA:

ACGIH: American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. **O**ccupational **S**afety and **H**ealth **A**dministration (**OSHA**). **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act **(SARA)**; the Canadian Domestic/Non-Domestic Substances List **(DSL/NDSL)**; the U.S. Toxic Substance Control Act **(TSCA)**; Marine Pollutant status according to the **DOT**; the Comprehensive Environmental Response, Compensation, and Liability Act **(CERCLA or Superfund)**; and various state regulations. This section also includes information on the precautionary warnings which appear on the material's package label. **OSHA** - U.S. Occupational Safety and Health Administration.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DIESEL FUEL
Synonyms	:	Seasonal Diesel, #1 Diesel, #2 Heating Oil, #1 Heating Oil, D50, Arctic Diesel, Farm Diesel, Marine Diesel, Low Sulphur Diesel, LSD, Ultra Low Sulphur Diesel, ULSD, Mining Diesel, Naval Distillate, Dyed Diesel, Marked Diesel, Coloured Diesel, Furnace special, Biodiesel blend, B1, B2, B5, Diesel Low Cloud (LC). Marine Gas Oil
Product code	:	101802, 100107, 100668, 100658, 100911, 100663, 100652, 100460, 100065, 101796, 101793, 101795, 101792, 101794, 101791, 100768, 100643, 100642, 100103, 101798, 101800, 101797, 101788, 101789, 101787, 102531, 100734, 100733, 100640, 100997, 100995, 100732, 100731, 100994

Manufacturer or supplier's details

Petro-Canada
P.O. Box 2844, 150 - 6th Avenue South-West
Calgary Alberta T2P 3E3
Canada

Emergency telephone number		Suncor Energy: +1 403-296-3000; Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use	:	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining diesels, marine diesels, MDO and naval distillates may have a higher flash point requirement.
Prepared by	:	Product Safety: +1 905-804-4752

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Bright oily liquid.
Colour	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	Mild petroleum oil like.
Hazard Summary	Combustible liquid. May cause cancer. Irritating to eyes and skin.

Potential Health Effects

Primary Routes of Entry	:	Eye contact Ingestion Inhalation Skin contact Skin Absorption
Target Organs	:	Skin Eyes Respiratory Tract
Inhalation	:	May cause respiratory tract irritation. Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Skin	:	Causes skin irritation.
Eyes	:	Causes eye irritation.
Ingestion	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration hazard if swallowed - can enter lungs and cause damage.
Aggravated Medical Condition	:	None known.

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
kerosine (petroleum), hydrodesulfurized	64742-81-0	70 - 100 %
kerosine (petroleum)	8008-20-6	
fuels, diesel	68334-30-5	
fuel oil no. 2	68476-30-2	
Alkanes, C10-20-branched and linear	928771-01-1	0 - 25 %
Soybean oil, Methyl ester	67784-80-9	0 - 5 %
Rape oil, Methyl ester	73891-99-3	

Fatty acids, tallow, Methyl esters	61788-61-2	

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move to fresh air. Artificial respiration and/or oxygen may be necessary. Seek medical advice.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Seek medical advice.
In case of eye contact	:	Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
If swallowed	:	Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Seek medical advice.
Most important symptoms and effects, both acute and delayed	:	First aider needs to protect himself.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Water fog. Foam
Unsuitable extinguishing media	:	Do NOT use water jet.
Specific hazards during firefighting	:	Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), smoke and irritating vapours as products of incomplete combustion.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment	:	Wear self-contained breathing apparatus for firefighting if

for firefighters necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Prevent further leakage or spillage if safe to do so.
Remove all sources of ignition.
Soak up with inert absorbent material.
Non-sparking tools should be used.
Ensure adequate ventilation.
Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Use only with adequate ventilation.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
kerosine (petroleum),	64742-81-0	TWA	200 mg/m3	ACGIH

hydrodesulfurized			(As total hydrocarbon vapour)	
		TWA	200 mg/m3 (As total hydrocarbon vapour)	ACGIH
		TWA	200 mg/m3 (As total hydrocarbon vapour)	ACGIH
kerosine (petroleum)	8008-20-6	TWA	200 mg/m3 (As total hydrocarbon vapour)	CA BC OEL

Engineering measures : Use only in well-ventilated areas.
Ensure that eyewash station and safety shower are proximal to the work-station location.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Filter type : organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection

Material : neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to

the specific work-place.

Protective measures	:	Wash contaminated clothing before re-use.
Hygiene measures	:	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Bright oily liquid.
Colour	:	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	:	Mild petroleum oil like.
Odour Threshold	:	No data available
pH	:	No data available
Pour point	:	No data available
Boiling point/boiling range	:	150 - 371 °C (302 - 700 °F)
Flash point	:	> 40 °C (104 °F) Method: closed cup
Auto-Ignition Temperature	:	225 °C (437 °F)
Evaporation rate	:	No data available
Flammability	:	Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite.
Upper explosion limit	:	6 %(V)
Lower explosion limit	:	0.7 %(V)
Vapour pressure	:	7.5 mmHg (20 °C / 68 °F)
Relative vapour density	:	4.5
Relative density	:	0.8 - 0.88
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	1.3 - 4.1 cSt (40 °C / 104 °F)

Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Runoff to sewer may create fire or explosion hazard.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Reactive with oxidising agents and acids.
Hazardous decomposition products	:	May release COx, NOx, SOx, H2S, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Eye contact Ingestion Inhalation Skin contact Skin Absorption

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:

kerosine (petroleum), hydrodesulfurized:

Acute oral toxicity	:	LD50 Rat: > 5,000 mg/kg,
Acute inhalation toxicity	:	LC50 Rat: > 5.2 mg/l Exposure time: 4 hrs Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 Rabbit: > 2,000 mg/kg,

kerosine (petroleum):

Acute oral toxicity	:	LD50 Rat: > 5,000 mg/kg,
Acute inhalation toxicity	:	LC50 Rat: > 5 mg/l

Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Rabbit: > 2,000 mg/kg,

fuels, diesel:
Acute oral toxicity : LD50 Rat: 7,500 mg/kg,

Acute dermal toxicity : LD50 Mouse: 24,500 mg/kg,

fuel oil no. 2:
Acute oral toxicity : LD50 Rat: 12,000 mg/kg,

Acute inhalation toxicity : LC50 Rat: 4.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to bacteria	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labelled prior to recycling or disposal. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.
Contaminated packaging	:	Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No.	:	1202

Proper shipping name	:	Diesel fuel
Class	:	3
Packing group	:	III
Labels	:	3
Packing instruction (cargo aircraft)	:	366

IMDG-Code

UN number	:	1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

TDG

UN number	:	1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
ERG Code	:	128
Marine pollutant	:	no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B3: Combustible Liquid
D2A: Very Toxic Material Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The components of this product are reported in the following inventories:

DSL	On the inventory, or in compliance with the inventory
TSCA	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
EINECS	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

For Copy of (M)SDS : Internet: www.petro-canada.ca/msds
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-

1228
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

DIESEL F EL DITI ER S

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER..... KLEEN-FLO TUMBLER INDUSTRIES LIMITED
75 ADVANCE BLVD., BRAMPTON, ON
L6T 4N1
905-793-4311

PRODUCT NAME.....DIESEL FUEL CONDITIONER
PRODUCT CODE..... 991/992/993/994/995/998
CHEMICAL FORMULA..... MIXTURE.
MATERIAL USE..... DIESEL FUEL ADDITIVE
EMERGENCY PHONE NO..... CANUTEC: 613-996-6666

SECTION 02: HAZARDS IDENTIFICATION

SIGNAL WORD..... DANGER.
HAZARD CLASSIFICATION..... FLAMMABLE LIQUIDS — CATEGORY 2. SKIN IRRITATION — CATEGORY 2. EYE IRRITATION — CATEGORY 2A. ACUTE TOXICITY (ORAL) CATEGORY 5. SPECIFIC TARGET ORGAN TOXICITY — SINGLE EXPOSURE — CATEGORY 3. SPECIFIC TARGET ORGAN TOXICITY — REPEATED EXPOSURE — CATEGORY 2. ASPIRATION HAZARD — CATEGORY 1.
HAZARD STATEMENT..... H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR. H304 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. H315 CAUSES SKIN IRRITATION. H319 CAUSES SERIOUS EYE IRRITATION. H332 HARMFUL IF INHALED. H335 MAY CAUSE RESPIRATORY IRRITATION. H336 MAY CAUSE DROWSINESS OR DIZZINESS. H373 MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE .
PRECAUTIONARY STATEMENT..... P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES AND OTHER IGNITION SOURCES – NO SMOKING. P233 KEEP CONTAINER TIGHTLY CLOSED. P240 GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT. P241 USE EXPLOSION-PROOF ELECTRICAL/VENTILATING/LIGHTING EQUIPMENT. P242 USE ONLY NON-SPARKING TOOLS. P243 TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE. P260 DO NOT BREATHE DUST/FUME/GAS/MIST/VAPOURS/SPRAY. P264 WASH SKIN THOROUGHLY AFTER HANDLING. P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. P273 AVOID RELEASE TO THE ENVIRONMENT. P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION. P301+P310 IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. P303+P361+P353 IF ON SKIN (OR HAIR): REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. P304+P312 IF INHALED: CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. P304+P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. P312 CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. P331 DO NOT INDUCE VOMITING. P337+P313 IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION. P340 REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. P370+P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL RESISTANT FOAM FOR EXTINCTION. P403+P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. P403+P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL. P405 STORE LOCKED UP. P501 DISPOSE OF CONTENTS/CONTAINER ACCORDING TO ALL APPLICABLE REGULATIONS.
OTHER HAZARDS..... VAPOURS CAN ACCUMULATE IN LOW AREAS. MAY FORM EXPLOSIVE PEROXIDES. TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRODUCT: DIESEL FUEL CONDITIONER **STOCK # 991/992/993/994/995/998**

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
ISOPROPYL ALCOHOL	67-63-0	80-100
XYLENE	1330-20-7	10-30

SECTION 04: FIRST AID MEASURES

GENERAL ADVICE:..... CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE. MOVE OUT OF DANGEROUS AREA.

IF INHALED:..... IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.

IN CASE OF SKIN CONTACT:..... WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.

IN CASE OF EYE CONTACT:..... WASH EYES WITH COPIOUS AMOUNT OF WATER.

IF SWALLOWED:..... DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN. DO NOT LEAVE VICTIM UNATTENDED.

SECTION 05: FIRE FIGHTING MEASURES

FLAMMABILITY..... FLAMMABLE IN THE PRESENCE OF A SOURCE OF IGNITION WHEN THE TEMPERATURE IS ABOVE THE FLASH POINT. KEEP AWAY FROM HEAT/SPARK/OPEN FLAME/HOT SURFACE. NO SMOKING.

SUITABLE EXTINGUISHING MEDIA..... SUITABLE FOR SURROUNDING FIRE. CARBON DIOXIDE, DRY CHEMICAL, ALCOHOL FOAM, WATER FOG.

HAZARDOUS COMBUSTION PRODUCTS. CARBON OXIDES.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL NO DATA AVAILABLE.

SPECIAL PROCEDURES..... EVACUATE HAZARD AREA. WEAR FULL PROTECTIVE EQUIPMENT INCLUDING A SELF-CONTAINED BREATHING APPARATUS. USE WATER TO COOL CONTAINERS.

SECTION 06: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:..... USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPORS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS.

ENVIRONMENTAL PRECAUTIONS:..... PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP: ..... CONTAIN SPILLAGE AND THEN COLLECT WITH ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING..... HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICES. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID BREATHING MIST OR VAPOUR. WEAR PROTECTIVE EQUIPMENT DURING HANDLING. USE ADEQUATE VENTILATION. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE.

CONDITIONS FOR SAFE STORAGE..... KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAMES. PROTECT CONTAINER FROM PHYSICAL DAMAGE. KEEP THE CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. STORE IN A COOL AND WELL-VENTILATED AREA, AWAY FROM DIRECT SUNLIGHT, SOURCES OF INTENSE HEAT, OR WHERE FREEZING IS POSSIBLE.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

	ACGIH TLV		OSHA PEL		NIOSH
INGREDIENTS	TWA	STEL	PEL	STEL	REL
ISOPROPYL ALCOHOL	200 ppm	400 ppm			
XYLENE	20 ppm	125 ppm			

ENGINEERING CONTROLS..... GOOD VENTILATION SHOULD BE PROVIDED TO KEEP VAPOUR AND MIST CONCENTRATIONS BELOW THE EXPOSURE LIMITS.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

SKIN AND BODY PROTECTION..... COMPLETE SUIT PROTECTING AGAINST CHEMICALS. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE. FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING.
RESPIRATORY PROTECTION..... USE NIOSH APPROVED SUPPLIED-AIR RESPIRATOR.
EYE/FACE PROTECTION..... SPLASH PROOF CHEMICAL GOGGLES. FACE SHIELD.
HYGIENIC MEASURES..... USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.
OTHER/TYPE..... EYE WASH STATION AND SAFETY SHOWER SHOULD BE LOCATED NEAR THE WORK STATION.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE..... LIQUID.
ODOUR..... ALCOHOL LIKE.
ODOUR THRESHOLD..... NO DATA AVAILABLE.
PH..... NO DATA AVAILABLE.
MELTING POINT/FREEZING POINT (C)..... -88 C.
BOILING POINT..... 82-83 C.
FLASH POINT (C), METHOD..... 12 C (ISOPROPYL ALCOHOL).
EVAPORATION RATE..... 2.3 (nBuAc=1).
FLAMMABILITY (SOLIDS AND GASES)..... NOT APPLICABLE.
UPPER FLAMMABLE LIMIT (% BY VOL.)... 12 % (V).
LOWER FLAMMABLE LIMIT (% BY VOL.)... 2% (V).
VAPOUR PRESSURE..... 6.020 Pa (20 C).
VAPOUR DENSITY (AIR=1)..... NO DATA AVAILABLE.
SPECIFIC GRAVITY (WATER=1). .....0.796.
SOLUBILITY IN WATER (% W/W)..... COMPLETELY MISCIBLE.
AUTO IGNITION TEMPERATURE..... 425 (C).
PARTITION COEFFICIENT: ..... NO DATA AVAILABLE.
N-OCTANOL/WATER
DECOMPOSITION TEMPERATURE..... NO DATA AVAILABLE.
VISCOSITY..... NO DATA AVAILBLE.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:..... EXCESSIVE HEAT, SPARKS AND OPEN FLAME.
CHEMICAL STABILITY:..... STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONSVAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR.
CONDITIONS TO AVOID:..... AVOID OPEN FLAMES AND SPARKS.
INCOMPATIBLE MATERIALS :..... STRONG OXIDIZING AGENTS.
HAZARDOUS DECOMPOSITION ..... CARBON OXIDES.
PRODUCTS

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
ISOPROPYL ALCOHOL	INHALATION-RAT- 16000 ppm - 8h	ORAL-RAT- >5000 MG/KG
XYLENE	INHALATION-RAT- >20 mg/L	ORAL-RAT- >3523 mg/kg

ACUTE TOXICITY:
ORAL LD50..... SEE ABOVE.
INHALATION LC50..... SEE ABOVE.
DERMAL LD50..... RABBIT - 12800 MG/KG.
SKIN CORROSION / IRRITATION..... RABBIT - MILD SKIN IRRITAION.
SERIOUS EYE DAMAGE / EYE IRRITATION RABBIT-EYE IRRITATION -24h.
RESPIRATORY OR SKIN SENSITIZATION. NO DATA AVAILABLE.
GERM CELL MUTAGENICITY..... NO DATA AVAILABLE.
CARCINOGENICITY..... IARC: 3 - GROUP 3: NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS . IARC: 2B - POSSIBLY CARCINOGENIC TO HUMANS (ETHYLBENZENE).
REPRODUCTIVE TOXICITY..... DOES NOT IMPAIR FERTILITY. NOT A DEVELOPMENTAL TOXICANT.
STOT- SINGLE EXPOSURE..... MAY CAUSE DROWSINESS OR DIZZINESS.
STOT - REPEAT EXPOSURE..... NO DATA AVAILABLE.
ASPIRATION HAZARD..... MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.

SECTION 11: TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS..... INHALATION - MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS. INGESTION - MAY BE HARMFUL IF SWALLOWED. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. EYES - MAY CAUSE EYE IRRITATION. SKIN - MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. MAY CAUSE SKIN IRRITATION.

SIGNS AND SYMPTOMS OF EXPOSURE.. CENTRAL NERVOUS SYSTEM DEPRESSION, PROLONGED OR REPEATED EXPOSURE CAN CAUSE, NARCOSIS, SKIN IRRITATION. OVER EXPOSURE MAY CAUSE MILD, REVERSIBLE LIVER EFFECTS. ASPIRATION MAY LEAD TO, LUNG EDEMA, PNEUMONIA.

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE AND DEGRADABILITY..... READILY BIODEGRADABLE.

BIOACCUMULATIVE POTENTIAL..... NO BIOACCUMULATION IS TO BE EXPECTED.

TOXICITY..... LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 9,640.00 mg/l - 96 h- (IPA). EC50 - DAPHNIA MAGNA (WATER FLEA) - 5,102.00 mg/l - 24 h - (IPA).

MOBILITY IN SOIL..... DISSOLVES IN WATER. IF THE PRODUCT ENTERS SOIL, ONE OR MORE CONSTITUENTS WILL OR MAY BE MOBILE AND MAY CONTAMINATE GROUND WATER.

OTHER ADVERSE EFFECTS..... NO DATA AVAILABLE.

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:..... INCINERATION INCLUDING ENERGY RECOVERY OF WASTE MATERIAL IN A PERMITTED FACILITY IN ACCORDANCE WITH LOCAL, STATE OR PROVINCIAL AND FEDERAL REGULATIONS.

PACKAGING:..... DISPOSE OF AS UNUSED PRODUCT.

SECTION 14: TRANSPORT INFORMATION

STOCK # 994/995/998 AS FOLLOWS:

UN NUMBER..... 1993.
TDG CLASSIFICATION..... 3.
PACKING GROUP. ..... II.
PROPER SHIPPING NAME..... FLAMMABLE LIQUID, N.O.S. (2-PROPANOL SOLUTION).

STOCK # 991/992/993: CONSUMER COMMODITY

SECTION 15: REGULATORY INFORMATION

HPR COMPLIANCE..... THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE HPR AND THE SDS CONTAINS ALL THE INFORMATION REQUIRED BY THE HPR.

SECTION 16: OTHER INFORMATION

TSCA- LISTED ON INVENTORY
N.AV.=NOT AVAILABLE
PREPARED BY..... KLEEN-FLO TUMBLER INDUSTRIES LIMITED
PREPARATION DATE..... FEB 21/2017

R D IT DITI E R R AR RA T DIESEL DE ST

SECTION 01: IDENTIFICATION DU PRODUIT CHIMIQUE ET DE LA SOCIETE

RÉFÉRENCE DU FABRICANT..... LES ENTREPRISES KLEEN-FLO TUMBLER LIMITEE
75 ADVANCE BLVD. BRAMPTON, ON
L6T 4N1
905-793-4311
NOM DU PRODUIT..... CONDITIONNEUR POUR CARBURANT DIESEL
CODE DU PRODUIT..... 991/992/993/994/995/998
FORMULE CHIMIQUE..... MÉLANGE.
UTILISATION DE MATÉRIEL..... ADDITIF POUR CARBURANT DIESEL
N ° DE TÉLÉPHONE D'URGENCE..... CANUTEC: 613-996-6666

SECTION 02: IDENTIFICATION DES DANGERS

MOT INDICATEUR..... DANGER.
CLASSIFICATION DES RISQUES..... LIQUIDES INFLAMMABLES — CATÉGORIE 2. IRRITATION CUTANÉE — CATÉGORIE 2. IRRITATION OCULAIRE — CATÉGORIE 2A. TOXICITÉ AIGUË (PAR VOIE ORALE) DE CATÉGORIE 5. TOXICITÉ POUR CERTAINS ORGANES CIBLES — EXPOSITION UNIQUE — CATÉGORIE 3. TOXICITÉ POUR CERTAINS ORGANES CIBLES — EXPOSITIONS RÉPÉTÉES — CATÉGORIE 2. DANGER PAR ASPIRATION — CATÉGORIE 1.
MENTION DE DANGER..... H225 LIQUIDE ET VAPEURS TRÈS INFLAMMABLES. H304 PEUT ÊTRE MORTEL EN CAS D'INGESTION ET DE PÉNÉTRATION DANS LES VOIES RESPIRATOIRES. H315 PROVOQUE UNE IRRITATION CUTANÉE. H319 PROVOQUE UNE SÉVÈRE IRRITATION DES YEUX. H332 NOCIF PAR INHALATION. H335 PEUT IRRITER LES VOIES RESPIRATOIRES. H336 PEUT PROVOQUER SOMNOLENCE OU DES VERTIGES. H373 RISQUE PRESUME D'EFFETS GRAVES POUR LES ORGANES À LA SUITE D'EXPOSITIONS RÉPÉTÉES OU D'UNE EXPOSITION PROLONGÉE.
CONSEIL DE PRUDENCE..... P210, TENIR A L'ECART DE LA CHALEUR, DES SURFACES CHAUDES, DES ETINCELLES, DES FLAMMES NUES ET DE TOUTE AUTRE SOURCE D'IGNITION. NE PAS FUMER. P233 MAINTENIR LE RÉCIPIENT FERMÉ DE MANIÈRE ÉTANCHE. P240 MISE À LA TERRE/LIAISON ÉQUIPOTENTIELLE DU RÉCIPIENT ET DU MATÉRIEL DE RÉCEPTION. P241 UTILISER DU MATÉRIEL ÉLECTRIQUE/DE VENTILATION/D'ÉCLAIRAGE/ ANTIDÉFLAGRANT. P242 NE PAS UTILISER D'OUTILS PRODUISANT DES ÉTINCELLES. P243 PRENDRE DES MESURES DE PRÉCAUTION CONTRE LES DÉCHARGES ÉLECTROSTATIQUES. P260 NE PAS RESPIRER LES POUSSIÈRES/FUMÉES/GAZ/BROUILLARDS/VAPEURS/ AÉROSOLS. P264 SE LAVER... SOIGNEUSEMENT APRES MANIPULATION. P271 UTILISER SEULEMENT EN PLEIN AIR OU DANS UN ENDROIT BIEN VENTILÉ. P273 ÉVITER LE REJET DANS L'ENVIRONNEMENT. P280 PORTEZ GANTS DE PROTECTION/PROTECTIVE CLOTHING/UNE PROTECTION/VISAGE. P301+P310 EN CAS D'INGESTION: APPELER IMMÉDIATEMENT UN CENTRE ANTIPOISON OU UN MÉDECIN. P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (OU LES CHEVEUX): ENLEVER IMMÉDIATEMENT LES VÊTEMENTS CONTAMINÉS. RINCER LA PEAU À L'EAU/SE DOUCHER. P304+P312 EN CAS D'INHALATION: APPELER UN CENTRE ANTIPOISON/ UN MÉDECIN/ EN CAS DE MALAISE. P304+P340 EN CAS D'INHALATION: TRANSPORTER LA VICTIME À L'EXTÉRIEUR ET LA MAINTENIR AU REPOS DANS UNE POSITION OÙ ELLE PEUT CONFORTABLEMENT RESPIRER. P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: RINCER AVEC PRÉCAUTION À L'EAU PENDANT PLUSIEURS MINUTES. ENLEVER LES LENTILLES DE CONTACT SI LA VICTIME EN PORTE ET SI ELLES PEUVENT ÊTRE FACILEMENT ENLEVÉES. CONTINUER À RINCER. P312 APPELER UN CENTRE ANTIPOISON OU UN MÉDECIN EN CAS DE MALAISE. P331 NE PAS FAIRE VOMIR. P337+P313 SI L'IRRITATION DES YEUX PERSISTE: DEMANDER UN AVIS MEDICAL/CONSULTER UN MEDECIN. P340 TRANSPORTER LA VICTIME À L'EXTÉRIEUR ET LA MAINTENIR

SECTION 02: IDENTIFICATION DES DANGERS

CONSEIL DE PRUDENCE..... AU REPOS DANS UNE POSITION OÙ ELLE PEUT CONFORTABLEMENT RESPIRER. P370+P378 EN CAS D'INCENDIE: UTILISER … POUR L'EXTINCTION. P403+P233 STOCKER DANS UN ENDROIT BIEN VENTILÉ. MAINTENIR LE RÉCIPIENT FERMÉ DE MANIÈRE ÉTANCHE. P403+P235 STOCKER DANS UN ENDROIT BIEN VENTILÉ. TENIR AU FRAIS. P405 MAGASIN FERMÉ À CLÉ. P501 ÉLIMINER LE CONTENU/RÉCIPIENT SELON TOUS LES RÈGLEMENTS APPLICABLES.

AUTRES DANGERS..... VAPEURS PEUVENT S'ACCUMULER DANS LES ZONES BASSES. PEUT FORMER DES PEROXYDES EXPLOSIFS. TOXIQUE POUR LA VIE AQUATIQUE AVEC EFFETS DE LONGUE DURÉE.

SECTION 03: COMPOSITION/INFORMATION SUR LES COMPOSANTS

INGRÉDIENTS DANGEREUX	# CAS	Wt. %
ALCOOL ISOPROPYLE	67-63-0	80-100
XYLENE	1330-20-7	10-30

SECTION 04: PREMIERS SECOURS

CONSEILS GÉNÉRAUX :..... CONSULTER UN MÉDECIN. MONTRER CETTE FICHE DE DONNÉES DE SÉCURITÉ CHEZ LE MÉDECIN EN PRÉSENCE. SORTIR DE LA ZONE DANGEREUSE.

S'IL EST INHALÉ :..... S'IL EST RESPIRÉ IN, DÉPLACER LA PERSONNE À L'AIR FRAIS. SI ELLE NE RESPIRE PAS, PRATIQUER LA RESPIRATION ARTIFICIELLE. CONSULTER UN MÉDECIN.

EN CAS DE CONTACT AVEC LA PEAU :.... LAVER AU LARGE AVEC BEAUCOUP D'EAU ET DU SAVON. CONSULTER UN MÉDECIN.

EN CAS DE CONTACT AVEC LES YEUX :. LAVER LES YEUX AVEC UNE QUANTITÉ ABONDANTE D'EAU.

EN CAS D'INGESTION :..... NE PAS FAIRE VOMIR. NE JAMAIS DONNER QUOI QUE CE SOIT PAR LA BOUCHE À UNE PERSONNE INCONSCIENTE. RINCER LA BOUCHE AVEC DE L'EAU. CONSULTER UN MÉDECIN. N'ABANDONNEZ PAS VICTIME.

SECTION 05: MESURES A PRENDRE EN CAS D'INCENDIE

INFLAMMABILITE..... INFLAMMABLE EN PRÉSENCE D'UNE SOURCE D'ALLUMAGE LORSQUE LA TEMPÉRATURE EST AU-DESSUS DU POINT D'ÉCLAIR. ÉLOIGNEZ-VOUS DE LA CHALEUR/DES ÉTINCELLES/DES FLAMMES/CHAUD DE SURFACE. NON FUMEUR.

D'EXTINCTION APPROPRIÉ..... CONVIENT POUR FEU ENVIRONNANT. LE DIOXYDE DE CARBONE, POUDRE CHIMIQUE, MOUSSE D'ALCOOL, BROUILLARD D'EAU.

PRODUITS DE COMBUSTION DANGEREUX OXYDES DE CARBONE.

DANGERS PARTICULIERS DÉCOULANT DE LA SUBSTANCE CHIMIQUE . AUCUNE DONNÉE DISPONIBLE.

PROCEDURES SPECIALES..... ÉVACUER LA ZONE DANGEREUSE. PORTEZ UN ÉQUIPEMENT DE PROTECTION COMPLET INCLUANT UN APPAREIL RESPIRATOIRE AUTONOME. EMPLOYEZ L'EAU POUR REFROIDIR DES RECIPIENTS.

SECTION 06: MESURES A PRENDRE EN CAS DE DEGAGEMENTS OU DEVERSEMENTS ACCIDENTELS

PRÉCAUTIONS INDIVIDUELLES :..... UTILISER LES ÉQUIPEMENTS DE PROTECTION INDIVIDUELLE. ÉVITER DE RESPIRER DES VAPEURS, DE BRUME OU DE GAZ. ASSURER UNE VENTILATION ADÉQUATE. SUPPRIMER TOUTE SOURCE D'IGNITION. ÉVACUER LE PERSONNEL VERS DES ZONES SÛRES. MÉFIEZ-VOUS DES VAPEURS S'ACCUMULENT POUR FORMER DES CONCENTRATIONS EXPLOSIVES. VAPEURS PEUVENT S'ACCUMULER DANS LES ZONES BASSES.

PRÉCAUTIONS ENVIRONNEMENTALES :. ÉVITER DAVANTAGE DE FUITE OU DE DÉVERSEMENT SI SÛRE DE LE FAIRE. NE LAISSEZ PAS PRODUIT ENTRER DRAINS. IL FAUT ÉVITER LES REJETS DANS L'ENVIRONNEMENT.

MÉTHODES ET MATÉRIAUX DE CONFINEMENT ET DE NETTOYAGE : ..... CONTENIR LE DÉVERSEMENT ET COLLECTERA AVEC ASPIRATEUR ÉLECTRIQUE PROTÉGÉE OU PAR BROSSAGE HUMIDE ET LE PLACE DANS LE RÉCIPIENT POUR ÉLIMINATION SELON LES RÉGLEMENTATIONS LOCALES.

SECTION 07: MANIPULATION ET LE STOCKAGE

PROCEDURES DE MANUTENTION ET EQUIPEMENT ..... MANIPULER CONFORMÉMENT AUX BONNES PRATIQUES DE SÉCURITÉ ET D'HYGIÈNE INDUSTRIELLES. ÉVITER TOUT CONTACT AVEC LES YEUX, LA PEAU ET LES VÊTEMENTS. EVITER DE RESPIRER LE BROUILLARD OU LES VAPEURS. PORTER UN ÉQUIPEMENT DE PROTECTION LORS DE LA MANIPULATION. UTILISER

SECTION 07: MANIPULATION ET LE STOCKAGE

PROCEDURES DE MANUTENTION ET EQUIPEMENT ..... UNE VENTILATION ADÉQUATE. ENTREPOSER DANS UN LIEU FRAIS ET SEC, A L'ECART DE LA CHALEUR, DES ETINCELLES ET DE LA FLAMME. PRENDRE DES MESURES POUR EMPÊCHER L'ACCUMULATION DES CHARGES ÉLECTROSTATIQUES.

CONDITIONS D'ENTREPOSAGE..... GARDER A L'ECART DES SOURCES DE CHALEUR, ETINCELLES, OU FLAMMES. PRENDRE GARDE DE NE PAS ENDOMMAGER LES CONTENANTS. GARDER LE RECIPIENT FERME QUAND CELUI-CI N'EST PAS UTILISE. MAGASIN DANS UN ENDROIT FRAIS ET BIEN VENTILÉ, LOIN DES RAYONS DIRECTS DU SOLEIL, DES SOURCES DE CHALEUR INTENSE, OU LORSQUE LA CONGÉLATION EST POSSIBLE.

SECTION 08: CONTROLE DE L'EXPOSITION/LA PROTECTION INDIVIDUELLE

INGRÉDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
ALCOOL ISOPROPYLE	200 ppm	400 ppm			
XYLENE	20 ppm	125 ppm			

CONTROLES D'INGENIERIE..... S'ASSURER D'UNE BONNE VENTILATION GENERALE POUR GARDER LES CONCENTRATIONS DES VAPEURS ET DES BROUILLARDS A DES NIVEAUX INFERIEURS AUX LIMITES D'EXPOSITION.

GANTS/TYPE..... COMPLÉTER LE COSTUME DE PROTECTION CONTRE LES PRODUITS CHIMIQUES. LE TYPE D'ÉQUIPEMENT DE PROTECTION DOIT ÊTRE CHOISI SELON LA CONCENTRATION ET LA QUANTITÉ DE LA SUBSTANCE DANGEREUSE SUR LE LIEU DE TRAVAIL SPÉCIFIQUE. VÊTEMENTS DE PROTECTION IGNIFUGE ANTISTATIQUE.

RESPIRATOIRE/TYPE..... UTILISER DES APPAREILS RESPIRATOIRES ANTI-POUSSIERES AGREES (AUX U.S.A. PAR LA NIOSH).

OEIL/ TYPE..... LUNETTES DE SECURITE ETANCHES (CHIMIQUES). ÉCRAN FACIAL.

MESURES D'HYGIÈNE..... UTILISEZ LA BONNE HYGIÈNE PERSONNELLE. SE LAVER LES MAINS AVANT DE MANGER, BOIRE, FUMER OU UTILISER LES TOILETTES. RETIRER RAPIDEMENT LES VÊTEMENTS SOUILLÉS ET LES LAVER SOIGNEUSEMENT AVANT DES RÉUTILISER. DOUCHE APRÈS LE TRAVAIL À L'AIDE DE BEAUCOUP D'EAU ET DU SAVON.

AUTRE/TYPE..... DOUCHE DE SÉCURITÉ ET DE LA STATION DE LAVAGE OCULAIRE DOIT ÊTRE SITUÉE PRÈS DU POSTE DE TRAVAIL.

SECTION 09: PROPRIETES PHYSIQUES ET CHIMIQUES

ETAT PHYSIQUE..... LIQUIDE.
ODEUR..... ALCOHOL LIKE.
SEUIL DE L'ODEUR..... AUCUNE DONNÉE DISPONIBLE.
PH..... AUCUNE DONNÉE DISPONIBLE.
POINT DE FUSION/CONGÉLATION, POINT (C) C-88.
POINT D'EBULLITION..... 82-83 C.
POINT D'ECLAIR (C), METHODE..... 12 C (ISOPROPYL ALCOHOL).
TAUX D'EVAPORATION..... 2.3 (nBuAc = 1).
INFLAMMABILITÉ (SOLIDES ET LES GAZ) NE S'APPLIQUE PAS.
SEUIL MAXIMAL D'INFLAMMABILITE (% PAR VOL.) ... 12 % (V).
SEUIL MINIMAL D'IMFLAMMABILITE (% PAR VOL.) ... 2 % (V).
PRESSION DE VAPEUR (MMHG)..... 6.020 Pa (20C).
DENSITE DE VAPEUR (AIR=1)..... AUCUNE DONNÉE DISPONIBLE.
DENSITE (EAU=1). .....0.796.
SOLUBILITE DANS L'EAU (20 C)..... COMPLETEMENT MISCIBLE.
TEMPERATURE D'AUTO IMFLAMMATION 425 (C).
: COEFFICIENT DE PARTAGE N-OCTANOL/EAU ..... AUCUNE DONNÉE DISPONIBLE.
TEMPÉRATURE DE DÉCOMPOSITION..... AUCUNE DONNÉE DISPONIBLE.
VISCOSITE..... AUCUNE DONNÉES DISPONIBLE.

SECTION 10: STABILITE ET REACTIVITE

RÉACTIVITÉ :..... UNE CHALEUR EXCESSIVE, LES ÉTINCELLES ET LES FLAMMES.
STABLE CHIMIQUEMENT:..... STABLE DANS DES CONDITIONS DE STOCKAGE RECOMMANDÉES.
RISQUE DE POLYMERISATION ..... VAPEURS PEUVENT FORMER UN MÉLANGE EXPLOSIF AVEC L'AIR. DANGEREUSE.
CONDITIONS A EVITER:..... TENIR LOIN DE LA FLAMME NUE ET DES ETINCELLES.
MATIÈRES INCOMPATIBLES :..... AGENTS OXYDANTS FORTS.

SECTION 10: STABILITE ET REACTIVITE

PRODUITS DANGEREUX DE DECOMPOSITION ..... OXYDES DE CARBONE.

SECTION 11: DONNEES TOXICOLOGIQUES

INGRÉDIENTS	LC50	LD50
ALCOOL ISOPROPYLE	INHALATION-RAT- 16000 ppm - 8h	ORAL-RAT- >5000 MG/KG
XYLENE	INHALATION-RAT- >20 mg/L	ORAL-RAT- >3523 mg/kg

TOXICITÉ AIGUË :
DL50 PAR VOIE ORALE..... VOIR CI-DESSUS.
CL50 PAR INHALATION..... VOIR CI-DESSUS.
DL50 PAR VOIE CUTANÉE..... LAPIN - 12800 MG/KG.
CORROSION CUTANÉE/IRRITATION..... LAPIN - DOUX DE PRÉPARER LA PEAU.
LÉSIONS OCULAIRES ..... LAPIN-EYE IRRITATION-24 h.
GRAVES/IRRITATION OCULAIRE
SENSIBILISATION RESPIRATOIRE OU CUTANÉE ..... AUCUNE DONNÉE DISPONIBLE.
MUTAGÉNICITÉ SUR LES CELLULES GERMINALES ..... AUCUNE DONNÉE DISPONIBLE.
CANCÉROGÉNICITÉ..... CIRC: 3 - GROUPE 3: INCLASSABLE QUANT À SA CANCÉROGÉNICITÉ POUR L'HOMME . CIRC : 2 B - SUBSTANCES POSSIBLEMENT CANCÉROGÈNES POUR LES HUMAINS (L'ÉTHYLBENZÈNE).
TOXICITÉ POUR LA REPRODUCTION..... N'ALTÈRE PAS LA FERTILITÉ. NON TOXIQUE POUR LE DÉVELOPPEMENT.
EXPOSITION DE STOT-SINGLE..... PEUT PROVOQUER SOMNOLENCE OU VERTIGES.
STOT - EXPOSITION RÉPÉTÉE..... AUCUNE DONNÉES DISPONIBLE.
DANGER PAR ASPIRATION..... PEUT ÊTRE MORTEL EN CAS D'INGESTION ET PÉNÈTRE DANS LES VOIES RESPIRATOIRES.
EFFETS SUR LA SANTÉ..... INHALATION - PEUT ÊTRE NOCIF PAR INHALATION. IRRITATION DES VOIES RESPIRATOIRES CAUSES. INHALATION DE VAPEURS PEUT PROVOQUER SOMNOLENCE ET VERTIGES. INGESTION - PEUT ÊTRE NOCIF SI AVALÉ. DANGER PAR ASPIRATION EN CAS D'INGESTION - ENTRER POUMONS ET CAUSE DES DOMMAGES. YEUX : PEUT IRRITER LES YEUX. LA PEAU - PEUT ÊTRE NOCIF SI ABSORBÉ PAR LA PEAU. PEUT CAUSER L'IRRITATION DE LA PEAU.
SIGNES ET SYMPTÔMES DE L'EXPOSITION ..... DÉPRESSION DU SYSTÈME NERVEUX CENTRAL, L'EXPOSITION PROLONGÉE OU RÉPÉTÉE PEUT CAUSER, NARCOSE, IRRITATION DE LA PEAU. UNE SUREXPOSITION PEUT ENTRAÎNER DES EFFETS HÉPATIQUES BÉNINS ET RÉVERSIBLES. ASPIRATION PEUT ENTRAÎNER, UN ŒDÈME PULMONAIRE, PNEUMONIE.

SECTION 12: DONNEES ECOLOGIQUES

PERSISTANCE ET DÉGRADABILITÉ..... FACILEMENT BIODÉGRADABLE.
POTENTIEL DE BIOACCUMULATION..... AUCUNE BIOACCUMULATION N'EST À PRÉVOIR.
TOXICITÉ..... LC50 - PIMEPHALES PROMELAS (boule) - 9 640,00 mg/l - 96 h - (IPA). CE50 - DAPHNIA MAGNA (puce d'eau) - 5 102,00 mg/l - 24h - (IPA).
MOBILITÉ DANS LE SOL..... SE DISSOUT DANS L'EAU. SI LE PRODUIT ENTRE DANS LE SOL, UN OU PLUSIEURS CONSTITUANTS SERONT OU PEUVENT ÊTRE MOBILE ET PEUVENT CONTAMINER LES EAUX SOUTERRAINES.
AUTRES EFFETS NOCIFS..... AUCUNE DONNÉE DISPONIBLE.

SECTION 13: DONNEES SUR L'ELIMINATION DU PRODUIT

MÉTHODES D'ÉLIMINATION :..... INCINÉRATION, Y COMPRIS LA VALORISATION ÉNERGÉTIQUE DES DÉCHETS DANS DES INSTALLATIONS AUTORISÉES CONFORMÉMENT À LA RÉGLEMENTATION LOCALE, ÉTAT OU PROVINCIALE ET FÉDÉRALE.
EMBALLAGE :..... DISPOSER DE COMME UN PRODUIT NON UTILISÉ.

SECTION 14: INFORMATIONS SUR LE TRANSPORT

#994/995/998 TEL QUE SUIT:

NUMERO DE L'ONU..... 1993.
CLASSIFICATION DU TMD…….....3.
GROUPE D'EMBALLAGE……II.
PROPER SHIPPING NAME..... LIQUIDE INFLAMMABLE, N.S.A. (2- PROPANOL SOLUTION).

991/992/993: BIEN DE CONSOMMATION

SECTION 15: INFORMATIONS SUR LA REGLEMENTATION

HPR CONFORMITÉ..... CE PRODUIT A ÉTÉ CLASSÉ SELON LES CRITÈRES DE RISQUE DE L'HPR ET LA FDS CONTIENT TOUTES LES INFORMATIONS REQUISES PAR L'HPR.

SECTION 16: AUTRES INFORMATIONS

INSCRITES À L'INVENTAIRE TSCA-
N.AV.=NOT DISPONIBLE
RÉPARÉ PAR..... LES ENTREPRISES KLEEN-FLO TUMBLER LIMITÉE
DATE DE PRÉPARATION..... FEV 21/2017

SAFETY DATA SHEET

1. Identification

Product identifier **Disc Brake Quiet**

Other means of identification

Product code 05015, 05016, 05115, 05116

Recommended use Apply to brakes to decrease noise

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word Warning

Hazard statement May cause damage to organs (kidneys, liver, blood) through prolonged or repeated exposure. Harmful to aquatic life.

Precautionary statement

Prevention Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not breathe mist or vapor. Avoid release to the environment.

Response Get medical advice/attention if you feel unwell.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

78.06% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Water		7732-18-5	20 - 30
Ethylene glycol		107-21-1	1 - 3
Triethanolamine		102-71-6	1 - 3
Diethanolamine		111-42-2	< 0.3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact
Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact
Rinse with water. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed
Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling
Provide adequate ventilation. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry place out of direct sunlight. Keep container tightly closed. Protect from freezing. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
Triethanolamine (CAS 102-71-6)	TWA	5 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Diethanolamine (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Neoprene.

Other Wear suitable protective clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Solid, Liquid.

Form Solid. Semi-solid paste.

Color Red.

Odor Acrylic.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -74.2 °F (-59 °C) estimated

Initial boiling point and boiling range 212 °F (100 °C) estimated

Flash point None (Tag Closed Cup)

Evaporation rate Slow.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	15.3 % estimated
Vapor pressure	12.1 hPa estimated
Vapor density	Not available.
Relative density	1.03
Solubility (water)	Dispersible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	700 °F (371.1 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	39.1 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Protect from freezing.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Acrylic monomers.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Swallowing this material may cause gastrointestinal discomfort. May cause damage to organs through prolonged or repeated exposure by ingestion.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
Disc Brake Quiet		
Acute		
Dermal		
LD50	Rabbit	9914 mg/kg estimated
Inhalation		
LC50	Rat	9650 ppm estimated
		8666 mg/l, 4 Hours estimated
		250 mg/l, 6 hours estimated
Oral		
LD50	Human	70000 mg/kg estimated
	Rat	9426 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Diethanolamine (CAS 111-42-2)	2B Possibly carcinogenic to humans.
Triethanolamine (CAS 102-71-6)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure by ingestion. Kidneys. Liver. Blood.

Aspiration hazard Not an aspiration hazard.

Chronic effects May cause damage to organs through prolonged or repeated exposure. May be harmful if absorbed through skin. Prolonged exposure may cause chronic effects.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Product		Species	Test Results
Disc Brake Quiet			
Aquatic			
Crustacea	EC50	Daphnia	4618.0098 mg/l, 48 hours estimated
Fish	LC50	Fish	4543.5259 mg/l, 96 hours estimated
Components		**Species**	**Test Results**
Diethanolamine (CAS 111-42-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/l, 96 hours
Ethylene glycol (CAS 107-21-1)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	41000 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	22810 mg/l, 96 hours
Triethanolamine (CAS 102-71-6)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10610 - 13010 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Diethanolamine	-1.43
Ethylene glycol	-1.36
Triethanolamine	-1

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). Empty containers may be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene glycol (CAS 107-21-1)

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene glycol (CAS 107-21-1) Listed.

CERCLA Hazardous Substances: Reportable quantity

Ethylene glycol (CAS 107-21-1) 5000 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Ethylene glycol (CAS 107-21-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Triethanolamine (CAS 102-71-6)
Ethylene glycol (CAS 107-21-1)
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)

US. Massachusetts RTK - Substance List

Ethylene glycol (CAS 107-21-1)
Triethanolamine (CAS 102-71-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethylene glycol (CAS 107-21-1)
Acrylonitrile (CAS 107-13-1)
Diethanolamine (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Triethanolamine (CAS 102-71-6)

US. Rhode Island RTK

Ethylene glycol (CAS 107-21-1)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,3-Dichloropropene (CAS 542-75-6)	Listed: January 1, 1989
1,4-Dioxane (CAS 123-91-1)	Listed: January 1, 1988
Acrylonitrile (CAS 107-13-1)	Listed: July 1, 1987
D&C ORANGE NO. 17 (CAS 3468-63-1)	Listed: July 1, 1990
Diethanolamine (CAS 111-42-2)	Listed: June 22, 2012
Ethanal (CAS 75-07-0)	Listed: April 1, 1988
Ethyl acrylate (CAS 140-88-5)	Listed: July 1, 1989
Ethylene oxide (CAS 75-21-8)	Listed: July 1, 1987
Formaldehyde (CAS 50-00-0)	Listed: January 1, 1988
Methylene chloride (CAS 75-09-2)	Listed: April 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene oxide (CAS 75-21-8)	Listed: August 7, 2009

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Ethylene oxide (CAS 75-21-8)	Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Ethylene oxide (CAS 75-21-8)	Listed: August 7, 2009

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	4 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	0.8 %
VOC content (OTC)	0.8 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-22-2015

Prepared by Allison Cho

Version # 01

Further information CRC # 562A-C

HMIS® ratings
Health: 1*
Flammability: 0
Physical hazard: 0
Personal protection: B

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

NFPA ratings

Disclaimer

CRC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

LAWSON
PRODUCTS, INC.

Material Safety Data Sheet

Revision Date *24-Jan-2014*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code 19904
Product name Dri-Graph
Recommended Use Lubricant

Supplier Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Extremely flammable. Contents under pressure. May cause eye/skin irritation. May cause irritation of respiratory tract.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Eyes. Skin. Inhalation.

Potential health effects

Eyes Exposure to vapors or mists may cause the following effects:. Irritation. Reddening. Itching. Burning sensation.

Skin Repeated or prolonged exposure may cause:. Skin Irritation. Redness. Itching. Burning sensation.

Inhalation Repeated or prolonged exposure may cause the following effects:. Upper respiratory tract irritation. Central nervous system depression. Headaches. Dizziness. Nausea. Loss of coordination. Extreme overexposure may cause. Cardiac abnormalities. Liver damage. Reproductive system damage. Possible unconsciousness. Death. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion May be harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Heptanes	142-82-5	30-60
Isopropyl alcohol	67-63-0	10-30
Propane	74-98-6	10-30
Butane	106-97-8	10-30
Toluene	108-88-3	0.5-1.5
Graphite	7782-42-5	0.5-1.5

4. FIRST AID MEASURES

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention.

Skin contact Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use.

Ingestion Do Not induce vomiting. Seek medical attention immediately.

Inhalation Remove to fresh air. Restore breathing. Keep warm and quiet.

5. FIRE FIGHTING MEASURES

Flash point °C < -17.78
Flash point °F < 0
Method Tag Closed Cup

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 12.7
Lower 1.0

Specific Information for Aerosol Products

Flame extension 26"
Flashback Yes

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical. Foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards
Containers may vent or burst under extreme or prolonged fire conditions. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat . During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Sensitivity to shock
No information available.

Sensitivity to static discharge
Yes. Take precautionary measures against static discharges.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Eliminate all sources of ignition. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling
Keep away from open flames, hot surfaces and sources of ignition. Vapors may accumulate readily and may ignite explosively. Turn off other sources of ignition prior to use and until all vapors have dissipated. Ensure adequate ventilation. Do not smoke. Check to make sure that all equipment is properly grounded and installed to satisfy electrical classification requirements. Thoroughly wash hands and exposed skin after handling. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Contents under pressure. Do not puncture or incinerate. Do not take internally. Keep out of reach of children.

Storage
Store in temperatures below 120 degrees F (50 degrees C) .

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Propane	1000 ppm 1800 mg/m^3	-	1000 ppm	-
Butane	800 ppm	-	-	1000 ppm
Heptanes	500 ppm 2000 mg/m^3	-	400 ppm	500 ppm
Toluene	200 ppm	300 ppm	20 ppm	-
Isopropyl alcohol	400 ppm 980 mg/m^3	-	200 ppm	400 ppm
Graphite	15 mg/m^3	-	2 mg/m^3	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area. Use in a well ventilated area.

Hygiene measures
Wash hands after handling the product. Avoid contact with skin, eyes and clothing.

Other precautions
Avoid breathing vapors or mists.

Respiratory protection
If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a NIOSH approved organic vapor/particulate respirator.

Hand Protection
Gloves are not required in normal use. The following gloves are recommended for prolonged or repeated contact: . Chemical resistant gloves.

Eye protection
Wear safety glasses with side shields.

Skin and body protection
None necessary under normal conditions

Other Protective Equipment
An eye wash station should be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol
Color	Colorless
Odor	Solvent
Odor Threshold	No information available
pH	Not Applicable
Specific Gravity	0.66
Vapor pressure	No data available
Density	5.50 lb/gal; 658 g/l
Vapor density	>Air
Evaporation Rate	>1 (Ether =1)
Water solubility	No data available
VOC Content	98.80% Less water and Federally Exempt Solvents
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	< -18 - 114
Boiling point/range °F	< -0 - 238
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	< -17.78
Flash point °F	< 0

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatability
None known.

Hazardous Decomposition Products
Carbon dioxide. Carbon monoxide.

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Propane 74-98-6	-	-	658 mg/L
Butane 106-97-8	-	-	658 g/m^3
Heptanes 142-82-5	-	3000 mg/kg	103 g/m^3
Toluene 108-88-3	636 mg/kg	8390 mg/kg	12.5 mg/L
Isopropyl alcohol 67-63-0	4396 mg/kg	12800 mg/kg	16000 ppm
Graphite 7782-42-5	-	-	-

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects May cause damage to lungs. May cause damage to kidneys. May cause damage to liver. Reports have associated prolonged overexposure to solvents with permanent brain and nervous system damage.

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Propane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Butane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Heptanes	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Toluene	A4	Not Listed	Not Listed	Not Listed	Not Listed
Isopropyl alcohol	A4	Not Listed	Not Listed	Not Listed	Not Listed
Graphite	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Isopropyl alcohol

Microtox Data
Photobacterium phosphoreum EC50=35390 mg/L (5 min)
Water Flea Data
Daphnia magna EC50=13299 mg/L (48 h)

Toluene

Microtox Data
Photobacterium phosphoreum EC50=19.7 mg/L (30 min)
Water Flea Data
Daphnia magna EC505.46 - 9.83 mg/L (48 h)
Daphnia magna EC50=11.5 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Disposal Information
As supplied, this product is a RCRA Hazardous Waste . Waste must be tested for ignitability to determine EPA hazardous waste numbers. Do not puncture or incinerate. Depressurize before disposal. Discard container or liner in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
UN1950 Aerosols, flammable, 2.1. This product meets the "Limited quantity" exemption

TDG
UN1950 AEROSOLS, flammable, 2.1 This product meets the "Limited quantity" exemption.

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Isopropyl alcohol	Listed

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Propane	Listed	Listed	Not Listed
Butane	Listed	Listed	Not Listed
Heptanes	Listed	Listed	Not Listed
Toluene	Listed	Listed	Developmental Female Reproductive
Isopropyl alcohol	Listed	Listed	Not Listed
Graphite	Not Listed	Listed	Not Listed

Chemical Name	Type
Toluene - 108-88-3	Female Reproductive

WARNING: This product contains a chemical(s) known to the state of California to cause cancer and birth defects or other reproductive harm

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Propane	X	X	-	X
Butane	X	X	-	X
Heptanes	X	X	-	X
Toluene	X	X	-	X
Isopropyl alcohol	X	X	-	X
Graphite	X	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 4
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Dry Ice, Carbon Dioxide, Solid

Safety Data Sheet E-4575

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 10-15-1979 Revision date: 08-10-2016 Supersedes: 10-15-2013

SECTION 1: Identification

1.1. Product identifier

Product form	:	Substance
Name	:	Dry Ice, Carbon Dioxide, Solid
CAS No	:	124-38-9
Formula	:	CO2
Other means of identification	:	Dry ice (nuggets, pellets, or blocks), carbonice, carbonic anhydride
Product group	:	Core Products

1.2. Recommended use and restrictions on use

Recommended uses and restrictions	:	Industrial use

1.3. Supplier

Praxair Canada inc.
1200 – 1 City Centre Drive
Mississauga - Canada L5B 1M2
T 1-905-803-1600 - F 1-905-803-1682
www.praxair.ca

1.4. Emergency telephone number

Emergency number	:	1-800-363-0042 Call emergency number 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier or Praxair sales representative.

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-CA classification

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms :

None

Signal word : DANGER

Hazard statements : MAY CAUSE CRYOGENIC BURNS OR INJURY
VAPOUR MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION
MAY CAUSE FROSTBITE
MAY INCREASE RESPIRATION AND HEART RATE

2.3. Other hazards

Other hazards not contributing to the classification	:	Refrigerated solidified gas. CONTACT WITH PRODUCT MAY CAUSE COLD BURNS OR FROSTBITE. Dry ice sublimes to carbon dioxide vapor at -109°F (-78°C). VAPOUR MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

2.4. Unknown acute toxicity (GHS-CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	CAS No.	% (Vol.)	Common Name (synonyms)
Dry Ice, Carbon Dioxide, Solid (Main constituent)	(CAS No) 124-38-9	100	Dry ice / CARBON DIOXIDE

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : None.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

Reactivity : None.

Reactivity in case of fire : None.

5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Evacuate all personnel from danger area. Do not discharge sprays onto solid carbon dioxide. Solid carbon dioxide will freeze water rapidly. NEVER HANDLE SOLID CARBON DIOXIDE WITH YOUR BARE HANDS. USE GLOVES OR DRY ICE TONGS OR A DRY SHOVEL OR SCOOP. Move packages away from fire area if safe to do so. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting : Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use protective clothing. Wear cold-insulating gloves/face shield/eye protection. Chemical asphyxiant. Exposure to low concentrations for extended periods may result in dizziness or unconsciousness, and may lead to death. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. NEVER HANDLE SOLID CARBON DIOXIDE WITH YOUR BARE HANDS. USE GLOVES OR DRY ICE TONGS OR A DRY SHOVEL OR SCOOP.

6.2. Methods and materials for containment and cleaning up

6.3. Reference to other sections

For further information refer to section 8: Exposure controls/personal protection

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid materials incompatible with cryogenic use; some metals such as carbon steel may fracture easily at low temperature. Vapor can cause rapid suffocation due to oxygen deficiency. Never allow any unprotected part of your body to touch solid carbon dioxide or to touch uninsulated pipes or vessels containing solid or liquid carbon dioxide or cold carbon dioxide gas. Not only can you suffer frostbite, your skin may stick fast to the cold surfaces. Use tongs or insulated gloves when handling solid carbon dioxide or objects in contact cold carbon dioxide in any form. Wear protective clothing and equipment as prescribed in section 8. For other precautions in using carbon dioxide, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store and use with adequate ventilation. Do not store in tight containers or confined spaces. Storage areas should be clean and dry. Solid carbon dioxide is generally delivered to customers in 50-lb (22.7-kg), ½-cubic ft (0.0142 cubic meter) blocks (approximate dimensions), wrapped in kraft paper. Small pellets or nuggets are also produced. The product should be stored in insulated containers that open from the top. Lids should fit loosely so the carbon dioxide vapor given off as the solid sublimes can escape into the atmosphere. Carbon dioxide gas is about 1½ times as heavy as air and will accumulate in low-lying areas, so ventilation must be adequate at floor or below grade level.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Dry Ice, Carbon Dioxide, Solid (124-38-9)		
USA - ACGIH	ACGIH TLV-TWA (ppm)	5000 ppm
USA - ACGIH	ACGIH TLV-STEL (ppm)	30000 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m³)	9000 mg/m³
USA - OSHA	OSHA PEL (TWA) (ppm)	5000 ppm
Canada (Quebec)	VECD (mg/m³)	54000 mg/m³
Canada (Quebec)	VECD (ppm)	30000 ppm
Canada (Quebec)	VEMP (mg/m³)	9000 mg/m³
Canada (Quebec)	VEMP (ppm)	5000 ppm
Alberta	OEL STEL (mg/m³)	54000 mg/m³
Alberta	OEL STEL (ppm)	30000 ppm
Alberta	OEL TWA (mg/m³)	9000 mg/m³
Alberta	OEL TWA (ppm)	5000 ppm
British Columbia	OEL STEL (ppm)	15000 ppm
British Columbia	OEL TWA (ppm)	5000 ppm
Manitoba	OEL STEL (ppm)	30000 ppm
Manitoba	OEL TWA (ppm)	5000 ppm
New Brunswick	OEL STEL (mg/m³)	54000 mg/m³
New Brunswick	OEL STEL (ppm)	30000 ppm
New Brunswick	OEL TWA (mg/m³)	9000 mg/m³
New Brunswick	OEL TWA (ppm)	5000 ppm
New Foundland & Labrador	OEL STEL (ppm)	30000 ppm
New Foundland & Labrador	OEL TWA (ppm)	5000 ppm
Nova Scotia	OEL STEL (ppm)	30000 ppm
Nova Scotia	OEL TWA (ppm)	5000 ppm
Nunavut	OEL STEL (mg/m³)	27000 mg/m³
Nunavut	OEL STEL (ppm)	15000 ppm
Nunavut	OEL TWA (mg/m³)	9000 mg/m³
Nunavut	OEL TWA (ppm)	5000 ppm

Dry Ice, Carbon Dioxide, Solid (124-38-9)		
Northwest Territories	OEL STEL (ppm)	30000 ppm
Northwest Territories	OEL TWA (ppm)	5000 ppm
Ontario	OEL STEL (ppm)	30000 ppm
Ontario	OEL TWA (ppm)	5000 ppm
Prince Edward Island	OEL STEL (ppm)	30000 ppm
Prince Edward Island	OEL TWA (ppm)	5000 ppm
Québec	VECD (mg/m³)	54000 mg/m³
Québec	VECD (ppm)	30000 ppm
Québec	VEMP (mg/m³)	9000 mg/m³
Québec	VEMP (ppm)	5000 ppm
Saskatchewan	OEL STEL (ppm)	30000 ppm
Saskatchewan	OEL TWA (ppm)	5000 ppm
Yukon	OEL STEL (mg/m³)	27000 mg/m³
Yukon	OEL STEL (ppm)	15000 ppm
Yukon	OEL TWA (mg/m³)	9000 mg/m³
Yukon	OEL TWA (ppm)	5000 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Oxygen detectors should be used when asphyxiating gases may be released. Ensure exposure is below occupational exposure limits (where available). Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment : Safety glasses. Insulated gloves.

Hand protection : Wear work gloves when handling containers. Wear heavy rubber gloves where contact with product may occur.

Eye protection : Wear safety glasses with side shields. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

Respiratory protection : **Respiratory protection:** Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with provincial regulations, local bylaws or guidelines. Selection should be based on the current CSA standard Z94.4, "Selection, Care, and Use of Respirators." Respirators should also be approved by NIOSH and MSHA. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves.

Environmental exposure controls : None necessary.

Other information : **Other protection :** Safety shoes for general handling at customer sites. Metatarsal shoes and cuffless trousers for cylinder handling at packaging and filling plants. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines. For working with flammable and oxidizing materials, consider the use of flame resistant anti-static safety clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Opaque. White crystalline solid.

Molecular mass : 44 g/mol

Colour : White.

Odour : No odour warning properties.

Odour threshold	:	No data available
pH	:	3.7 (carbonic acid)
pH solution	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	-78.5 °C
Freezing point	:	No data available
Boiling point	:	-78.4 °C
Flash point	:	Not applicable.
Critical temperature	:	30 °C
Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	No data available
Vapour pressure	:	5730 kPa
Vapour pressure at 50 °C	:	No data available
Critical pressure	:	7375 kPa
Relative vapour density at 20 °C	:	No data available
Relative density	:	0.82
Relative density of saturated gas/air mixture	:	No data available
Density	:	1562 kg/m³
Relative gas density	:	1.52
Solubility	:	Water: 2000 mg/l Completely soluble.
Log Pow	:	0.83
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Viscosity, kinematic (calculated value) (40 °C)	:	No data available
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Flammability (solid, gas)	:	

9.2. Other information

Sublimation point	:	-78.5 °C Expansion ratio for solid to gas at sublimation point is 1 to 554.
Additional information	:	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	:	None.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None.
Conditions to avoid	:	None under recommended storage and handling conditions (see section 7).
Incompatible materials	:	Alkali metals, Alkaline earth metals, Acetylide forming metals, Chromium, Titanium > 1022°F (550°C), Uranium (U) > 1382°F (750°C), Magnesium > 1427°F (775°C).
Hazardous decomposition products	:	Electrical discharges and high temperatures decompose carbon dioxide into carbon monoxide and oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Skin corrosion/irritation	:	Not classified pH: 3.7 (carbonic acid)
Serious eye damage/irritation	:	Not classified pH: 3.7 (carbonic acid)
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Dry Ice, Carbon Dioxide, Solid (124-38-9)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Dry Ice, Carbon Dioxide, Solid (124-38-9)	
BCF fish 1	(no bioaccumulation)
Log Pow	0.83
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Dry Ice, Carbon Dioxide, Solid (124-38-9)	
Mobility in soil	No data available.
Log Pow	0.83
Log Kow	Not applicable.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Other adverse effects : Can cause frost damage to vegetation.

Effect on the ozone layer : None

Global warming potential [CO2=1] : 1

Effect on global warming : When discharged in large quantities may contribute to the greenhouse effect

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : See Section 6.

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

TDG

UN-No. (TDG)	:	UN1845
TDG Primary Hazard Classes	:	9 - Class 9 - Miscellaneous Products, Substances or Organisms
Proper shipping name	:	CARBON DIOXIDE, SOLID
Explosive Limit and Limited Quantity Index	:	0
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	200 kg

14.3. Air and sea transport

IMDG

UN-No. (IMDG)	:	1845
Proper Shipping Name (IMDG)	:	CARBON DIOXIDE, SOLID (DRY ICE)
Class (IMDG)	:	9 - Miscellaneous dangerous substances and articles

IATA

UN-No. (IATA)	:	1845
Proper Shipping Name (IATA)	:	Carbon dioxide, solid
Class (IATA)	:	9 - Miscellaneous Dangerous Goods

SECTION 15: Regulatory information

15.1. National regulations

Dry Ice, Carbon Dioxide, Solid (124-38-9)
Listed on the Canadian DSL (Domestic Substances List)

15.2. International regulations

Dry Ice, Carbon Dioxide, Solid (124-38-9)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

SECTION 16: Other information

Date of issue	:	15/10/1979
Revision date	:	10/08/2016
Supersedes	:	15/10/2013

Indication of changes:

Other information : Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

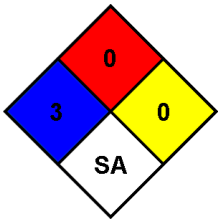
The opinions expressed herein are those of qualified experts within Praxair Canada Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair Canada Inc, it is the user's obligation to determine the conditions of safe use of the product. Praxair Canada Inc, SDSs are furnished on sale or delivery by Praxair Canada Inc, or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.ca. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write Praxair Canada Inc, (Phone: 1-888-257-5149; Address: Praxair Canada Inc, 1 City Centre Drive, Suite 1200, Mississauga, Ontario, L5B 1M2).

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA specific hazard : SA - This denotes gases which are simple asphyxiants.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS Canada (GHS) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Material Safety Data Sheet

1. Product and company identification

Product name Dual Range HV 46

MSDS # 460278

Code 460278-CA01

Product use Hydraulic fluid.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer Castrol Industrial North America, Inc.
150 W. Warrenville Road
Naperville, IL 60563

Supplier Wakefield Canada, Limited
3620 Lakeshore Blvd West
Toronto, Ontario, Canada
M8W 1P2

Castrol Industrial North America, Inc.
150 W. Warrenville Road
Naperville, IL 60563
Product Information: +1-877-641-1600

EMERGENCY SPILL INFORMATION: 1 (613) 996-6666 CANUTEC (Canada)

2. Hazards identification

Physical state Liquid.

Color Purple.

Emergency overview CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes May cause eye irritation.

Skin May cause skin irritation.

Inhalation May cause respiratory tract irritation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies - See Key to abbreviations	90 - 95
Base oil - highly refined	Varies - See Key to abbreviations	1 - 5

4. First aid measures

Eye contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact
Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion
Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician
Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Flash point
Closed cup: >190°C (>374°F) [Pensky-Martens.]

Fire/explosion hazards
In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable
Use an extinguishing agent suitable for the surrounding fire.

Not suitable
Do not use water jet.

Fire-fighting procedures
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products
Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire)
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions
No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Storage	Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist **CA Ontario Provincial (Canada).** TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1992 Form: mist STEL: 10 mg/m³ 15 minutes. Issued/Revised: 1/1992 Form: mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes	Avoid contact with eyes. Safety glasses with side shields or chemical goggles.
Skin and body	Avoid contact with skin and clothing. Wear suitable protective clothing.
Respiratory	Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.
Hands	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Purple.
Odor	Not available.
Odor threshold	Not available.
Flash point	Closed cup: >190°C (>374°F) [Pensky-Martens.]
Specific gravity	Not available.
Density	<1000 kg/m³ (<1 g/cm³) at 15°C
pH	Not available.
Viscosity	Kinematic: 46 mm^2/s (46 cSt) at 40°C Kinematic: 8.15 mm^2/s (8.15 cSt) at 100°C
Boiling point / Range	Not available.
Melting point / Range	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
$LogK_{ow}$	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other information

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Reproductive effects	No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability	Expected to be biodegradable.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.

REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan inventory (CSNN)	Not determined.

16. Other information

Label requirements

CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

History

Date of issue 12/09/2015.

Date of previous issue 10/22/2015.

Prepared by Product Stewardship

Key to abbreviations Varies = may contain one or more of the following 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2

Notice to reader

Indicates information that has changed from previously issued version.

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET

81210/86210

Section 1. Identification

Product name : DURA SEAL® Penetrating Finish
210 Neutral

Product code : 81210/86210

Other means of identification : Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Paint or paint related material.

Manufacturer : MINWAX Company
10 Mountainview Road
Upper Saddle River, NJ 07458

Emergency telephone number of the company : (800) 424-9300

Product Information Telephone Number : (800) 364-1359

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 63.5% (oral), 63.5% (dermal), 63.5% (inhalation)

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.

Storage : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

Hazards not otherwise classified : DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Light Aliphatic Hydrocarbon	≥50 - ≤75	64742-47-8
Med. Aliphatic Hydrocarbon Solvent	≤5	64742-88-7
Toluene	<1	108-88-3
Cobalt 2-Ethylhexanoate	<1	136-52-7
Methyl Ethyl Ketoxime	≤0.3	96-29-7
Hydrotreated Heavy Petroleum Naphtha	≤0.3	64742-48-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths

Section 4. First aid measures

skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 3/2020). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Med. Aliphatic Hydrocarbon Solvent	64742-88-7	**OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
Toluene	108-88-3	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2020).** TWA: 20 ppm 8 hours.
Cobalt 2-Ethylhexanoate	136-52-7	**ACGIH TLV (United States, 3/2020). Skin sensitizer. Inhalation sensitizer.** TWA: 0.02 mg/m³, (as Co) 8 hours.
Methyl Ethyl Ketoxime	96-29-7	**AIHA WEEL (United States, 7/2018). Skin sensitizer.** TWA: 10 ppm 8 hours.
Hydrotreated Heavy Petroleum Naphtha	64742-48-9	None.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Petroleum refining, hydrotreated light distillate	64742-47-8	**CA British Columbia Provincial (Canada, 1/2020). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.** 8 hrs OEL: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours.
Medium aliphatic solvent naphtha (petroleum) C9-C12	64742-88-7	**CA Ontario Provincial (Canada, 6/2019).** TWA: 525 mg/m³ 8 hours.

Toluene	108-88-3	**CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 1/2020).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 6/2019).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 7/2019). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 188 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Cobalt 2-Ethylhexanoate	136-52-7	**CA Ontario Provincial (Canada, 6/2019).** TWA: 0.02 mg/m³, (as Co) 8 hours. Form: Inorganic **CA British Columbia Provincial (Canada, 1/2020). Skin sensitizer. Inhalation sensitizer.** TWA: 0.02 mg/m³, (as Co, Total) 8 hours. **CA Quebec Provincial (Canada, 7/2019). Skin sensitizer.** TWAEV: 0.02 mg/m³, (as Co) 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 0.06 mg/m³, (measured as Co) 15 minutes. TWA: 0.02 mg/m³, (measured as Co) 8 hours.
Methyl Ethyl Ketoxime	96-29-7	**AIHA WEEL (United States, 7/2018). Skin sensitizer.** TWA: 10 ppm 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 3/2020). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Toluene	108-88-3	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 20 ppm 8 hours.
Cobalt 2-Ethylhexanoate	136-52-7	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 0.02 mg/m³, (as Co) 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls :

Section 8. Exposure controls/personal protection

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Boiling point/boiling range : 148°C (298.4°F)

Flash point : Closed cup: 40°C (104°F) [Tagliabue Closed Cup]

Evaporation rate : 0.13 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 6%

Vapor pressure : 0.17 kPa (1.27 mm Hg) [at 20°C]

Section 9. Physical and chemical properties

Vapor density : 5 [Air = 1]

Relative density : 0.84

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Heat of combustion : 26.595 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	49 g/m^3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Cobalt 2-Ethylhexanoate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1.22 g/kg	-
Methyl Ethyl Ketoxime	LD50 Oral	Rat	930 mg/kg	-
Hydrotreated Heavy Petroleum Naphtha	LC50 Inhalation Vapor	Rat	8500 mg/m^3	4 hours
	LD50 Oral	Rat	>6 g/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Mild irritant	Rabbit	-	870 ug	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Pig	-	24 hours 250 Ul	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
Methyl Ethyl Ketoxime	Eyes - Severe irritant	Rabbit	-	100 Ul	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Cobalt 2-Ethylhexanoate	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Med. Aliphatic Hydrocarbon Solvent	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Toluene	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Hydrotreated Heavy Petroleum Naphtha	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon	Category 2	-	-
Med. Aliphatic Hydrocarbon Solvent	Category 1	-	-
Toluene	Category 2	-	-
Hydrotreated Heavy Petroleum Naphtha	Category 2	-	-

Section 11. Toxicological information

Aspiration hazard

Name	Result
Light Aliphatic Hydrocarbon	ASPIRATION HAZARD - Category 1
Med. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1
Hydrotreated Heavy Petroleum Naphtha	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Section 11. Toxicological information

Not available.

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Light Aliphatic Hydrocarbon	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Methyl Ethyl Ketoxime	Acute LC50 843000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Toluene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Cobalt 2-Ethylhexanoate	-	15600	high
Methyl Ethyl Ketoxime	-	2.5 to 5.8	low
Hydrotreated Heavy Petroleum Naphtha	-	10 to 2500	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1263	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT	PAINT	PAINT. Marine pollutant (Light Aliphatic Hydrocarbon, Med. Aliphatic Hydrocarbon Solvent)
Transport hazard class(es)	3 	3 	3 	3 	3  
Packing group	III	III	III	III	III
Environmental hazards	No.	No.	No.	Yes. The environmentally hazardous substance mark is not required.	Yes.
Additional information	This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials. **ERG No.**	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).	-	The environmentally hazardous substance mark may appear if required by other transportation regulations.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-E, S-E

Section 14. Transport information

	128	**ERG No.** 128	**ERG No.** 128		

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

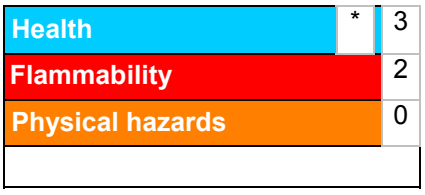
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 10/12/2020

Date of issue/Date of revision : 10/12/2020

Date of previous issue : 8/24/2020

Version : 10

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

DURON TM/MC SAE 30

000003000460

Version 3.1 Revision Date 2017/02/17 Print Date 2017/02/17

SECTION 1. IDENTIFICATION

Product name	:	DURON TM/MC SAE 30
Product code	:	DUR3IBC, DUR3P5R, DUR3P20, DUR3DRR, DUR3DRM, DUR3DCT, DUR3C16, DUR3C12, DUR3, DUR3BLK
Manufacturer or supplier's details		Petro-Canada Lubricants Inc. 2310 Lakeshore Road West Mississauga ON L5J 1K2 Canada
Emergency telephone number		Petro-Canada Lubricants Inc.: +1 905-403-5770; CHEMTREC Transport Emergency: 1-800-424-9300; Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use	:	DURON single grade oils are intended for use in diesel and spark ignition engines according to the specific viscosity grade and performance level for each grade of product. They may also be used for wet clutch and gear type transmissions and hydraulic systems in line with equipment builder specifications.
Prepared by	:	Product Safety: +1 905-804-4752

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	viscous liquid
Colour	amber
Odour	Mild petroleum oil like.

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Potential Health Effects

Primary Routes of Entry : Eye contact
Ingestion
Inhalation
Skin contact

Aggravated Medical Condition : None known.

Other hazards

None known.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration
lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity	72623-85-9	50 - 70 %
lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	30 - 50 %
lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	10 - 20 %
Zinc alkyldithiophosphate	113706-15-3	1 - 5 %

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Seek medical advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Wash clothing before reuse.
Seek medical advice.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

If swallowed : Rinse mouth with water.

DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
Seek medical advice.

Most important symptoms and effects, both acute and delayed : First aider needs to protect himself.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : No information available.

Specific hazards during firefighting : Cool closed containers exposed to fire with water spray.

Hazardous combustion products : Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur compounds (H2S), sulphur oxides (SOx), phosphorus oxides (POx), zinc oxides (ZnOx), metal oxides, hydrocarbons, smoke and irritating vapours as products of incomplete combustion.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.

Methods and materials for containment and cleaning up : Prevent further leakage or spillage if safe to do so.
Remove all sources of ignition.
Soak up with inert absorbent material.
Non-sparking tools should be used.
Ensure adequate ventilation.
Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the ap-

plication area.
Use only with adequate ventilation.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity	72623-85-9	TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
		TWA (Inhalable fraction)	5 mg/m3	ACGIH

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne

contaminants.

Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Filter type	:	organic vapour filter
Hand protection Material	:	neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R).
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Protective measures	:	Wash contaminated clothing before re-use.
Hygiene measures	:	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	viscous liquid
Colour	:	amber
Odour	:	Mild petroleum oil like.
Odour Threshold	:	No data available
pH	:	No data available
Pour point	:	-30 °C (-22 °F)
Boiling point/boiling range	:	No data available
Flash point	:	249 °C (480 °F) Method: Cleveland open cup
Fire Point	:	265 °C (509 °F)

Auto-Ignition Temperature	:	No data available
Evaporation rate	:	No data available
Flammability	:	Low fire hazard. This material must be heated before ignition will occur.
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	0.8754 kg/l (15 °C / 59 °F)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	91.6 cSt (40 °C / 104 °F)
		11.2 cSt (100 °C / 212 °F)
Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	Reactive with oxidizing agents and water.
Hazardous decomposition products	:	May release COx, H2S, methacrylate monomers, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity

Components:

lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg,
Acute inhalation toxicity	:	LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg,

lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg,
Acute inhalation toxicity	:	LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg,

lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg,
Acute inhalation toxicity	:	LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg,

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

STOT - single exposure
No data available

STOT - repeated exposure
No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to bacteria	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil.

Offer surplus and non-recyclable solutions to a licensed disposal company.
Waste must be classified and labelled prior to recycling or disposal.
Send to a licensed waste management company.
Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

TDG
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The components of this product are reported in the following inventories:

DSL	On the inventory, or in compliance with the inventory
TSCA	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
IECSC	On the inventory, or in compliance with the inventory
EINECS	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

For Copy of SDS : Internet: lubricants.petro-canada.com/sds
Western Canada, telephone: 1-800-661-1199; fax: 1-800-378-4518
Ontario & Central Canada, telephone: 1-800-268-5850; fax: 1-800-201-6285
Quebec & Eastern Canada, telephone: 1-800-576-1686; fax: 1-800-201-6285
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

Revision Date : 2017/02/17

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

DYNAMIC SAFETY INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Identity: Dynaminc Safety Eye Wash Sterile,Buffered,Saline,Isotonic-

Section I- Company Information

Manufacturer: Niagara Pharmaceuticals Inc.	Emergency Telephone: 1- 800-424-9300(CHEMTREC) 1- (800) 268-9017 Poison Information Centre
Address: 60 Innovation Drive Flamborough, Ontario, Canada L9H 7P3	Telephone: (905) 690-6277 Fax: (905) 690-6281 Date Prepared: December 15, 2011 Prepared By: Reesa James, Quality Assurance

Section II - Material Identification and Information

Components	CAS #'s	%	ACGIH TLV	LD_{50}	LC_{50}
BORIC ACID	10043-35-3	< 2.0	10 mg/m^3	3500 mg/kg(oral rat)	N.Av
SODIUM BORATE	1330-43-4	< 1.0	5mg/m^3	2000mg/kg(oral rabbit)	>2000mg/m^3(rat)
SODIUM CHLORIDE	7647-14-5	< 1.0	N.Av	3000 mg/kg(oral rat)	> 422mg/kg(rat)
DISODIUM EDETATE	6381-92-6	< 0.2	10 mg/m^3	2000 mg/kg(oral rat)	N.Av
BENZALKONIUM CHLORIDE	68424-85-1	< 0.0125	N.Av	400 mg/kg(oral rat)	N.Av
BENZETHONIUM CHLORIDE	121-54-0	< 0.002	N.Av	420 mg/kg(oral rat)	N.Av

Section III - Physical / Chemical Characteristics

Physical State: LIQUID	Specific Gravity (H20 = 1): 1.000-1.020		
Boiling Point: N.Av	Melting Point: N.Av		
Vapour Pressure (mm Hg): N.Av	Evaporation Rate (Water = 1): N.Av		
Vapour Density (Air = 1): N.Av	Water Reactive: NONE		
Solubility in Water: MISCIBLE	Percent Volatile: 97%	pH: 6.3-7.8	
Appearance and Odour: CLEAR, COLOURLESS TO VERY SLIGHTLY PALE YELLOW LIQUID, CHARACTERISTIC ODOUR			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used): N/A	Auto-Ignition Temperature: N/A	
Flammability Limits in Air % By Volume: N/A	LEL: N/A	UEL: N/A
Extinguisher Media: CARBON DIOXIDE, WATER, FOAM		
Special Fire Fighting Procedures: NONE		
Unusual Fire and Explosion Hazards: NONE		

Section V - Reactivity Data

Stability	Unstable: NO Stable: YES	Conditions to Avoid: NONE
Incompatibility (Materials to Avoid): STRONG OXIDIZING MATERIALS, STRONG REDUCING AGENTS		
Hazardous Decomposition Products: CARBON MONOXIDE, CARBON DIOXIDE		
Hazardous Polymerization	May Occur: NO Will Not Occur: YES	Conditions to Avoid: NONE

MATERIAL SAFETY DATA SHEET

Identity:	Dynaminc Safety Eye Wash Sterile,Buffered,Saline,Isotonic-

Section VI - Health Hazard Data - Potential Acute Health Effects

Eye Contact:	PRODUCT IS INTENDED FOR USE IN THE OCULAR AREA
Skin Contact:	PRODUCT HAS NO EFFECT.
Inhalation	PRODUCT HAS NO EFFECT.
Ingestion:	MAY CAUSE STOMACH DISCOMFORT IF INGESTED.

Section VII - Health Hazard Data

Emergency First Aid Procedures:	SEEK MEDICAL ASSISTANCE FOR FURTHER TREATMENT, OBSERVATION AND SUPPORT IF NECESSARY.
Eye Contact:	NONE REQUIRED
Skin Contact:	NONE REQUIRED
Inhalation:	NONE REQUIRED
Ingestion:	DO NOT INDUCE VOMITING. IF POSSIBLE GIVE 3 TO 4 GLASSES OF MILK (if unavailable, give water). CALL A PHYSICIAN IMMEDIATELY.

Section VIII - Control and Protective Measures

Respiratory Protection (Specify Type):	NONE		
Protection Gloves:	NONE	Eye Protection: NONE	
Ventilation to be Used:	Local Exhaust: YES		Special: N/A
	Mechanical (General): N/A		Other: N/A
Other Protective Clothing and Equipment:	NOT REQUIRED		
Hygienic Work Practices:	KEEP CONTAINER CLOSED WHEN NOT IN USE. ALWAYS READ LABEL BEFORE USE.		

Section IX - Precautions for Safe Handling and Use / Leak Procedures

Steps to be taken if Material is Spilled or Released:	MOP UP USING LARGE AMOUNTS OF WATER. FLUSH DOWN SANITARY SEWER.
Waste Disposal Methods:	IN ACCORDANCE WITH MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS.
Precautions to be Taken in Handling and Storage:	KEEP AWAY FROM EXCESSIVE HEAT. KEEP CONTAINER CLOSED WHEN NOT IN USE.
Other Precautions and/or Special Hazards:	KEEP FROM FREEZING. READ LABEL BEFORE USING.

HMIS Rating:	Health: 1	Flammability: 0	Reactivity: 0	Personal Protection: 0			
NFPA Rating	Health: 1	Flammability: 0	Reactivity: 0	Special: 0			

Section X - Other Information

N.Av : Not Available

N/A Not Applicable

Product is intended for single use only. Sterility cannot be guaranteed once protective seal has been broken/removed

Safety Data Sheet

Dynatex® 49560 Anti-Seize & Lubricating Compound

Section 1. Identification

Product Identifier	Dynatex® 49560 Anti-Seize & Lubricating Compound
Synonyms	49560AL10
Manufacturer Stock Numbers	49560AL10
Recommended use	Refer to Technical Information
Uses advised against	Refer to Technical Information

Manufacturer Contact

Address

Dynatex a division of Soudal Accumetric
350 Ring Road
Elizabethtown, KY, 42701
USA

Phone	Emergency Phone	Fax
(270) 769-3385	(800) 424-9300 CHEMTREC	(270) 769-6418

Section 2. Hazards Identification

Classification	N/A
Signal Word	
Pictogram	
Hazard Statements	None needed according to classification criteria
Precautionary Statements	
Response	N/A
Prevention	N/A
Storage	N/A
Disposal	N/A
General	If medical advice is needed, have product container or label at hand Keep out of reach of children Read label before use

Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	
GHS Label Element	Not a hazardous substance or mixture.
GHS Classification	Not a hazardous substance or mixture.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
Not applicable	There are no additional ingredients present which, within the current knowledge	Unknown

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Eye Contact	Immediately flush eyes with water for at least 15 minutes. Get medical attention if irritation develops.
Skin Contact	Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use. Get medical attention if irritation develops.
Inhalation	Remove to fresh air. If symptoms persist, obtain appropriate medical attention.
Ingestion	Do not induce vomiting. Keep warm. Get medical attention.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Carbon Dioxide, Dry Chemical, Foam Use water fog to cool material in vicinity of fire.
Unsuitable Extinguishing Media	None known
Special Fire Fighting Procedures	Fight like a fuel oil fire. Cool fire exposed containers with water spray. Use water to keep fire exposed containers cool to prevent pressure build-up. Fire fighter should wear OSHA/NIOSH approved self-contained breathing apparatus.
Unusual Fire or Explosion Hazards	None known
Hazardous Decomposition Products	Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon Dioxide Carbon Monoxide Trace metal oxides

Section 6. Accidental Release Measures

Steps to be taken in case of spill or release	Stop flow, scrape, wipe, mop up or absorb with diatomaceous earth or other inert material. Disposal should be in accordance with local, state, and federal

regulations.

Section 7. Handling and Storage

Storage	Avoid storage near open flame or other sources of ignition.
Handling	Spills may cause slippery floors. Proper footwear required. Remove contaminated clothing and launder before reuse. Wash hands with soap and water before eating, drinking or smoking. Discard contaminated leather gloves and shoes.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	There are no additional ingredients present which, within the current knowledge	N/A	N/A	N/A

Personal Protective Equipment	Goggles, Gloves
Eye Protection	Safety goggles or glasses with side shields are recommended.
Skin Protection	Use neoprene or nitrile rubber gloves to prevent skin contact.
Respiratory protection	No respiratory protection should be needed with good local ventilation.
Other Protective Equipment	Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin exposure.
Hygiene Measures	Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.

Section 9. Physical and Chemical Properties

Physical State	Soft solid
Color	Aluminum
Odor	Petroleum
Odor Threshold	Not available
Solubility	Insoluble in water
Partition coefficient Water/n-octanol	Not available
VOC%	N/A
Viscosity	Not available
Specific Gravity	1.1
Density lbs/Gal	N/A
Pounds per Cubic Foot	N/A
Flash Point	221.11C 420F
FP Method	COC
Ph	Not available
Melting Point	Not available

Boiling Point	Not available
Boiling Range	N/A
LEL	N/A
UEL	N/A
Evaporation Rate	Not available
Flammability	Not available
Decomposition Temperature	Not available
Auto-ignition Temperature	Not available
Vapor Pressure	Not available
Vapor Density	Not available

Note	The above information is not intended for use in preparing product specifications. Contact Soudal Accumetric before writing specifications.

Section 10. Stability and Reactivity

Chemical Stability	Stable
Hazardous polymerization	Will not occur
Materials to Avoid / Incompatibility	Avoid contact with strong oxidizing agents.
Conditions to Avoid	Do not heat above flash point. Do not weld.

Section 11. Toxicological Information

Component Toxicology Information	No known applicable information.
Special Hazard Information on Components	No known applicable information.
Carcinogenicity	This product is not known to be a carcinogen.

Section 12. Ecological Information

Environmental Effects	Complete information is not yet available.
Fate and Effects in Waste Water Treatment Plants	Complete information is not yet available.
Environmental Fate and Distribution	Complete information is not yet available.

Section 13. Disposal

Waste Disposal Method	We make no guarantee or warranty of any kind that the use or disposal of this product complies with all local, state, or federal laws. It is also the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable statutes. This product is not known to be regulated under RCRA regulations. Disposal

of unused portions of this product and process waste containing this product should be done only after a careful evaluation and in compliance with all federal, local and state laws.

Section 14. Transport Information

UN Number	N/A
UN Proper Shipping Name	Not regulated
DOT Classification	Not regulated
Packing Group	Not regulated
Air Shipment (IATA)	Not subject to IATA regulations.
Ocean Shipment (IMDG)	Not subject to IMDG code.

Section 15. Regulatory Information

	The contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA Status	All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.
SARA Title III Section 302 Extremely Hazardous Substances	None
SARA Titre III Section 304 CERCLA Substances dangereuses	None
SARA Title III Section 313 Toxic Chemicals	Aluminum (7429-90-5)
California Proposition 65	This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm: None known
New Jersey	Aluminum (7429-90-5)
Pennsylvania	Aluminum (7429-90-5) Graphite (7782-42-5)

Section 16. Other Information

Revision Date	12/21/2015
Disclaimer	The data contained herein is based upon information that Soudal Accumetric believes to be reliable. Users of this product have the responsibility to determine that suitability of use and to adopt all necessary precautions to ensure the safety and protection of property and persons involved in said use. All statements or suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Eagle One™ SUPERIOR NANOWAX™ SPRAY WAX

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Ashland P.O. Box 2219 Columbus, OH 43216 United States of America EHS Customer Requests@ashland.com	1-800-ASHLAND (1-800-274-5263) **Regulatory Information Number** 1-800-325-3751 **Product Information** 614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS Label element

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	If breathed in, move person into fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye.
If swallowed	:	Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	No symptoms known or expected.
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	carbon dioxide and carbon monoxide
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.
Other information	:	Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Engineering measures	:	General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear as appropriate: Safety shoes

Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	tan
Odour	:	pleasant
Odour Threshold	:	No data available
pH	:	5
	:	No data available
Boiling point/boiling range	:	212 °F / 100 °C (1,013.333333 hPa) Calculated Phase Transition Liquid/Gas
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	23.3333333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.9984 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available

Viscosity

Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	Freezing temperatures.
Hazardous decomposition products		No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Skin corrosion/irritation
Not classified based on available information.
Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Unlikely to cause eye irritation or injury.

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Germ cell mutagenicity
Not classified based on available information.
Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.
STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
Not classified based on available information.
Further information
Product:
Remarks: No data available

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Other adverse effects
No data available
Product:

Additional ecological information	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice	:	Dispose of in accordance with all applicable local, state and federal regulations.
Contaminated packaging	:	Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Component(s)SARA 313

Pennsylvania Right To Know

WATER	7732-18-5	70.00 - 90.00 %
WAX EMULSION	Not Assigned	5.00 - 10.00 %

New Jersey Right To Know

WATER	7732-18-5	70.00 - 90.00 %
WAX EMULSION	Not Assigned	5.00 - 10.00 %
PROPRIETARY ADDITIVE	Not Assigned	1.00 - 5.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUSTR : Not in compliance with the inventory

ENCS : Not in compliance with the inventory

KECL : Not in compliance with the inventory

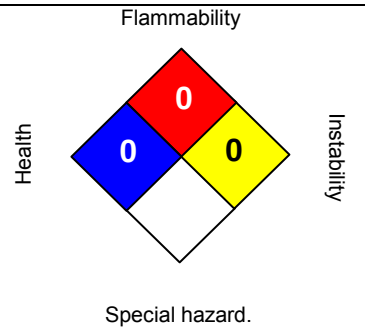
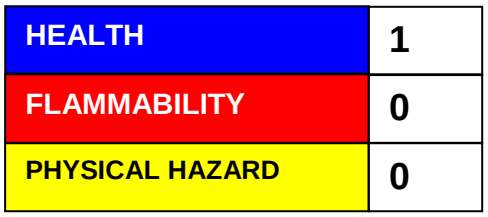
PICCS : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/22/2015

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

SAFETY DATA SHEET

1. Identification

Product identifier **LPS® Electro Contact Cleaner**

Other means of identification

Part Number 00416

Recommended use A non-flammable solvent blend for the removal of dirt, moisture, dust, flux and oxides from the internal components of electronic or precision equipment such as circuit boards and the internal components of electronic devices used in factories and other industrial settings.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name ITW Pro Brands

Address 4647 Hugh Howell Rd.
Tucker, GA 30084

Country (U.S.A.)

Tel: +1 770-243-8800

In Case of Emergency 1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)

Website www.lpslabs.com

E-mail lpssds@itwprobrands.com

2. Hazard(s) identification

Physical hazards Gases under pressure Liquefied gas

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Contains gas under pressure; may explode if heated.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a)		811-97-2	40 - 50
Methyl Nonafluorobutyl ether		163702-07-6	10 - 20

Chemical name	Common name and synonyms	CAS number	%
Methyl Nonafluoroisobutyl ether		163702-08-7	10 - 20
Perfluoro Compounds, (Primarily compounds with 6 Carbons)		86508-42-1	10 - 20
1,2-trans-dichloroethylene		156-60-5	5 - 10
Cyclohexylmethane		108-87-2	1 - 5
Isopropanol		67-63-0	1 - 5

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact No adverse effects due to skin contact are expected.

Eye contact No specific first aid measures noted.

Ingestion Not likely, due to the form of the product.

Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

General fire hazards Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

Methods and materials for containment and cleaning up Isolate area until gas has dispersed. Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Level 1 Aerosol.

Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS). Level 1 Aerosol.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	PEL	2000 mg/m3
		500 ppm
Isopropanol (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	200 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	400 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	1600 mg/m3
		400 ppm
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	1000 ppm	8 hour
Methyl Nonafluorobutyl ether (CAS 163702-07-6)	TWA	750 ppm	
Methyl Nonafluoroisobutyl ether (CAS 163702-08-7)	TWA	750 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Gas.
Form	Aerosol.
Color	Colorless.
Odor	Characteristic.
Odor threshold	Not established
pH	Not applicable
Melting point/freezing point	Not established
Initial boiling point and boiling range	118.4 °F (48 °C)
Flash point	None (Tag-Closed Cup)
Evaporation rate	< 1 (Ethyl Ether = 1)
Flammability (solid, gas)	Non flammable gas.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not established
Flammability limit - upper (%)	Not established
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	3103 mm Hg @ 20°C
Vapor density	> 1
Relative density	Not available.
Solubility(ies)	
Solubility (water)	< 5 % by weight
Partition coefficient (n-octanol/water)	< 1
Auto-ignition temperature	> 482 °F (> 250 °C)
Decomposition temperature	Not established
Viscosity	< 3 cSt @ 25°C
Other information	
Explosive properties	Not explosive.
Heat of combustion	< 20 kJ/g
Oxidizing properties	Not oxidizing.
Percent volatile	100 %
Specific gravity	1.38 - 1.4 @ 25°C
VOC	45 % per US State & Federal Consumer Product Regulations

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Combustion will generate smoke, possibly thick and choking, resulting in zero visibility and combustion products include hydrogen fluoride, hydrogen chloride, fluorine, chlorine, carbon monoxide and carbon dioxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
1,2-trans-dichloroethylene (CAS 156-60-5)		
Acute		
Oral		
LD50	Rat	1235 mg/kg
Cyclohexylmethane (CAS 108-87-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 6564 ppm, 1 Hours
Isopropanol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	16.4 ml/kg, 24 Hours
Oral		
LD50	Rat	4.7 g/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

Isopropanol (CAS 67-63-0) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.

Chronic effects Prolonged inhalation may be harmful.

Further information None known.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Cyclohexylmethane (CAS 108-87-2)			
Aquatic			
Fish	LC50	Striped bass (Morone saxatilis)	5.8 mg/l, 96 hours
Isopropanol (CAS 67-63-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
1,2-trans-dichloroethylene	2.06
Cyclohexylmethane	3.61
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a)	1.06
Isopropanol	0.05

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
D003: Waste Reactive material

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1950
UN proper shipping name Aerosols, non-flammable
Transport hazard class(es)
Class 2.2
Subsidiary risk -
Label(s) 2.2
Packing group Not applicable.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions 306
Packaging non bulk None
Packaging bulk None

IATA

UN number UN1950
UN proper shipping name Aerosols, non-flammable
Transport hazard class(es)
Class 2.2
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No.

ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

DOT

IATA; IMDG

General information Ensure compliance with applicable regulations.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-trans-dichloroethylene (CAS 156-60-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Isopropanol (CAS 67-63-0) Low priority

US state regulations WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2-trans-dichloroethylene (CAS 156-60-5)
Isopropanol (CAS 67-63-0)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-27-2016

Version # 01

Disclaimer

ITW Pro Brands cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

empack
Empack Spraytech Inc.
98 Walker Drive
Brampton, Ontario, L6T 4H6
Canada
905-792-6571

PRODUCT: Emzone Air Intake Carb & Choke Cleaner - 418g **CODE: 045009**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identity..... Emzone Air Intake Carb & Choke Cleaner - 418g
Product Item Numbers..... 045009
Manufacturer..... Empack Spraytech Inc.
98 Walker Drive
Brampton
Ontario
Canada
L6T 4H6
905-792-6571
24 hour emergency telephone number..... CANUTEC: (613)-996-6666 collect.
Recommended Use..... Cleans dirt, gum and varnish from carburetors, fuel injection throttle bodies, automatic chokes.
Consumer Commodity..... Yes.
Hazard Ratings:
HMIS..... Health: 2 Fire: 4 Reactivity: 0.
NFPA Rating..... Health: 2 Fire: 4 Reactivity: 0.

SECTION 02: HAZARDS IDENTIFICATION

Emergency Overview..... Danger. Extremely flammable aerosol. Poison. Contents under pressure. Container may explode if heated. May catch fire. Aspiration hazard. May cause skin, eye, and respiratory tract irritation . Do not puncture. Do not burn. Harmful or fatal if swallowed. KEEP OUT OF REACH OF CHILDREN .

Potential Health Effects:
Eye Contact..... May cause irritation, redness and pain.
Skin Contact ..... Can cause skin irritation. Skin inflammation is characterized by itching, reddening, or blistering.
Ingestion..... Aspiration hazard if swallowed. Can enter lungs and cause damage. Can cause gastrointestinal disturbances.
Inhalation..... Inhalation may cause respiratory tract irritation. Can cause Central Nervous System (CNS) depression; symptoms include nausea, headache, dizziness, unconsciousness .

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Toluene	108-88-3	15-40
Xylene	1330-20-7	10-30
Acetone	67-64-1	10-30
Propane	74-98-6	10-30
Diacetone Alcohol	123-42-2	7-13
Isobutane	75-28-5	7-13

SECTION 04: FIRST AID MEASURES

Eye Contact..... Check for and remove contact lenses. Immediately flush eyes with water for a minimum of 15 minutes keeping eyelids open. Consult a doctor if any irritation occurs. Get medical attention if irritation persists.
Skin Contact..... Remove contaminated clothing. Immediately flush the contaminated skin with soap and water. If this chemical penetrates clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention .
Ingestion..... If swallowed, call a Poison Control Center or doctor immediately. Do not induce vomiting.
Inhalation..... Move victim to fresh air. If breathing has stopped, give artificial respiration. If heartbeat absent, give external cardiac compression. Monitor breathing and pulse. If symptoms persist, call a physician.
Additional Information..... Note to the doctor; treat symptomatically.

SECTION 05: FIRE FIGHTING MEASURES

Flammability Class..... Extremely Flammable.
Extinguishing Media..... Carbon dioxide, dry chemicals, foam or water fog.
Sensitivity to Mechanical Impact..... Not expected to be sensitive.
Sensitivity to Static Discharge..... Not expected to be sensitive.

PRODUCT: Emzone Air Intake Carb & Choke Cleaner - 418g **CODE: 045009**

SECTION 06: ACCIDENTAL RELEASE MEASURES

Spills and Leaks..... Put on appropriate personal protective equipment (see Section 08). Eliminate all sources of ignition and ventilate area. Contain spillage, and then collect with non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling..... Do not breathe vapour or mist. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use with adequate ventilation.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Toluene	20 ppm	Not established	200 ppm	500 ppm 10 minutes	100 ppm/ STEL 150 ppm
Xylene	50 ppm	150 ppm	100 ppm (435 mg/m3)	Not established	Not established
Acetone	250 ppm	500 ppm	1,000 ppm (2,400 mg/m3)	Not available	Not available
Propane	Not available	Not available	1,000 ppm	Not available	Not available
Diacetone Alcohol	50 ppm	Not available	50 ppm (240 mg/m3)	Not available	Not available
Isobutane	800 ppm	1000 ppm	800ppm	Not available	800 ppm (TWA)

Eye/Face Protection..... Do not get in eyes. Wear safety glasses with side-shields.
Skin Protection..... Normally, no hand protection is required; however, prolonged or repeated contact with skin use chemical resistant gloves conforming to appropriate regulations. Observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves.
Respiratory Protection..... Typical use of this product under normal conditions does not require the use of respiratory protection. If airborne concentrations are above the applicable exposure limits (listed below), use NIOSH approved respiratory protection .
Appropriate Engineering Controls..... Good general ventilation should be used. Ventilation rates should be matched to conditions. Use local exhaust ventilation to maintain airborne levels below the Threshold Limit Value.

Exposure Limits

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Physical State..... Aerosol.
Physical Appearance..... Yellow.
Odour..... Hydrocarbons.
Odour Threshold (ppm)..... 230.
pH..... Not applicable.
Internal can pressure @21C (psig) ..... 50-80.
Vapour Density (Air=1)..... > 1.
Evaporation Rate (n-Butyl Acetate = 1)..... <1.
Initial Boiling Point/Boiling Range (°C)..... Not available.
VOC Content..... 95-100 % wt.
Specific Gravity ..... 0.880-0.920.
Specific Gravity (Aerosol)..... 0.730 - 0.770.
Solubility in water..... Nil.
Aerosol Flame Projection..... Not available .
Auto Ignition Temperature (Propellant), °C... 460°C (860°F).
Flashback..... Yes.
Flash Point (°C), Method..... Closed cup: -83.15 ºC (-117.7 ºF).
Lower Flammable Limit (% Vol)..... 1.8.
Upper Flammable Limit (% Vol)..... 9.5.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability..... Stable under the recommended storage and handling conditions.
Incompatible Materials..... Strong oxidizing agents.
Conditions to Avoid..... Avoid sources of heat and flame, and electrostatic charge. High temperatures may cause thermal decomposition.
Hazardous Decomposition Products..... Fumes and smoke.

PRODUCT: Emzone Air Intake Carb & Choke Cleaner - 418g **CODE: 045009**

SECTION 10: STABILITY AND REACTIVITY

Possibility of Hazardous Reactions..... Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Toluene	28.1 mg/l (Rat - 4hrs)	5,580 mg/kg (Oral - Rat); 12,125 mg/kg (Dermal - Rabbit)
Xylene	27.6 mg/L (Rat - 4hrs)	3,253 mg/kg (Oral - Rat); 12,180 mg/kg (Dermal - Rabbit)
Acetone	71 mg/L (Rat - 4hrs)	5,800 mg/kg (Oral - Rat); >15,800 mg/kg (Dermal - Rabbit)
Propane	658 mg/L (Rat - 4hrs)	Not available
Diacetone Alcohol	>8.84 mg/L (Rat - 4hrs)	2,738-3,920 mg/kg (Oral - Rat); 12,648-14,415mg/kg (Dermal - Rabbit)
Isobutane	658 mg/L (Rat - 4hrs)	Not available

Route of Exposure..... Skin contact, Eye contact, Inhalation and Ingestion.
Effects of Acute Exposure..... High vapor/aerosol concentrations may be irritating to eyes. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. In high concentrations, vapors and aerosol mists have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Ingestion may result in vomiting.
Chronic Effects..... Organic solvents may be absorbed into the body by inhalation and ingestion and cause permanent damage to the nervous system, including the brain. Prolong contact may defat and dry the skin, leading to discomfort and dermatitis .
Carcinogenicity..... Not classified as carcinogenic by ACGIH, IARC, OSHA or NTP.
Reproductive Toxicity..... No information is available, and no adverse effects are expected.
Teratogenicity..... No information is available, and no adverse effects are expected.
Germ Cell Mutagenicity..... No information is available, and no adverse effects are expected.
Toxicological Data

SECTION 12: ECOLOGICAL INFORMATION

Environmental..... Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Toluene: Toxicity to fish: LC50 5.5 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 3.78 mg/L, 48 hrs; Toxicity to algae: EL50 10.0 mg/L, 72 hrs. Xylene: Toxicity to fish: LC50 13.5 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: LD50 13 mg/L, 24 hrs. Acetone: Toxicity to fish: LC50 >100 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 10294 mg/L, 48 hrs. Diacetone alcohol: Toxicity to fish: LC50 420 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 8750 mg/L, 24 hrs; Toxicity to algae: EC 50 530 mg/L.

SECTION 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods..... Dispose in accordance with local, provincial and federal regulations. Don't puncture or incinerate containers, even when empty.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada- Road)..... AEROSOLS, Class 2.1, UN1950.
DOT (US-Road)..... AEROSOLS, Class 2.1, UN1950, LTD QTY, Consumer commodity ORM-D.
IMDG (International- Marine)..... AEROSOLS, Class 2.1, UN1950.
IATA (International- Air)..... AEROSOLS, Class 2.1, UN1950, LTD QTY.

SECTION 15: REGULATORY INFORMATION

Canada Regulations:..... WHMIS Classification. A: Compressed gas. B5: Flammable Aerosol. D2B: Material causing other toxic Materials. CPR (Canadian Controlled Product Regulations): All ingredients are CEPA approved for import to Canada. This product has been classified in accordance with the hazard criteria of the CPR and this SDS contains all information required by CPR. IDL (Canadian Ingredient Disclosure List): Component(s) of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List (section 03).
US Regulations..... Environmental Protection Act: Constituents of this product are included on the TSCA inventory. OSHA (29CFR 1910.1200). HMIS classification see section 01.

PRODUCT: Emzone Air Intake Carb & Choke Cleaner - 418g **CODE: 045009**

SECTION 16: OTHER INFORMATION

Disclaimer.....	The information contained herin is based on data considered accurate. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Empack assumes no responsibility for personal injury or property damage to vendees or users or third parties, caused by the material. Such vendees or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. THIS SDS IS VALID FOR THREE YEARS.
Abbreviations.....	ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHMIS: Workplace Hazardous Materials Information System STOT: Specific Target Organ Toxicity.
Prepared by	Regulatory Affairs
Latest Revision	AUG 28/2017

empack
Empack Spraytech Inc.
98 Walker Drive
Brampton, Ontario, L6T 4H6
Canada
905-792-6571

PRODUCT: emzone Brake & Parts Cleaner - The BIG Can - 482g **CODE: P6-045046**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Item Numbers..... P6-045046
Product Identity..... emzone Brake & Parts Cleaner - The BIG Can - 482g
Manufacturer..... Empack Spraytech Inc.
98 Walker Drive
Brampton
Ontario
Canada
L6T 4H6
905-792-6571
24 hour emergency telephone number..... CHEM TREC: 800-424-9300.
Recommended Use..... Solvent degreaser.

SECTION 02: HAZARDS IDENTIFICATION

Hazard Classification:
Physical Hazards..... Flammable Aerosols - Category 1. Gases Under Pressure - Compressed gas.
Health Hazards..... Eye Damage/Irritation - Category 2B. Skin Irritation - Category 2. Specific Target Organ Toxicity, Single Exposure - Category 3. Aspiration Hazard - Category 1.
Environmental Hazards..... Acute Aquatic Hazard - Category 1. Chronic Aquatic Hazard - Category 1.
Label Elements:
Signal Word..... DANGER.
Hazard Statement..... Extremely flammable aerosol. Pressurized container: may burst if heated. Causes eye irritation. Causes skin irritation. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects. Causes damage to organs.

Precautionary Statements:
Prevention..... Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wash hands thoroughly after handling. Wear protective gloves.
Response..... IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. Take of contaminated clothing and wash before reuse. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Call a POISON CENTER/doctor. Collect spillage.
Storage..... Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F. Store in a well-ventilated place. Store locked up.
Disposal..... Dispose of contents/ container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC).. None Known.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Heptane	142-82-5	60-100
Isopropyl Alcohol	67-63-0	5 - 10
Carbon Dioxide	124-38-9	1-5

PRODUCT: emzone Brake & Parts Cleaner - The BIG Can - 482g **CODE: P6-045046**

SECTION 04: FIRST AID MEASURES

Inhalation.....	If inhaled, remove to fresh air. If not breathing, give artificial respiration and obtain immediate medical assistance. If breathing is difficult, give oxygen and get medical attention. Do not give adrenaline, epinephrine or similar drugs following exposure to this product.
Skin Contact.....	Wash thoroughly with soap and lukewarm water.
Eye Contact.....	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation persists.
Ingestion.....	Do not induce vomiting, get medical attention. Consult poison control center or physician IMMEDIATELY.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 05: FIRE FIGHTING MEASURES

Suitable Extinguishing Media.....	Dry chemical powder. Carbon dioxide. Foam, water spray or fog.
Unsuitable Extinguishing Media.....	Do not use water jet as an extinguisher, as this will spread the fire.
Specific Hazards Arising from the Chemical.	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special Protective Equipment and Precautions for Firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
General Fire Hazards.....	Extremely flammable aerosol.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid walking through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 08).
Methods and Materials for Containment and Cleaning Up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.
Environmental Precautions.....	Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling.....	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid contact with eyes, skin, and clothing. Avoid breathing vapour of this product. Avoid contact with skin and eyes. Avoid prolonged exposure. Use in well-ventilated areas.
Conditions for Safe Storage including any Incompatibilities ...	Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C (122°F). Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10).

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Heptane	400 ppm	500 ppm	500 ppm	Not available	85 ppm for n-Heptane, 440 ppm for a ceiling conc.
Isopropyl Alcohol	400 ppm (983 mg/m3)	500 ppm (1230 mg/m3)	400 ppm (980 mg/m3)	500 ppm (1,225 mg/m3)	400 ppm (TWA)
Carbon Dioxide	5000 ppm	30000 ppm	9000 mg/m3	Not available	STEL: 30000ppm; TWA: 5000ppm

PRODUCT: emzone Brake & Parts Cleaner - The BIG Can - 482g **CODE: P6-045046**

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate Engineering Controls	Local exhaust ventilation required to maintain the point of use below the Threshold Limit Value if unprotected personnel are involved.
Individual Protection Measures:	
Eye/Face Protection	Do not get in eyes. Wear safety glasses with side-shields.
Skin Protection	Chemical resistant gloves are recommended. Avoid contact with the skin. Wear appropriate chemical resistant clothing.
Respiratory Protection	Use dust and mist respirator.
Thermal Hazards	None Known.
General Hygiene Considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment prior to use.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol.
Physical Appearance	Clear mist.
Odor	Heptane.
Odor Threshold (ppm)	N/A.
Specific Gravity (Liquid)	0.680-0.700.
Specific Gravity (Aerosol)	0.620- 0.660.
Aerosol Vapour Pressure (psig, 21°C)	83-130.
Vapour Density (Air=1)	> 1.
pH	N/A.
Boiling Point liquid (°C)	98 °C (209°F).
Melting/Freezing Point (°C)	N/A.
Flash Point (°C), Method	-4°C (25°F). Tag Closed Cup.
Flashback	Yes.
Evaporation Rate (n-Butyl Acetate = 1)	N/A.
VOC Content	96wt% (669g/L - 5.59 lb/gal).
Solubility in water	Nil.
Aerosol Flame Projection	>100 cm.
Auto Ignition Temperature (°C)	204°C (399°F).
Lower Flammable Limit (% Vol)	1.0.
Upper Flammable Limit (% Vol)	8.0.
Coefficient of Water/Oil Distribution	N/A.
Viscosity	N/A.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Product not reactive under normal conditions of use.
Chemical Stability	Material is stable under normal conditions.
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Avoid sources of heat and flame, and electrostatic charge.
Incompatible Materials	Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products	Carbon Oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Heptane	103,000 mg/L (Rat,4hr)	>15,000 mg/kg (rat - oral); >2,000 mg/kg (Dermal,Rabbit)
Isopropyl Alcohol	>20,000 ppm (4hrs-rat)	4,700 - 5,800 mg/kg (oral,rat)
Carbon Dioxide	Not available	Not available

Information on Likely Routes of Exposure:	
Routes of entry - Inhalation	Yes.
Routes of entry - Skin & Eye	Yes.
Routes of entry - Ingestion	Yes.
Routes of entry - Skin Absorption	Yes.
Symptoms Related to the Physical, Chemical and Toxicological Characteristics	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Acute Toxicity	Toxic if inhaled.
Skin Corrosion/Irritation	Causes skin irritation.
Serious Eye Damage/Eye Irritation	Causes eye irritation.
Respiratory or Skin Sensitization	Inhalation may cause respiratory tract irritation.
Germ Cell Mutagenicity	No information is available.
Carcinogenicity	None known.

PRODUCT: emzone Brake & Parts Cleaner - The BIG Can - 482g **CODE: P6-045046**

SECTION 11: TOXICOLOGICAL INFORMATION

Reproductive Toxicity	No information is available.
STOT - Single Exposure	Specific target organ toxicity single exposure Category 3. May cause drowsiness and dizziness.
STOT - Repeated Exposure	May cause damage to the liver and kidneys through prolonged or repeated exposure.
Aspiration Hazard	Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.
Chronic Effects	Organic solvents may be absorbed into the body by inhalation and ingestion and cause permanent damage to the nervous system, including the brain. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Heptane (CAS#:142-82-5): Toxicity to fish: LC50 1.284 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 0.1 mg/L, 96 hrs; Toxicity to algae: EL50 4.338 mg/L, 72 hrs.
Persistence and degradability	The product itself has not been tested.
Bioaccumulation Potential	The product itself has not been tested.
Mobility in Soil	The product itself has not been tested.
Other Adverse Effects	None Known.

SECTION 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods	Dispose in accordance with local, provincial and federal regulations.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada- Road)	AEROSOLS, Class 2.1, UN1950.
DOT (US-Road)	AEROSOLS, Class 2.1, UN1950, LTD QTY, Consumer commodity ORM-D.
IMDG (International- Marine)	AEROSOLS, Class 2.1, UN1950.
IATA (International- Air)	AEROSOLS, Class 2.1, UN1950, LTD QTY.

SECTION 15: REGULATORY INFORMATION

Canada Regulations:	WHMIS Classification. A: Compressed gas. B5: Flammable Aerosol. D2B: Material causing other toxic Materials.
Domestic Substances List (DSL)	Yes.
US Regulations	Environmental Protection Act: Constituents of this product are included on the TSCA inventory. This product is considered hazardous under the OSHA Hazard Communication Standard.

SECTION 16: OTHER INFORMATION

Disclaimer	The information contained herein is based on data considered accurate. No guarantee or warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. The SDS provider assumes no responsibility for personal injury or property damage to vendors or users or third parties, caused by the material. Such vendors or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. .
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHMIS: Workplace Hazardous Materials Information System STOT: Specific Target Organ Toxicity.
Prepared by	Regulatory Affairs
Latest Revision	JAN 03/2017

empack
Empack Spraytech Inc.
98 Walker Drive
Brampton, Ontario, L6T 4H6
Canada
905-792-6571

PRODUCT: Emzone Brake and Parts Cleaner Industrial - 390g **CODE: P6-045004**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Item Numbers.....	P6-045004
Product Identity.....	Emzone Brake and Parts Cleaner Industrial - 390g
Manufacturer.....	Empack Spraytech Inc. 98 Walker Drive Brampton Ontario Canada L6T 4H6 905-792-6571
24 hour emergency telephone number.....	In Canada: Call CANUTEC (613) 996-6666 - In The United States: Call CHEMTREC (800) 424-9300.
Recommended Use.....	Solvent degreaser.
Chemical Family.....	Petroleum Distillates.

SECTION 02: HAZARDS IDENTIFICATION

Label Elements:

Signal Word.....	DANGER.

Hazard Classification:

Physical Hazards.....	Flammable Aerosols - Category 1. Gases Under Pressure - Compressed gas.
Health Hazards.....	Skin Irritation - Category 2. Specific Target Organ Toxicity, Single Exposure - Category 3. Aspiration Hazard - Category 1.
Environmental Hazards.....	Acute Aquatic Hazard - Category 2. Chronic Aquatic Hazard - Category 3.
Hazard Statement.....	Extremely flammable aerosol. Pressurized container: may burst if heated. Contains gas under pressure; may explode if heated. Causes skin irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention.....	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash hand thoroughly after handling. Wear protective gloves. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Response.....	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER. Do NOT induce vomiting.
Storage.....	Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal.....	Dispose of contents/ container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None Known.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Heptane (includng isomers)	64742-49-0	60-100
Carbon Dioxide	124-38-9	1-5

SECTION 04: FIRST AID MEASURES

Inhalation.....	If inhaled, remove to fresh air. If not breathing, give artificial respiration and obtain immediate medical assistance.
Skin Contact.....	Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Consult a poison control centre or physician immediately.

PRODUCT: Emzone Brake and Parts Cleaner Industrial - 390g **CODE: P6-045004**

SECTION 04: FIRST AID MEASURES

Eye Contact.....	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation persists.
Ingestion.....	If swallowed do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention. Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention IMMEDIATELY.
Most important symptoms/effects, acute and delayed ..	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 05: FIRE FIGHTING MEASURES

Suitable Extinguishing Media.....	Dry chemical powder. Carbon dioxide. Foam, water spray or fog.
Unsuitable Extinguishing Media.....	Do not use water jet as an extinguisher, as this will spread the fire.
Specific Hazards Arising from the Chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special Protective Equipment and Precautions for Firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
General Fire Hazards.....	Extremely flammable aerosol.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid walking through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 08).
Methods and Materials for Containment and Cleaning Up ..	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.
Environmental Precautions.....	Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling.....	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid contact with eyes, skin, and clothing. Avoid breathing vapour of this product. Avoid contact with skin and eyes. Avoid prolonged exposure. Use in well-ventilated areas.
Conditions for Safe Storage including any Incompatibilities	Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C (122°F). Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10).

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Heptane (includng isomers)	1,600 mg/m3 (RCP-TWA)	Not available	Not available	Not available	Not available
Carbon Dioxide	5000 ppm	30000 ppm	9000 mg/m3	Not available	STEL: 30000ppm; TWA: 5000ppm

Appropriate Engineering Controls.....	Local exhaust ventilation required to maintain the point of use below the Threshold Limit Value if unprotected personnel are involved. Ensure that eyewash stations and safety showers are available.
Individual Protection Measures:	
Eye/Face Protection.....	Do not get in eyes. Wear safety glasses with side-shields.

PRODUCT: Emzone Brake and Parts Cleaner Industrial - 390g **CODE: P6-045004**

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection	Chemical resistant gloves are recommended. Avoid contact with the skin. Wear appropriate chemical resistant clothing.
Respiratory Protection	Use dust and mist respirator.
Thermal Hazards	None Known.
General Hygiene Considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment prior to use.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol.
Physical Appearance	Clear liquid.
Odor	Heptane.
Odor Threshold (ppm)	N/A.
Specific Gravity (Liquid)	0.680-0.700.
Specific Gravity (Aerosol)	0.720-0.750.
Aerosol Vapour Pressure (psig, 21°C)	80-100.
Vapour Density (Air=1)	> 1.
pH	Not applicable.
Boiling Point liquid (°C)	94-98. (Heptane).
Melting/Freezing Point (°C)	N/A.
Flash point, Liquid (°C), Method	-8. [ASTM D-56].
Flashback	Yes.
Evaporation Rate (n-Butyl Acetate = 1)	> 1 (n-Butyl Acetate = 1).
VOC Content	96wt% (669g/L - 5.59 lb/gal).
Solubility in water	Immiscible.
Aerosol Flame Projection	> 45 cm but < 100 cm.
Auto Ignition Temperature (liquid), °C	245.
Lower Flammable Limit (% Vol)	1.1. (Heptane).
Upper Flammable Limit (% Vol)	6.7. (Heptane).
Coefficient of Water/Oil Distribution	N/A.
Viscosity	0.49 cSt (0.49 mm2/sec) at 40 °C. (Heptane).

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Product not reactive under normal conditions of use.
Chemical Stability	Material is stable under normal conditions.
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Avoid sources of heat and flame, and electrostatic charge.
Incompatible Materials	Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products	Carbon Oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Heptane (includng isomers)	>23.3 mg/L (Rat - 4hrs)	>5,840 mg/kg (Oral - Rat); >2,920 mg/kg (Dermal - Rat)
Carbon Dioxide	Not available	Not available

Information on Likely Routes of Exposure:

Routes of entry - Inhalation	Yes.
Routes of entry - Skin & Eye	Yes.
Routes of entry - Ingestion	Yes.
Routes of entry - Skin Absorption	No.
Symptoms Related to the Physical, Chemical and Toxicological Characteristics	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Acute Toxicity	Harmful or fatal if swallowed.
Skin Corrosion/Irritation	Causes skin irritation.
Serious Eye Damage/Eye Irritation	Direct eye contact may cause slight redness. Spraying directly into the eyes may cause frostbite, damage to the cornea resulting in permanent eye injury.
Respiratory or Skin Sensitization	May cause sensitization by skin contact.
Germ Cell Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive Toxicity	Contains no ingredient listed as toxic to reproduction.
STOT - Single Exposure	Specific target organ toxicity single exposure Category 3. May cause drowsiness and dizziness.
STOT - Repeated Exposure	No data available .

PRODUCT: Emzone Brake and Parts Cleaner Industrial - 390g **CODE: P6-045004**

SECTION 11: TOXICOLOGICAL INFORMATION

Aspiration Hazard	Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.
Chronic Effects	Organic solvents may be absorbed into the body by inhalation and ingestion and cause permanent damage to the nervous system, including the brain. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Harmful to aquatic life. Should not be released into the environment. This product contains the following ingredients: . Heptane (CAS#:142-82-5): Toxicity to fish: LC50 1.284 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 0.1 mg/L, 96 hrs; Toxicity to algae: EL50 4.338 mg/L, 72 hrs.
Persistence and degradability	The product itself has not been tested.
Bioaccumulation Potential	Heptane: Readily Biodegradability:28 days (media - water).
Mobility in Soil	The product itself has not been tested.
Other Adverse Effects	None Known.

SECTION 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods	This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Spilled material and water rinses are classified as chemical waste and must be disposed of in accordance with current local, provincial and federal regulations. Contents under pressure. Do not puncture, incinerate or expose to heat, even when empty.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada- Road)	UN1950, AEROSOLS, Class 2.1.
DOT (US-Road)	UN1950, AEROSOLS, Class 2.1, LTD QTY, Consumer Commodity ORM-D.
IMDG (International- Marine)	UN1950, AEROSOLS, Class 2.1.
IATA (International- Air)	UN1950, AEROSOLS, Class 2.1, LTD QTY.

SECTION 15: REGULATORY INFORMATION

Canada Regulations:	WHMIS Classification. A: Compressed gas. B5: Flammable Aerosol. D2B: Material causing other toxic Materials.
Canadian Environmental Protection Act (CEPA)	All ingredients listed appear on the Domestic Substances List (DSL).
US Regulations	Environmental Protection Act: Constituents of this product are included on the TSCA inventory. This product is considered hazardous under the OSHA Hazard Communication Standard.
California Proposition 65	This product does not contain any chemical(s) known to the state of California to cause cancer or reproductivity toxicity.

SECTION 16: OTHER INFORMATION

Disclaimer	The information contained herein is based on data considered accurate. No guarantee or warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. The SDS provider assumes no responsibility for personal injury or property damage to vendors or users or third parties, caused by the material. Such vendors or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. .
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHMIS: Workplace Hazardous Materials Information System STOT: Specific Target Organ Toxicity.
Prepared by	Regularity Affairs.
Latest Revision	MAR 08/2018

empack
Empack Spraytech Inc.
98 Walker Drive
Brampton, Ontario, L6T 4H6
Canada
905-792-6571

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Item Numbers	P6-044005
Product Identity	emzone Foaming Glass Cleaner - 517g
Manufacturer	Empack Spraytech Inc. 98 Walker Drive Brampton Ontario Canada L6T 4H6 905-792-6571
24 hour emergency telephone number	CHEM TREC: 800-424-9300.
Recommended Use	Cleans windows, mirrors, windshields, tile, porcelain, stainless steel, chrome.
Chemical Family	Mixture.

SECTION 02: HAZARDS IDENTIFICATION

Hazard Classification:

Physical Hazards	Aerosols - Category 3. Gases Under Pressure - Liquefied Gas .
Health Hazards	Skin Irritation - Category 3. Eye Damage/Irritation - Category 2B. Acute Toxicity Inhalation - Category 4.
Environmental Hazards	Not Classified.

Label Elements:

Signal Word	WARNING.
Hazard Statement	Pressurized container: may burst if heated. Contains gas under pressure; may explode if heated. Causes mild skin irritation. Harmful if inhaled. Causes eye irritation.

Precautionary Statements:

Prevention	Wash hand thoroughly after handling. Do not pierce or burn, even after use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.
Response	If Skin Irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep confortable for breating. Call a POISON CENTER if you feel unwell.
Storage	Protect from sunlight. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F.
Disposal	Dispose of contents/ container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None Known.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Isopropyl Alcohol	67-63-0	5-10
Isobutane	75-28-5	3-7
2-Butoxyethanol	111-76-2	1-5
Surfactants	Mix.	0.1-1

SECTION 04: FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration and obtain immediate medical assistance.
Skin Contact	Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Consult a poison control centre or physician immediately.
Eye Contact	Check for and remove contact lenses. Immediately flush eyes with water for a minimum of 15 minutes keeping eyelids open. Consult a doctor if any irritation occurs.

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 04: FIRST AID MEASURES

Ingestion.....	Ingestion is unlikely to occur. If swallowed do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 05: FIRE FIGHTING MEASURES

Suitable Extinguishing Media.....	Dry chemical powder. Carbon dioxide. Foam, water spray or fog.
Unsuitable Extinguishing Media.....	Do not use water jet as an extinguisher, as this will spread the fire.
Specific Hazards Arising from the Chemical.	In case of fire, the following can be released: Carbon Oxides (CO, CO2), Other unidentified Organic Compounds.
Special Protective Equipment and Precautions for Firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
General Fire Hazards.....	N/A.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid walking through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 08).
Methods and Materials for Containment and Cleaning Up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.
Environmental Precautions.....	Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling.....	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing vapour of this product. Avoid contact with skin and eyes. Avoid prolonged exposure. Use in well-ventilated areas.
Conditions for Safe Storage including any Incompatibilities ...	Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C (122°F). Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10).

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Isopropyl Alcohol	400 ppm (983 mg/m3)	500 ppm (1230 mg/m3)	400 ppm (980 mg/m3)	500 ppm (1,225 mg/m3)	400 ppm (TWA)
Isobutane	800 ppm	1000 ppm	800 ppm	Not available	800 ppm (TWA)
2-Butoxyethanol	20 ppm	Not available	50 ppm	Not available	Not available
Surfactants	Not available	Not available	Not available	Not available	Not available

Appropriate Engineering Controls.....	Local exhaust ventilation required to maintain the point of use below the Threshold Limit Value if unprotected personnel are involved.
Individual Protection Measures:	
Eye/Face Protection.....	Chemical splash goggles are recommended.
Skin Protection.....	Chemical resistant gloves are recommended. Avoid contact with the skin. Wear appropriate chemical resistant clothing.
Respiratory Protection.....	Use dust and mist respirator.
Thermal Hazards.....	None Known.

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

General Hygiene Considerations..... When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment prior to use.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Form..... Aerosol.
Physical Appearance..... Cloudy liquid .
Odor..... Windex.
Odor Threshold (ppm)..... N/A.
Specific Gravity (Aerosol)..... 0.961.
Specific Gravity (Liquid)..... 0.990.
Aerosol Vapour Pressure (psig, 21°C)..... 40-60.
Vapour Density (Air=1)..... >1.
pH..... 7.5.
Boiling Point (propellant), ° C..... -12 °C (10 °F) - lit.
Melting/Freezing Point (°C)..... N/A.
Flashback..... N/A.
Flash Point,°C (Propellant), Method..... -83 °C (-117°F). Closed Cup.
Evaporation Rate (n-Butyl Acetate = 1)..... > 1 .
VOC Content..... Not available.
Solubility in water..... Miscible in water.
Aerosol Flame Projection..... N/A.
Auto Ignition Temperature (°C)..... 462. (Propellant).
Lower Flammable Limit (% Vol)..... 1.4. (Propellant).
Upper Flammable Limit (% Vol)..... 8.3. (Propellant).
Coefficient of Water/Oil Distribution..... N/A.
Viscosity..... N/A.

SECTION 10: STABILITY AND REACTIVITY

Reactivity ..... Product not reactive under normal conditions of use.
Chemical Stability..... Material is stable under normal conditions.
Possibility of Hazardous Reactions..... Will not occur.
Conditions to Avoid..... Avoid sources of heat and flame, and electrostatic charge.
Incompatible Materials..... Keep away from heat. Strong oxidizing agents.
Hazardous Decomposition Products..... See Section 05.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Isopropyl Alcohol	>20,000 ppm (4hrs-rat)	4,700 - 5,800 mg/kg (oral,rat)
Isobutane	658 mg/L (4hrs,Rat)	Not available
2-Butoxyethanol	450 ppm (4hr,rat)	470 mg/kg (4hr,oral,rat)
Surfactants	Not available	Not available

Information on Likely Routes of Exposure:
Routes of entry - Inhalation..... Prolonged inhalation may be harmful.
Routes of entry - Skin & Eye..... Direct contact with eyes may cause temporary irritation.
Routes of entry - Ingestion..... Can cause irritation, nausea and vomiting.
Routes of entry - Skin Absorption..... 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics
Acute Toxicity..... Harmful or fatal if swallowed. Irritating to the eyes,nose and throat. Skin contact may cause irritation.
Skin Corrosion/Irritation..... Causes skin irritation.
Serious Eye Damage/Eye Irritation..... Causes eye irritation.
Respiratory or Skin Sensitization..... N/A.
Germ Cell Mutagenicity..... No data available to indicate product or any components present at greater than 0.1% are mutagenic.
Carcinogenicity..... 2-Butoxyethanol (CAS#: 111-76-2): ACGIH-A3 Confirmed animal carcinogen with unknown relevance to humans; IARC-3 Not Classifiable as to carcinogens to humans.
Reproductive Toxicity..... No information is available.
STOT - Single Exposure..... Not classified.
STOT - Repeated Exposure..... Not classified.
Aspiration Hazard..... Not classified.
Chronic Effects..... Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	May be dangerous for the environment. No data is available on the product itself. Should not be released into the environment. This product contains the following substance which may also be hazardous for the environment:. Isopropanol alcohol (CAS#: 67-63-0): Toxicity to fish: LC50 9,640 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 5,102 mg/L, 96 hrs; Toxicity to algae: EL50 >2,000 mg/L, 72 hrs. 2-butoxyethanol (CAS#: 111-76-2): Not established.
Persistence and degradability	The product itself has not been tested.
Bioaccumulation Potential	The product itself has not been tested.
Mobility in Soil	The product itself has not been tested.
Other Adverse Effects	None Known.

SECTION 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods	This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Spilled material and water rinses are classified as chemical waste and must be disposed of in accordance with current local, provincial and federal regulations. Contents under pressure. Do not puncture, incinerate or expose to heat, even when empty.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada- Road)	AEROSOLS, Class 2.2, UN1950.
DOT (US-Road)	AEROSOLS, Class 2.2, UN1950, LTD QTY, Consumer Commodity ORM-D.
IMDG (International- Marine)	AEROSOLS, Class 2.2, UN1950.
IATA (International- Air)	AEROSOLS, Class 2.2, UN1950, LTD QTY .

SECTION 15: REGULATORY INFORMATION

Canada Regulations:	WHMIS Classification. A: Compressed gas. D2B: Material causing other toxic Materials.
Canadian Environmental Protection Act (CEPA)	All ingredients listed appear on the Domestic Substances List (DSL).
US Regulations	
TSCA Inventory Status	All components are listed on TSCA .
OSHA	This product is considered hazardous under the Federal OSHA hazard communication standard.
California Proposition 65	This product does not contain any chemical(s) known to the state of California to cause cancer or reproductivity toxicity.

SECTION 16: OTHER INFORMATION

Disclaimer	The information contained herein is based on data considered accurate. No guarantee or warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. The SDS provider assumes no responsibility for personal injury or property damage to vendors or users or third parties, caused by the material. Such vendors or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. .
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHMIS: Workplace Hazardous Materials Information System STOT: Specific Target Organ Toxicity.
Prepared by	Regulatory Affairs
Latest Revision	JAN 06/2017

empack
Empack Spraytech Inc.
98 Walker Drive
Brampton, Ontario, L6T 4H6
Canada
905-792-6571

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Item Numbers	P6-044005
Product Identity	emzone Foaming Glass Cleaner - 517g
Manufacturer	Empack Spraytech Inc. 98 Walker Drive Brampton Ontario Canada L6T 4H6 905-792-6571
24 hour emergency telephone number	CHEM TREC: 800-424-9300.
Recommended Use	Cleans windows, mirrors, windshields, tile, porcelain, stainless steel, chrome.
Chemical Family	Mixture.

SECTION 02: HAZARDS IDENTIFICATION

Hazard Classification:

Physical Hazards	Aerosols - Category 3. Gases Under Pressure - Liquefied Gas .
Health Hazards	Skin Irritation - Category 3. Eye Damage/Irritation - Category 2B. Acute Toxicity Inhalation - Category 4.
Environmental Hazards	Not Classified.

Label Elements:

Signal Word	WARNING.
Hazard Statement	Pressurized container: may burst if heated. Contains gas under pressure; may explode if heated. Causes mild skin irritation. Harmful if inhaled. Causes eye irritation.

Precautionary Statements:

Prevention	Wash hand thoroughly after handling. Do not pierce or burn, even after use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.
Response	If Skin Irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep confortable for breating. Call a POISON CENTER if you feel unwell.
Storage	Protect from sunlight. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F.
Disposal	Dispose of contents/ container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None Known.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Isopropyl Alcohol	67-63-0	5-10
Isobutane	75-28-5	3-7
2-Butoxyethanol	111-76-2	1-5
Surfactants	Mix.	0.1-1

SECTION 04: FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration and obtain immediate medical assistance.
Skin Contact	Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Consult a poison control centre or physician immediately.
Eye Contact	Check for and remove contact lenses. Immediately flush eyes with water for a minimum of 15 minutes keeping eyelids open. Consult a doctor if any irritation occurs.

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 04: FIRST AID MEASURES

Ingestion.....	Ingestion is unlikely to occur. If swallowed do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 05: FIRE FIGHTING MEASURES

Suitable Extinguishing Media.....	Dry chemical powder. Carbon dioxide. Foam, water spray or fog.
Unsuitable Extinguishing Media.....	Do not use water jet as an extinguisher, as this will spread the fire.
Specific Hazards Arising from the Chemical.	In case of fire, the following can be released: Carbon Oxides (CO, CO2), Other unidentified Organic Compounds.
Special Protective Equipment and Precautions for Firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
General Fire Hazards.....	N/A.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid walking through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 08).
Methods and Materials for Containment and Cleaning Up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.
Environmental Precautions.....	Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling.....	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing vapour of this product. Avoid contact with skin and eyes. Avoid prolonged exposure. Use in well-ventilated areas.
Conditions for Safe Storage including any Incompatibilities ...	Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C (122°F). Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10).

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Isopropyl Alcohol	400 ppm (983 mg/m3)	500 ppm (1230 mg/m3)	400 ppm (980 mg/m3)	500 ppm (1,225 mg/m3)	400 ppm (TWA)
Isobutane	800 ppm	1000 ppm	800 ppm	Not available	800 ppm (TWA)
2-Butoxyethanol	20 ppm	Not available	50 ppm	Not available	Not available
Surfactants	Not available	Not available	Not available	Not available	Not available

Appropriate Engineering Controls.....	Local exhaust ventilation required to maintain the point of use below the Threshold Limit Value if unprotected personnel are involved.
Individual Protection Measures:	
Eye/Face Protection.....	Chemical splash goggles are recommended.
Skin Protection.....	Chemical resistant gloves are recommended. Avoid contact with the skin. Wear appropriate chemical resistant clothing.
Respiratory Protection.....	Use dust and mist respirator.
Thermal Hazards.....	None Known.

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

General Hygiene Considerations..... When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment prior to use.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Form..... Aerosol.
Physical Appearance..... Cloudy liquid .
Odor..... Windex.
Odor Threshold (ppm)..... N/A.
Specific Gravity (Aerosol)..... 0.961.
Specific Gravity (Liquid)..... 0.990.
Aerosol Vapour Pressure (psig, 21°C)..... 40-60.
Vapour Density (Air=1)..... >1.
pH..... 7.5.
Boiling Point (propellant), ° C..... -12 °C (10 °F) - lit.
Melting/Freezing Point (°C)..... N/A.
Flashback..... N/A.
Flash Point,°C (Propellant), Method..... -83 °C (-117°F). Closed Cup.
Evaporation Rate (n-Butyl Acetate = 1)..... > 1 .
VOC Content..... Not available.
Solubility in water..... Miscible in water.
Aerosol Flame Projection..... N/A.
Auto Ignition Temperature (°C)..... 462. (Propellant).
Lower Flammable Limit (% Vol)..... 1.4. (Propellant).
Upper Flammable Limit (% Vol)..... 8.3. (Propellant).
Coefficient of Water/Oil Distribution..... N/A.
Viscosity..... N/A.

SECTION 10: STABILITY AND REACTIVITY

Reactivity ..... Product not reactive under normal conditions of use.
Chemical Stability..... Material is stable under normal conditions.
Possibility of Hazardous Reactions..... Will not occur.
Conditions to Avoid..... Avoid sources of heat and flame, and electrostatic charge.
Incompatible Materials..... Keep away from heat. Strong oxidizing agents.
Hazardous Decomposition Products..... See Section 05.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Isopropyl Alcohol	>20,000 ppm (4hrs-rat)	4,700 - 5,800 mg/kg (oral,rat)
Isobutane	658 mg/L (4hrs,Rat)	Not available
2-Butoxyethanol	450 ppm (4hr,rat)	470 mg/kg (4hr,oral,rat)
Surfactants	Not available	Not available

Information on Likely Routes of Exposure:
Routes of entry - Inhalation..... Prolonged inhalation may be harmful.
Routes of entry - Skin & Eye..... Direct contact with eyes may cause temporary irritation.
Routes of entry - Ingestion..... Can cause irritation, nausea and vomiting.
Routes of entry - Skin Absorption..... 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics
Acute Toxicity..... Harmful or fatal if swallowed. Irritating to the eyes,nose and throat. Skin contact may cause irritation.
Skin Corrosion/Irritation..... Causes skin irritation.
Serious Eye Damage/Eye Irritation..... Causes eye irritation.
Respiratory or Skin Sensitization..... N/A.
Germ Cell Mutagenicity..... No data available to indicate product or any components present at greater than 0.1% are mutagenic.
Carcinogenicity..... 2-Butoxyethanol (CAS#: 111-76-2): ACGIH-A3 Confirmed animal carcinogen with unknown relevance to humans; IARC-3 Not Classifiable as to carcinogens to humans.
Reproductive Toxicity..... No information is available.
STOT - Single Exposure..... Not classified.
STOT - Repeated Exposure..... Not classified.
Aspiration Hazard..... Not classified.
Chronic Effects..... Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

PRODUCT: emzone Foaming Glass Cleaner - 517g **CODE: P6-044005**

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	May be dangerous for the environment. No data is available on the product itself. Should not be released into the environment. This product contains the following substance which may also be hazardous for the environment:. Isopropanol alcohol (CAS#: 67-63-0): Toxicity to fish: LC50 9,640 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: 5,102 mg/L, 96 hrs; Toxicity to algae: EL50 >2,000 mg/L, 72 hrs. 2-butoxyethanol (CAS#: 111-76-2): Not established.
Persistence and degradability	The product itself has not been tested.
Bioaccumulation Potential	The product itself has not been tested.
Mobility in Soil	The product itself has not been tested.
Other Adverse Effects	None Known.

SECTION 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods	This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Spilled material and water rinses are classified as chemical waste and must be disposed of in accordance with current local, provincial and federal regulations. Contents under pressure. Do not puncture, incinerate or expose to heat, even when empty.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada- Road)	AEROSOLS, Class 2.2, UN1950.
DOT (US-Road)	AEROSOLS, Class 2.2, UN1950, LTD QTY, Consumer Commodity ORM-D.
IMDG (International- Marine)	AEROSOLS, Class 2.2, UN1950.
IATA (International- Air)	AEROSOLS, Class 2.2, UN1950, LTD QTY .

SECTION 15: REGULATORY INFORMATION

Canada Regulations:	WHMIS Classification. A: Compressed gas. D2B: Material causing other toxic Materials.
Canadian Environmental Protection Act (CEPA)	All ingredients listed appear on the Domestic Substances List (DSL).
US Regulations	
TSCA Inventory Status	All components are listed on TSCA .
OSHA	This product is considered hazardous under the Federal OSHA hazard communication standard.
California Proposition 65	This product does not contain any chemical(s) known to the state of California to cause cancer or reproductivity toxicity.

SECTION 16: OTHER INFORMATION

Disclaimer	The information contained herein is based on data considered accurate. No guarantee or warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. The SDS provider assumes no responsibility for personal injury or property damage to vendors or users or third parties, caused by the material. Such vendors or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. .
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHMIS: Workplace Hazardous Materials Information System STOT: Specific Target Organ Toxicity.
Prepared by	Regulatory Affairs
Latest Revision	JAN 06/2017

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: STRUST +SSPR 6PK FLAT BLACK

Revision Date: 5/3/2017

Product Identifier: 7776830

Supercedes Date: 5/3/2017

Product Use/Class: Topcoat/Aerosols

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Rust-Oleum Consumer Brands Canada (RCBC)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
42% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Eye Irritation, category 2	H319	Causes serious eye irritation.

GHS LABEL PRECAUTIONARY STATEMENTS

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local, regional and national regulations.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P264	Wash hands thoroughly after handling.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.%	GHS Symbols	GHS Statements
Propane	74-98-6	20	GHS04	H280
Hydrotreated Light Distillate	64742-47-8	18	GHS08	H304
Acetone	67-64-1	16	GHS02-GHS07	H225-319-332-336
Talc (Hydrous Magnesium Silicate)	14807-96-6	12	Not Available	Not Available
n-Butane	106-97-8	9.6	GHS04	H280
n-Butyl Acetate	123-86-4	4.1	GHS02-GHS07	H226-336
Xylenes (o-, m-, p- isomers)	1330-20-7	3.5	GHS02-GHS07	H226-315-319-332
Carbon Black	1333-86-4	0.9	Not Available	Not Available
Ethylbenzene	100-41-4	0.8	GHS02-GHS07-GHS08	H225-304-332-351-373
Stoddard Solvent	8052-41-3	0.5	GHS08	H304-372

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of flammable aerosols. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Propane	74-98-6	25.0	N.E.	N.E.	1000 ppm	N.E.
Hydrotreated Light Distillate	64742-47-8	20.0	N.E.	N.E.	N.E.	N.E.
Acetone	67-64-1	20.0	250 ppm	500 ppm	1000 ppm	N.E.
Talc (Hydrous Magnesium Silicate)	14807-96-6	15.0	2 mg/m3	N.E.	N.E.	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
n-Butyl Acetate	123-86-4	5.0	50 ppm	150 ppm	150 ppm	N.E.
Xylenes (o-, m-, p- isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Carbon Black	1333-86-4	1.0	3 mg/m3	N.E.	3.5 mg/m3	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	N.E.	100 ppm	N.E.
Stoddard Solvent	8052-41-3	1.0	100 ppm	N.E.	500 ppm	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.773	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	-37 - 537	**Explosive Limits, vol%:**	1.0 - 13.0
Flammability:	Supports Combustion	**Flash Point, °C:**	-96
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid all possible sources of ignition. Avoid contact with strong acid and strong bases.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Contains carbon black. Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats experimentally exposed for long periods of time to excessive concentrations of carbon black and several insoluble fine dust particles. Tumors have not been observed in other animal species (i.e., mouse and hamster) under similar circumstances and study conditions. Epidemiological studies of North American workers show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black.

Carbon black is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC and is proposed to be listed as A4- "not classified as a human carcinogen" by the American Conference of Governmental Industrial Hygienists. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of carbon black in the formula. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
74-98-6	Propane	N.I.	N.I.	658 mg/L Rat
64742-47-8	Hydrotreated Light Distillate	>5000 mg/kg Rat	>2000 mg/kg Rabbit	>5000 mg/L Rat
67-64-1	Acetone	5800 mg/kg Rat	>15700 mg/kg Rabbit	50.1 mg/L Rat
14807-96-6	Talc (Hydrous Magnesium Silicate)	6000	N.I.	30
106-97-8	n-Butane	N.I.	N.I.	658 mg/L Rat

123-86-4	n-Butyl Acetate	10768 mg/kg Rat	>17600 mg/kg Rabbit	> 21 mg/L Rat
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
1333-86-4	Carbon Black	>15400 mg/kg Rat	N.I.	N.I.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	4	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	4	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 527

SDS REVISION DATE: 5/3/2017

REASON FOR REVISION:

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The manufacturer believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. The manufacturer makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT AND COMPANY IDENTIFICATION

Product Name: ES74 Spray & Wipe Cleaner
Product Use: General Purpose Cleaner

Manufacturer: Enviro-Solutions Limited
Address: 2060 Fisher Dr., Peterborough, ON K9J 8N4
Telephone: (705) 745-3070

Supplier:
Address:
Telephone:

Emergency Phone: CANUTEC (613)-996-6666

SECTION II – INFORMATION ON INGREDIENTS

Ingredients	CAS#	Wt%	OSHA-PEL	ACGIH-TLV	LD_{50}
Water	7732-18-5	60-100	Not applicable	Not applicable	14,500 mg/kg (oral, rat)
Tetrasodium iminodisuccinate	144538-83-0	1-7	Not applicable	Not applicable	>2,000 mg/kg (oral, rat)
Sodium carbonate	497-19-8	1-7	Not applicable	Not applicable	4,090 mg/kg (oral, rat)
Surfactant	NJTSRN 360416-01	0-1	Not applicable	Not applicable	Not available
Complexing agent	NJTSRN 361102-02	0-1	Not applicable	Not applicable	Not available
Alcohol ethoxylate	68991-48-0	0-1	Not applicable	Not applicable	Not available
Fragrance	Mixture	0-1	Not applicable	Not applicable	Not available
FD&C Yellow #5	Mixture	0-1	Not applicable	Not applicable	Not available

SECTION III – HAZARDS IDENTIFICATION

Route of Entry: Eye, Skin contact, Inhalation, Ingestion.

Potential Health Effects:

Eye Contact: May cause mild to moderate irritation upon direct contact.

Skin Contact: May cause mild moderate irritation.

Inhalation: No hazards under normal conditions of use. Prolonged exposure may cause nose, throat and respiratory tract irritation.

Chronic Effects/Carcinogenicity:

Carcinogenicity: No ingredients listed by IRAC or NTP.

SECTION IV – FIRST AID MEASURES

Eye Contact: Flush with water for 15 minutes. Seek medical attention if irritation persists.

Skin Contact: Flush with water for 15 minutes. Seek medical attention if irritation develops.

Inhalation: Remove to fresh air and take deep, slow breaths. Seek medical attention if irritation persists.

Ingestion: Do not induce vomiting. Rinse mouth with water, then drink one glass of water. Seek medical attention if symptoms persist. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness, or is convulsing.

SECTION V – FIRE FIGHTING MEASURES

Flammability: Not flammable **Flash Point:** (deg C, TCC): None

Hazardous Combustion Products: Oxides of carbon and nitrogen.

Means of Extinction: Treat for surrounding material.

Special Fire Hazards: None known to us at this time.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures: Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labeled containers. For large quantities, dispose of in accordance with local, state/provincial and federal laws.

SECTION VII – HANDLING AND STORAGE

Storage Requirements: KEEP OUT OF REACH OF CHILDREN.
Store in closed container. Store away from incompatible materials.

SECTION VIII – EXPOSURE CONTROL/PERSONAL PROTECTION

Gloves: If prolonged/repeated contact can occur, use protective gloves.

Eye protection: Where direct eye contact may be a problem, use chemical splash goggles.

Respiratory protection: Not normally required if good ventilation is maintained.

Other protective equipment: As required by employer code.

Engineering Controls: General ventilation normally adequate.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (deg C): 100 **Specific Gravity (H_2O =1):** 1.01 **Evaporation Rate (Water=1):** Similar
% Volatile (Wt%): >50 **Solubility in water:** Soluble **pH (as supplied):** 10.2
Physical State: Liquid **Viscosity:** Water thin **Appearance/Odor:** Yellow, mild

SECTION X – STABILITY AND REACTIVITY

Conditions for Chemical Instability: Stable

Incompatible Materials: Strong reducing agents.

Hazardous Decomposition Products: Oxides of carbon and nitrogen.

SECTION XI – TOXICOLOGICAL INFORMATION

This product may cause irritation to the eyes or skin upon prolonged contact.

SECTION XII – ECOLOGICAL INFORMATION

Biodegradability:

Aquatic Acute Toxicity:

SECTION XIII – DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state/provincial and federal regulations.

SECTION XIV - TRANSPORTATION

T.D.G. Classification: Not regulated under TDG.

D.O.T. Classification: Not regulated under DOT.

SECTION XV – REGULATORY INFORMATION

Occupational Health and Safety Regulations:

WHMIS Class: D2B

OSHA & WHMIS: MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) and Canadian WHMIS regulations (Controlled Products Regulations Under the Hazardous Product Act).

Environmental Regulatory Lists:

SARA – Section 313 (Toxic Chemical Release Reporting) 40 CFR 372 – None of these ingredients are listed.

CERCLA – Section 102 (Reportable Quantity) 40 CFR 302 – None of these ingredients are listed.

RCRA 40CFR 261 (Subpart D) – None of these ingredients are listed.

CLEAN WATER ACT – Section 311 (Reportable Quantity) 40 CFR 116 - None of these ingredients are listed.

CLEAN AIR ACT – Section 312 (List of Hazardous Air Pollutants) 40 CFR 63 (Subpart C) – None of these ingredients are listed.

National Pollutant Release Inventory – None of the ingredients are listed.

Toxic Substances Control Act (TSCA) – All the ingredients are registered on the Chemical Substance Inventory.

Canadian Domestic Substance List (DSL) – All the ingredients are registered on the DSL.

SECTION XVI – OTHER INFORMATION 0

Date: Jan. 7, 2008 **Prepared by:** Technical Services Group **Telephone:** (705) 745-3070

Safety Data Sheet/ Fiche Signalétique – EZ GO

Section 1 – Identification

Product identifier: E-Z Go
Supplier: Multi-Blend Ltd., 2720 Slough Street, Mississauga, Ontario, L4T 1G3, 905-678-9559, multiblend@bellnet.ca
Recommended use: Product Use.
Emergency contact: Canutec – 1-888-CAN-UTEC (226-8832) or 613-996-6666 or *666 on a cellular phone.

Section 2 – Hazard Identification

Classification: *WHMIS Information: This product is a WHMIS Hazardous product.*
This product falls into the following classifications:

- Skin Irritation: Category 2 - H315
- Serious Eye Damage: Category 1 - H318
- Skin Sensitizer: Category 1 - H317
- Carcinogenicity: Category 2 - H351

GHS Label Elements:

Signal word: Danger
Hazard statement(s):

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H351	Suspected of causing cancer.

Precautionary statement(s):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty water and soap.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Emergency overview: Orange liquid. Corrosive to eyes. May be irritating to skin. Ingestion may lead to irritation in mouth, esophagus and stomach lining. Contains an ingredient which may sensitize skin.
Carcinogenic status: Contains an ingredient suspected of causing cancer. TOXICOLOGICAL INFORMATION, section 11.
Additional health hazards: See TOXICOLOGICAL INFORMATION, section 11.
Potential environmental effects: See ECOLOGICAL INFORMATION, section 12.

Section 3 – Composition/Information on ingredients

Ingredient	CAS	Concentration w/v%
d-Limonene (4-isopropenyl-1-methylcyclohexene)	**5989-27-5**	**1-5%**
Ethoxylated alcohol	**Proprietary**	**1-5%**
Coconut diethanolamide	**68603-42-9**	**0.1-1%**
Diethanolamine (2,2'-iminodiethanol)	**111-42-2**	**0.1%-0.5%**

MULTI BLEND LTD.

Safety Data Sheet/ Fiche Signalétique – EZ GO

Section 4 – First Aid Measures

Inhalation: If unwell after inhalation, remove person to fresh air and keep at rest in a comfortable breathing position. If feeling persists, seek medical attention.
Skin contact: Rinse skin thoroughly with water. If irritation persists, seek medical attention.
Eye contact: Rinse eyes thoroughly with water for at least 15 minutes and seek immediate medical attention. Remove contact lenses if possible.
Ingestion: Do NOT induce vomiting. Rinse mouth with water. Do not give anything by mouth to an unconscious person. If unwell, seek immediate medical attention.

Section 5 – Fire Fighting Measures

Flammability: Non-flammable.
Recommended means of extinction: As for surrounding materials.
Special procedures: None known.
Hazardous combustion products: None known.
Oxidizing properties: No data available.

Section 6 – Accidental Release Measures

Personal precautions: All personnel dealing with accidental release should take necessary precautions as outlined in EXPOSURE CONTROLS AND PERSONAL PROTECTION, Section 8.
Spill response: Dike area and contain spill. Pump to container for recovery or disposal. Pick up with wet vacuum. (See DISPOSAL CONSIDERATIONS, Section 13).

Section 7 – Handling and Storage

Safe handling procedures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling.
Safe storage procedures: Store at room temperature. Keep from freezing.

Section 8 – Exposure Controls and Personal Protection

Ingredient	Time-Weighted Average Limit (TWA)	Short-Term Exposure Limit (STEL) / Ceiling Limit (C)
Diethanolamine	**1 mg/m^3**	-

Engineering controls: Good general ventilation should be used.
Personal protective equipment (PPE):

Skin: Gloves made of rubber or vinyl should be used. Prior to use, user should confirm impermeability. Discard contaminated gloves. Wash and dry hands after use.

Eyes: Safety goggles or face shield should be used. Ensure equipment is properly fitted for the user. Equipment should be tested and approved under government standards. Contact lenses should not be worn when working with this material.

Respiratory: Not normally required. If in poorly ventilated areas, self contained breathing apparatus should be used. Ensure equipment is properly fitted for the user. Equipment should be tested and approved under government standards.

Other: If contact deemed possible, impermeable footwear and clothing should be used. Wash hands before breaks and when finished with chemical.

Section 9 – Physical and Chemical Properties

Physical state: Liquid.
Appearance: Orange.
Odour: Citrus.
Odour Threshold: No data available.
pH: 5.0
Freezing point: No data available.
Boiling point: No data available.
Flash point: No data available.
Flammability: Not applicable.
Flammability limits: Not applicable.
Vapour pressure: No data available.
Vapour density: No data available.
Specific gravity: 1.10
Solubility: No data available.
Partition coefficient: No data available.
Auto ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: 240000
Evaporation rate: No data available.

Section 10 – Stability and Reactivity

Chemical stability: Stable. See STORAGE AND HANDLING, Section 7
Hazardous reactions: Decomposes to carbon dioxide or carbon monoxide.
Conditions to avoid: Extreme heat and/or cold.
Incompatible materials: Strong acids, strong oxidizers.

Section 11 – Toxicological Properties

Ingredient	LD50 (Oral)	LD50 (Dermal)	LD50 (Inhalation)
d-Limonene	**4400 (rat)**	**>5000 (rabbit)**	**No data**
Ethoxylated alcohol	**>2000 (rat)**	**No data**	**No data**

Coconut diethanolamide	**2700 (rat)**	**No data**	**No data**
Diethanolamine	**620 (rat)**	**7640 (rabbit)**	**No data**

Effects of acute exposure: May cause severe eye irritation. May cause mild skin and respiratory irritation. May cause irritation in mouth, throat and abdomen upon ingestion.
Effects of chronic exposure: Long term exposure may cause damage to eyes, and serious rash and irritation to skin.
Irritant: Severely irritating to eyes and irritating to skin.
Sensitization to material: D-Limonene can be oxidized on contact with air to form a potent skin sensitizer. Skin sensitization may occur with whole formulation product.
Carcinogenicity: Coconut diethanolamide and diethanolamine are classified by IARC as Group 2B carcinogens (possibly carcinogenic to humans).
Germ cell mutagenicity: No known evidence of mutagenicity.
Reproductive effects: No known reproductive effects.
Target organ effects (single exposure): No data available.
Target organ effects (repeated exposure): No data available.
Aspiration hazard: No data available.
Signs and symptoms of exposure:
Skin/eyes*:* May cause reddening and irritation upon exposure. Permanent damage to eyes may result.
Inhalation*:* May cause irritation of respiratory tract.
Ingestion*:* May cause irritation of lips, mouth and throat. May cause nausea, vomiting and abdominal pain.
Toxicological data: No whole formulation data available.
Estimated ATE: >20000 mg/kg (Oral), >50000 mg/kg (Dermal)
Synergistic materials: No data available.
Other important hazards: No data available.

Section 12 – Ecological Information

Ecotoxicity: No data available.
Biodegradeability: No data available.
Bioaccumulation: No data available.
Mobility in soil: No data available.
Other adverse effects: No data available.

Section 13 – Disposal Considerations

Handling for disposal: According to precautions outlined in HANDLING AND STORAGE, Section 7 and EXPOSURE CONTROLS and PERSONAL PROTECTION, Section 8.
Methods of disposal: Follow all applicable federal, state/provincial and municipal regulations. For specific information, contact your federal, state/provincial or local environmental agency.

Section 14 – Transport information

UN Number: Not classified.
Packing Group: Not classified.
Hazard Class: Not classified.
Additional precautions: No special precautions required, normal care should apply.

Section 15 – Regulatory Information

WHMIS 2015: Refer to HAZARDS IDENTIFICATION, Section 2

Section 16 – Other information

LD: Lethal Dose, ATE: Acute Toxicity Estimate, WHMIS: Workplace Hazardous Materials Identification System
SDS Preparation: September 30, 2016
Contact Multi-Blend Ltd. (905-678-9559, multiblend@bellnet.ca) with questions or for support.

DISCLAIMER: The information contained herein is compiled from sources believed to be reliable. The manner and conditions of use and handling may involve other and additional considerations. We accept no responsibility for the accuracy, sufficiency and reliability of this information and disclaims any liability incurred in connection with the use of this product or the data given above.

Safety Data Sheet/ Fiche Signalétique – EZ GO

Section 1 – Identification

Identificateur de produit: EZ Go
Fournisseur initial: Multi-Blend Ltd., 2720 Slough Street, Mississauga, Ontario, L4T 1G3, 905-678-9559, multiblend@bellnet.ca
Usage recommandé: Nettoyant pour les mains.
Numéro de téléphone à composer en cas d'urgence: Canutec – 1-888-CAN-UTEC (226-8832) ou 613-996-6666 ou *666 sur un téléphone cellulaire.

Section 2 – Identification des dangers

Classification: Information sur le SIMDUT*: Ce produit est un produit dangereux SIMDUT.*
Ce produit est classé comme suit:

- Corrosion cutanée: Catégorie 2 - H315
- Sensibilisation cutanée: Catégorie 1 - H317
- Lésions oculaires graves: Catégorie 1 - H318
- Carcinogenicité: Catégorie 2 - H351

Éléments d'étiquetage SGH:

Mention d'avertissement: Danger
Mention de danger:

H315	Provoque une irritation cutanée.
H317	Peut provoquer une allergie cutanée.
H318	Provoque des lésions oculaires graves.
H351	Susceptible de provoquer le cancer.

Conseils de prudence:

P201	Se procurer les instructions avant utilisation.
P202	Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité.
P261	Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
P264	Se laver les mains soigneusement après manipulation.
P272	Les vêtements de travail contaminés ne devraient pas sortir du lieu de travail.
P280	Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
P302 + P352	EN CAS DE CONTACT AVEC LA PEAU: Laver abondamment à l'eau et au savon.
P305 + P351 + P338	EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
P308 + P313	En cas d'exposition prouvée ou suspectée: Consulter un médecin.
P310	Appeler immédiatement un CENTRE ANTIPOISON ou un médecin.
P333 + P313	En cas d'irritation ou d'éruption cutanées: Consulter un médecin.
P363	Laver les vêtements contaminés avant réutilisation.
P405	Garder sous clef.
P501	Éliminer le contenu/récipient dans conformément à la réglementation locale/régionale/nationale/internationale.

Aperçu d'urgence: Liquide orange. Provoque des lésions oculaires et une irritation cutanée. L'ingestion peut conduire à de graves brûlures dans la bouche et des dommages à l'œsophage et muqueuse de l'estomac. Contient un ingrédient qui peut provoquer une sensibilisation cutanée.
Cancérogénicité: Contient des ingrédients qui sont suspectés de causer le cancer. Voir DONNÉES TOXICOLOGIQUES, section 11.
Autres dangers: Voir DONNÉES TOXICOLOGIQUES, section 11.
Les effets environnementaux potentiels: Voir DONNÉES ÉCOLOGIQUES, section 12.

Section 3 – Composition/Information sur les ingrédients

Ingredient	CAS	Concentration w/v%
d-Limonene (4-isopropenyl-1-methylcyclohexene)	**5989-27-5**	**1-5%**
Alcool éthoxylé	**Propriétaire**	**1-5%**
Coconut diethanolamide	**68603-42-9**	**0.1-1%**
Diethanolamine (2,2'-iminodiethanol)	**111-42-2**	**0.1%-0.5%**

Safety Data Sheet/ Fiche Signalétique – EZ GO

Section 4 – Premiers soins

Inhalation: En cas de malaise, transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Si le malaise persiste, consulter un médecin.
Contact cutané: Laver abondamment à l'eau. Si l'irritation persiste, consulter un médecin.
Contact oculaire: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Consulter immédiatement un médecin.
Ingestion: Ne pas faire vomir. Rince la bouche si la personne est consciente. Ne rien faire avaler á une personne inconsciente. Consulter immédiatement un médecin.

Section 5 – Mesures à prendre en cas d'incendie

Inflammabilité: Ininflammable.
Agents extincteurs appropriés: Même que les matériaux environnants.
Précautions spéciales: Aucun.
Produit de combustion dangereux: Pas de données disponibles.

Section 6 – Mesures à prendre en cas de déversement accidentel

Précautions individuelles: Éviter de respirer les vapeurs, brouillards ou gaz. Assurer une ventilation adéquate. Tout le personnel traitant du déversement accidentel devrait prendre les précautions nécessaires décrites dans CONTRÔLE DE L'EXPOSITION/PROTECTION INDIVIDUELLE, Section 8.
En cas de déversement: Endiguer la zone. Ramasser avec un aspirateur humide. Transférer le liquide dans des conteneurs sécurisés. (Voir DONNÉES SUR L'ÉLIMINATION, Section 13).

Section 7 – Manutention et stockage

Précautions relatives à la sûreté en matière de manutention: Éviter le contact avec la peau, les yeux et les vêtements. Fournir une ventilation adéquate. Se laver les mains soigneusement après manipulation.
Condition de sûreté en matière de stockage: Stocker dans un endroit frais/bien ventilé. Tenir au frais. Maintenir le récipient fermé de manière étanche.

Section 8 – Contrôle de l'exposition/protection individuelle

Nom	Limites moyenne pondérée dans le temps (LMPT)	Limite d'exposition à court terme (LECT)
Diethanolamine	**1 mg/m^3**	-

Contrôles d'ingénierie appropriés: Ventilation générale devrait être utilisé.
Équipements de protection individuelle:

Gants: Gants en caoutchouc ou de vinyle doivent être utilisés. Inspecter les gants avant de l'utiliser. Jeter les gants contaminés. Laver et sécher les mains après utilisation.
Yeux: Équipement de protection des yeux doit être utilisé. Assurer que l'équipement est testé et approuvé selon normes gouvernementales en vigueur. Les lentilles de contact ne doivent pas être portés lorsque l'on travaille avec ce matériau.
Respiratoire: Normalement pas nécessaire. Dans les zones mal ventilées, utiliser un respirateur à particules intégral. Assurer que l'équipement est testé et approuvé selon normes gouvernementales en vigueur.
Autres: En cas de risque de contact, vêtements imperméables doit être utilisé.

Section 9 – Propriétés physiques et chimiques

L'état physique: Liquide.
Apparence: Orange.
Odeur: Citrus
Seuil olfactif: Pas de données disponibles.
pH: 5
Point de congélation: Pas de données disponibles.
Point de fusion: Pas de données disponibles.
Point d'ébullition: Pas de données disponibles.
Point d'éclair: Pas de données disponibles.
Inflammabilité: Non applicable.
Limites d'inflammabilité: Non applicable.
Tension de vapeur: Pas de données disponibles.
Densité de vapeur: Pas de données disponibles.
Densité relative: 1.10
Solubilité: Complet.
Coefficient de partage n-octanol/eau: Pas de données disponibles.
Température d'auto-inflammation: Pas de données disponibles.
Température de décomposition: Pas de données disponibles.
Viscosité: 240000
Taux d'évaporation: Pas de données disponibles.

Section 10 – Stabilité et réactivité

Stabilité chimique: Stable. Voir MANUTENTION ET STOCKAGE, Section 7
Réactions dangereuses: Pas de données disponibles.
Conditions à éviter: Le chaleur ou le froid extrêmes.
Matériaux incompatibles: Acides forts, oxydants forts.

Safety Data Sheet/ Fiche Signalétique – EZ GO

Section 11 – Données toxicologiques

Ingrédient	DL50 (Oral)	DL50 (Dermique)	DL50 (Inhalation)
d-Limonene	**4400 (rat)**	**>5000 (lapin)**	**No data**
Alcool éthoxylé	**>2000 (rat)**	**No data**	**No data**
Coconut diethanolamide	**2700 (rat)**	**No data**	**No data**
Diethanolamine	**620 (rat)**	**7640 (lapin)**	**No data**

Effet par exposition aiguë: Peut causer des lésions oculaires. Provoque une irritation cutanée. Peut causer une irritation des voies respiratoires. Peut causer de graves brûlures dans la bouche, de la gorge et l'abdomen lors de l'ingestion.
Effet par exposition à long terme: Peut causer des dommages aux yeux, et les éruptions cutanées graves.
Irritant: Corrosif pour les yeux et irritant pour la peau.
Sensibilisation: d-Limonène est une classe 1 sensibilisateur de la peau. Sensibilisation cutanée peut se produire avec le produit de formulation ensemble.
Cancérogénicité: Le diéthanolamide de coco et la diéthanolamine sont classés par le CIRC comme cancérogènes du groupe 2B (éventuellement cancérogènes pour l'homme).
Mutagénicité des cellules germinales: Aucun preuve de mutagénicité.
Toxicité pour la reproduction: Aucun preuve de toxicité pour la reproduction.
Toxicité pour certain organes cibles (exposition unique): Pas de données disponibles.
Toxicité pour certain organes cibles (exposition répétées): Pas de données disponibles.
Toxicité par aspiration: Pas de données disponibles.
Signes et symptômes de l'exposition:

Oculaire/cutanée*:* Les brûlures graves et des dommages permanents aux yeux peuvent en résulter. Provoque une irritation cutanée.
Inhalation*:* Irritation des voies respiratoires et des poumons, pouvant conduire à de graves dommages.
Orale: Brûlure grave dans la bouche, la gorge et l'abdomen. Vomissements, la diarrhée et des dommages au système gastro-intestinal peut entraîner.

Données toxicologiques: Aucune donnée de formulation entiers disponibles.

ETA: >20000 mg/kg (Oral), >500000 mg/kg (Dermique)

Section 12 – Données écologiques

Écotoxicité: Pas de données disponibles.
Persistance et dégradation: Pas de données disponibles.
Potentiel de bioaccumulation: Pas de données disponibles.
Mobilité dans le sol: Pas de données disponibles.
Autres effets nocifs: Pas de données disponibles.

Section 13 – Données sur l'élimination

Manipulation sécuritaire en vue de l'élimination: Selon les précautions décrites dans MANUTENTION ET STOCKAGE, Section 7 et CONTRÔLE DE L'EXPOSITION/PROTECTION INDIVIDUELLE, Section 8.
Méthodes d'élimination: Suivez tous les règlements fédéraux, provinciaux et municipaux applicables. Pour des informations spécifiques, contactez votre agence de l'environnement municipaux, provincial ou fédéral.

Section 14 – Informations relatives au transport

Numéro UNO: Non classés.
Groupe d'emballage: Non classés.
Classe de danger: Non classés.
Précautions spéciales: Pas de précautions spéciales, le soin normal devrait appliquer.

Section 15 – Informations sur la réglementation

SIMDUT 2015: Reportez-vous à IDENTIFICATION DES DANGERS, Section 2

Section 16 – Autres informations

DL: Dose létale, ETA: Estimation de la toxicité aiguë, SIMDUT: Système d'information sur les matières dangereuses utilisées au travail
Date de préparation: Septembre 30 2016
Contact Multi-Blend Ltd. (905-678-9559, multiblend@bellnet.ca) with questions or for support.

AVERTISSEMENT: L'information contenue dans ce document est compilée à partir de sources jugées fiables. Les modalités et conditions d'utilisation et de manipulation peuvent impliquer d'autres considérations. Nous déclinons toute responsabilité pour l'exactitude, la suffisance et la fiabilité de ces informations et décline toute responsabilité engagée dans le cadre d l'utilisation de ce produit ou les données indiquées ci-dessus..

Date: December 2, 2014

SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier used on the label: Facto HD40

Other means of Identification: 5840

Recommended use of the chemical and restrictions on use: For professional use only.

Manufacturer/Supplier:
Swish Maintenance Limited
Address:
2060 Fisher Dr.
Peterborough, On K9J 8N4

Telephone: 705-740-2880
Fax: 705-745-1239

24 Hr. Emergency Tel. #: Infotrac 1-800-535-5053 (North America), 011-1-352-323-3500 (International)

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the chemical:

Skin Corrosion/Irritation 2

Eye Damage/Irritation 1

Sensitization Respiratory

Sensitization Skin

Label elements:

Signal Word: Danger

Hazard statement(s)

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash exposed areas thoroughly after handling
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection
P285	In case of inadequate ventilation wear respiratory protection
P362	Take off contaminated clothing and wash before reuse

P363	Wash contaminated clothing before reuse
P501	Dispose of contents/container in accordance with local regulation

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs get medical advice/attention. Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician.

Hazard pictogram(s)

Other hazards not otherwise classified: None Known

Unknown Acute Toxicity: 4.71%

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name, Common Name & Synonyms:	CAS #	Concentration %
TETRASODIUM EDTA	13235-36-4	1-5
SODIUM METASILICATE	6834-92-0	0.5-1.5
Sodium Carbonate	497-19-8	0.5-1.5
Alcohols, C9-11, ethoxylated(C9-11 PARETH-3)	68439-46-3	1-5
N,N-Diemthyl-1-laurylamine-N-oxide (15-40%),Isopropyl Alcohol(10-20%)	1643-20-5 (15-40%),67-63-0 (10-20%)	1-5
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (80%), Ethanol (10%)	68424-85-1 (80%), 64-17-5 (10%)	1-5
D-Limonene	5989-27-5	1-5

**** If the chemical name/CAS # is "proprietary" and/or the weight % is shown as a range, this information had been withheld as a trade secret.**

SECTION 4 - FIRST-AID MEASURES

Description of first aid measures:

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs get medical advice/attention.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician.

Most Important symptoms and effects, both acute and delayed: Causes skin and eye irritation

Indication of any immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

***Unsuitable extinguishing media*:** Not determined

Special hazards arising from the substance or mixture: None known

Flammability classification: Not flammable

Hazardous combustion products: Carbon oxides, oxides of phosphorus other unidentified organic compounds.

Special protective equipment and precautions for firefighters:

Protective equipment for fire-fighters: Firelighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spilt/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Methods and material for containment and cleaning up: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Ventilate the area. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Do not use

combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

Special spill response procedures: If a spill/release in the US in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Use protective equipment recommended in section 8. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling.

Conditions for safe storage: Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Keep out of reach of children.

Incompatible materials: Oxidizing agents. Do not mix with other chemicals or cleaners

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

				OSHA PEL	
Chemical Name	**CAS #**	**TWA**	**STEL**	**PEL**	**STEL**
TETRASODIUM EDTA	13235-36-4				
SODIUM METASILICATE	6834-92-0	10 mg/m^3			
Sodium Carbonate	497-19-8				
Alcohols, C9-11, ethoxylated(C9-11 PARETH-3)	68439-46-3				
N,N-Diemthyl-1-laurylamine-N-oxide (15-40%),Isopropyl Alcohol(10-20%)	1643-20-5 (15-40%),67-63-0 (10-20%)	400 ppm (Isopropyl Alcohol)	400 ppm (Isopropyl Alcohol)		400 ppm (Isopropyl Alcohol)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (80%), Ethanol (10%)	68424-85-1 (80%), 64-17-5 (10%)	1000 ppm Ethanol	1000 ppm Ethanol		1000 ppm Ethanol
D-Limonene	5989-27-5	20 ppm	20 ppm		20 ppm

Exposure controls:

Ventilation and engineering measures: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local

exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection: If airborne concentrations are above the permissible exposure limit or arc not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.

Skin protection: Wear protective gloves. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective regimes.

Eye face protection: Wear eye/face protection. Wear as appropriate tightly fitting safety goggles; Safety glasses with side-shields.

Other protective equipment: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations: Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear orange liquid

Odor: Citrus

Odor threshold: No applicable information available

pH: 12.55

Melting/Freezing point: No applicable information available

Initial boiling point and boiling range: No applicable information available

Flash point: None to boiling

Flashpoint (Method): No applicable information available

Evaporation rate (BuAe = 1): Similar to water

Flammability (solid, gas): Not flammable

Lower flammable limit (% by vol.): Not Flammable

Upper flammable limit (% by vol.): Not Flammable

Vapor pressure: No applicable information available

Vapor density: No applicable information available

Relative density: 1.02

Solubility in water: Soluble

Other solubility(ies): No applicable information available

Partition coefficient: No applicable information available

Auto ignition temperature: No applicable information available

Decomposition temperature: No applicable information available

Viscosity: Similar to water

Volatile organic Compounds (%VOC's): None

Other physical/chemical comments: No applicable information available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Not normally reactive

Chemical stability: Stable

Possibility of hazardous reactions: No hazardous polymerization

Conditions to avoid: Keep out of reach of children. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials: Fluorine, strong oxidizing or reducing agents, bases, metals, sulfur trioxide, phosphorus pentoxide

Hazardous decomposition products: None known. Refer to 'Hazardous Combustion Products' in Section 5

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry - inhalation: Avoid breathing vapors or mists

Routes of entry - skin & eye: Avoid contact with skin or eyes

Routes of entry - Ingestion: Do not taste or swallow

Potential Health Effects:

Signs and symptoms of short term (acute) exposure:

Symptoms: Please see section 4 of this SDS sheet for symptoms.

Potential Chronic Health Effects:

Mutagenicity: Not expected to be mutagenic in humans.

Carcinogenicity: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects: No applicable information available

Sensitization to material: D-Limonene is known to have skin and respiratory sensitization effects.

Specific target organ effects: No data available to indicate product or components will have specific target organ effects.

Medical conditions aggravated by overexposure: Preexisting skin or eye disorders.

Toxicological data:

See the following table for individual ingredient acute toxicity data.

Chemical name	CAS #	LD_{50} (Oral, rat)	LD_{50} (Dermal. Rabbit)	LC_{50} (4hr, Inhal., rat)
TETRASODIUM EDTA	13235-36-4	3030		>5000 mg/kg dermal rabbit
SODIUM METASILICATE	6834-92-0	1153		
Sodium Carbonate	497-19-8	4090		
Alcohols, C9-11, ethoxylated(C9-11 PARETH-3)	68439-46-3			
N,N-Diemthyl-1-laurylamine-N-oxide (15-40%),Isopropyl Alcohol(10-20%)	1643-20-5 (15-40%),67-63-0 (10-20%)	4711	12871	
Quaternary ammonium				
compounds, benzyl-C12-16-				
alkyldimethyl, chlorides (80%), Ethanol (10%)"	68424-85-1 (80%), 64-17-5 (10%)	344	3340	
D-Limonene	5989-27-5	4400	5001	

*All empty cells no applicable information available

Other important toxicological hazards: None reported.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: May be dangerous for the environment. No data is available on the product itself. Should not be released into the environment.

Persistence and degradability: No applicable information available

Bioaccumulation potential: No applicable information available.

Mobility in soil: No applicable information available.

Other Adverse Environmental effects: No applicable information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for disposal: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of disposal: Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

RCRA: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste UN defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 - TRANSPORTATION INFORMATION

Special Shipping Information: Keep from freezing.

T.D.G. Classification: UN 1760, Corrosive Liquids, N.O.S. (Sodium Metasilicate) Class 8 PG III
D.O.T. Classification: UN 1760, Corrosive Liquids, N.O.S. (Sodium Metasilicate) Class 8 PG III

SECTION 15 - REGULATORY INFORMATION

TSCA information: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

SECTION 16 - OTHER INFORMATION

Legend:
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IUCLID: International Uniform Chemical Information Database
LC: Lethal Concentration
LD: Lethal Dose
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OECD: Organization for Economic Co operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet Material Safety Data Sheet
STEL: Short Term Exposure Limit
TOG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

Prepared By: Charlotte Technical Services Group Tel: (705) 740 2880

DISCLAIMER

END OF DOCUMENT

Safety Data Sheet

classification according to Canadian Hazardous Products Regulation

FANTASTIK® ORIGINAL DISINFECTANT ALL PURPOSE CLEANER (DIN 02277522)

Version 1.1 Print Date 01/09/2018

Revision Date 01/09/2018 SDS Number 350000026042

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name	:	FANTASTIK® ORIGINAL DISINFECTANT ALL PURPOSE CLEANER (DIN 02277522)
Recommended use	:	Hard Surface Cleaner
Restrictions on use	:	Use only as directed on label
Manufacturer, importer, supplier	:	S.C. Johnson and Son, Limited 1 Webster Street Brantford ON N3T 5R1
Telephone	:	+1-800-558-5566
Emergency telephone number	:	24 Hour Transport & Medical Emergency Phone (866) 231-5406 24 Hour International Emergency Phone (952) 852-4647 24 Hour Canadian Transport Emergency Phone (CANUTEC) (613) 996-6666

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification
This product does not meet the criteria for classification in any hazard class according to the Canadian Hazardous Products Regulation

Labelling

Precautionary statements

Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not contain hazardous chemicals at or above a reportable level as defined by Canadian Hazardous Products Regulation

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact	:	No special requirements
Skin contact	:	No special requirements
Inhalation	:	No special requirements.
Ingestion	:	No special requirements

Most important symptoms and effects, both acute and delayed

Eyes	:	No adverse effects expected when used as directed.
Skin effect	:	No adverse effects expected when used as directed.
Inhalation	:	May cause respiratory tract irritation.
Ingestion	:	No adverse effects expected when used as directed.

Indication of any immediate medical attention and special treatment needed

See Description of first aid measures unless otherwise stated.

FANTASTIK® ORIGINAL DISINFECTANT ALL PURPOSE CLEANER (DIN 02277522)

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting	:	Container may melt and leak in heat of fire.
Further information	:	Fight fire with normal precautions from a reasonable distance. Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Wash thoroughly after handling.
Environmental precautions	:	Outside of normal use, avoid release to the environment.
Methods and materials for containment and cleaning up	:	Dike large spills. Clean residue from spill site.

7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Avoid contact with skin, eyes and clothing. For personal protection see section 8. KEEP OUT OF REACH OF CHILDREN AND PETS.
Advice on protection	:	Normal measures for preventive fire protection.

against fire and explosion

Storage

Requirements for storage areas and containers : Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

ACGIH or OSHA exposure limits have not been established for this product or reportable ingredients unless noted in the table above.

Personal protective equipment

Respiratory protection : No special requirements.

Hand protection : No special requirements.

Eye protection : No special requirements.

Skin and body protection : No special requirements.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : liquid

Color : colourless

Odour : Fruity Floral

Odour Threshold : Test not applicable for this product type

pH	:	11.75
Melting point/freezing point	:	Test not applicable for this product type
Initial boiling point and boiling range	:	> 100 °C
Flash point	:	does not flash
Evaporation rate	:	Test not applicable for this product type
Flammability (solid, gas)	:	The product is not flammable.
Upper/lower flammability or explosive limits	:	Test not applicable for this product type
Vapour pressure	:	Test not applicable for this product type
Vapour density	:	Test not applicable for this product type
Relative density	:	1 g/cm3 similar to water
Solubility(ies)	:	completely soluble
Partition coefficient: n-octanol/water	:	Test not applicable for this product type
Auto-ignition temperature	:	Test not applicable for this product type

Decomposition temperature	:	Test not applicable for this product type
Viscosity, dynamic	:	Test not applicable for this product type
Viscosity, kinematic	:	Test not applicable for this product type
Oxidizing properties	:	Test not applicable for this product type
Volatile Organic Compounds Total VOC (wt. %)*	:	0.5 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified :

10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	If accidental mixing occurs and toxic gas is formed, exit area immediately. Do not return until well ventilated.
Conditions to avoid	:	Direct sources of heat.
Incompatible materials	:	Do not mix with bleach or any other household cleaners. Strong bases
Hazardous decomposition	:	Thermal decomposition can lead to release of irritating gases

products and vapours.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 > 5,000 mg/kg

Acute inhalation toxicity : LC50 > 10 mg/L

Acute dermal toxicity : LD50 > 5,000 mg/kg

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	Oral
Acute toxicity	No classification proposed	Dermal
Acute toxicity	No classification proposed	Inhalation - Dust and Mist
Acute toxicity	No classification proposed	Inhalation - Vapour
Acute toxicity	No classification proposed	Inhalation - Gas
Skin corrosion/irritation	No classification proposed	-
Serious eye damage/eye irritation	No classification proposed	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ	No classification proposed	-

toxicity - single exposure		
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical Condition : None known.

12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is expected when used according to label directions.

No environmental data required.

No environmental data required.

Other adverse effects **:** None known.

13. DISPOSAL CONSIDERATIONS

Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

Land transport
Not classified as dangerous in the meaning of transport regulations.

Sea transport
Not classified as dangerous in the meaning of transport regulations.

Air transport
Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Notification status	:	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Notification status	:	All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).
California Prop. 65	:	This product is not subject to the reporting requirements under California's Proposition 65.
Canada Regulations	:	This product has been classified in accordance with the hazard criteria of the Hazardous Products Act and Regulations.

16. OTHER INFORMATION

HMIS Ratings

Health	1
Flammability	0
Reactivity	0

NFPA Ratings

Health	1
Fire	0
Reactivity	0
Special	-

This information is being provided in accordance with Canada's Workplace Hazard Material Information System. The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

FANTASTIK® ORIGINAL DISINFECTANT ALL PURPOSE CLEANER (DIN 02277522)

Version 1.1

Print Date 01/09/2018

Revision Date 01/09/2018

SDS Number 350000026042

Material Safety Data Sheet

Date of issue 12 February 2018
Version 10

1 . Product and company identification

Product name : FAST DRY 2500 HIGH GLOSS ALKYD BLACK

Code : 00338072

Manufacturer / Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 or + 52 55 5559 1588 (Mexico)

Technical Phone Number : 888-977-4762

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.

Ingestion : May be harmful if swallowed.

Skin : Harmful in contact with skin. Irritating to skin.

Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS). (1988 Version)

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	% (w/w)
Stoddard solvent	8052-41-3	10 - 30
Kaolin	1332-58-7	10 - 30
Naphtha (petroleum), hydrotreated heavy	64742-48-9	7 - 13
Nepheline syenite	37244-96-5	1 - 5
xylene	1330-20-7	1 - 5
carbon black, respirable powder	1333-86-4	0.5 - 1.5
ethylbenzene	100-41-4	0.1 - 1
2-butanone oxime	96-29-7	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite. To avoid the risks of fires, all contaminated materials should be placed in a metal container filled with water and sealed. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Storage : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Name	Result	ACGIH	Ontario	Mexico	PPG
Stoddard solvent	TWA	100 ppm	100 ppm	100 ppm	Not established
Kaolin	TWA	2 mg/m³ R	2 mg/m³ R	2 mg/m³ R	Not established
Nepheline syenite	TWA	Not established	10 mg/m³ TD	Not established	Not established
xylene	TWA STEL	100 ppm 150 ppm	100 ppm 150 ppm	100 ppm 150 ppm	Not established Not established
carbon black, respirable powder	TWA	3 mg/m³	3 mg/m³	3 mg/m³	Not established
ethylbenzene	TWA	20 ppm	20 ppm	20 ppm	Not established
2-butanone oxime	TWA STEL	Not established Not established	Not established Not established	Not established Not established	3 ppm 9 ppm

Key to abbreviations

A	=	Acceptable Maximum Peak	SR	=	Respiratory sensitization
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SS	=	Skin sensitization
C	=	Ceiling Limit	STEL	=	Short term Exposure limit values
F	=	Fume	TD	=	Total dust
IPEL	=	Internal Permissible Exposure Limit	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
S	=	Potential skin absorption			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

8 . Exposure controls/personal protection

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: polyvinyl alcohol (PVA), Viton®, PVC, natural rubber (latex), nitrile rubber

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: 43°C (109.4°F)
Material supports combustion. : Yes.
Color : Black.
Odor : Characteristic.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 0.99
Density (lbs / gal) : 8.26
Vapor pressure : Not available.
Vapor density : Not available.
Volatility : 53% (v/v), 41.65% (w/w)
Evaporation rate : Not available.
Solubility : Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 58.35

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,oxidizing materials,strong acids, strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Stoddard solvent	LD50 Oral	Rat	>5 g/kg	-
Kaolin	LD50 Oral	Rat	>5000 mg/kg	-
Naphtha (petroleum), hydrotreated heavy	LD50 Oral	Rat	>6 g/kg	-
xylene	LD50 Oral	Rat	4.3 g/kg	-
	LD50 Dermal	Rabbit	>1.7 g/kg	-
carbon black, respirable powder	LD50 Oral	Rat	>15400 mg/kg	-
	LD50 Dermal	Rabbit	>3 g/kg	-
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
2-butanone oxime	LD50 Oral	Rat	930 mg/kg	-
	LD50 Dermal	Rabbit	200 uL/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, liver, upper respiratory tract, skin, eye, lens or cornea, stomach, testes.

Carcinogenicity

Carcinogenicity : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

Classification

Product/ingredient name	ACGIH	IARC	NTP
Kaolin	A4	-	-
xylene	A4	3	-
carbon black, respirable powder	A3	2B	-
ethylbenzene	A3	2B	-

Carcinogen Classification code:
ACGIH: A1, A2, A3, A4, A5
IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
Not listed or regulated as a carcinogen: -

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish - Bluegill - Lepomis macrochirus - Young of the year	96 hours

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	TDG	Mexico	IMDG
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

TDG : None identified.

Mexico : None identified.

IMDG : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

15 . Regulatory information

Canada inventory (DSL) : At least one component is not listed.

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

Flammability : 2 **Health** : 2 **Reactivity** : 0

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **1/9/2018**

Organization that prepared the MSDS : EHS

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS

Printing date 14.07.2015 Revision: 14.07.2015

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

· **1.1 Product identifier**

· **Trade name: FERTAN Rust Remover**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** Rust remover/ rust-removing agent
· **Uses advised against** Contact manufacturer.

· **1.3 Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
CRP Industries
35 Commerce Dr.
Cranbury, NJ 08512
(609) 578-4100

· **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).


corrosion

Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1C	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.

· **Additional information:**
There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**


GHS05

· **Signal word** Danger

(Cont'd. on page 2)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS

Printing date 14.07.2015 Revision: 14.07.2015

Trade name: FERTAN Rust Remover

(Cont'd. from page 1)

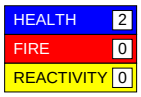
· **Hazard-determining components of labelling:**
glycollic acid
Terpene alcohol, ethoxylated, propoxylated
Alcohols, C12-14, ethoxylated, propoxylated
· **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**

P264	Wash thoroughly after handling.
P280	Wear protective gloves / eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

· **HMIS Long Term Health Hazard Substances**
None of the ingredients are listed.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

(Cont'd. on page 3)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS

Printing date 14.07.2015 Revision: 14.07.2015

Trade name: FERTAN Rust Remover

(Cont'd. from page 2)

· **Dangerous components:**

CAS: 77-92-9 EINECS: 201-069-1	citric acid Eye Irrit. 2, H319	10-25%
CAS: 7664-38-2 EINECS: 231-633-2 Index number: 015-011-00-6	phosphoric acid Skin Corr. 1B, H314	1-5%
CAS: 79-14-1 EINECS: 201-180-5	glycollic acid Skin Corr. 1B, H314 Acute Tox. 4, H332	1-5%
CAS: 68439-51-0	Alcohols, C12-14, ethoxylated, propoxylated Eye Dam. 1, H318 Aquatic Chronic 2, H411 Skin Irrit. 2, H315	< 3,0%
CAS: 174955-61-4	Terpene alcohol, ethoxylated, propoxylated Eye Dam. 1, H318 Acute Tox. 4, H302	< 3,0%

· **Additional information:**
For the wording of the listed Hazard Statements refer to section 16.
For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
· **4.2 Most important symptoms and effects, both acute and delayed**
Strong irritant with the danger of severe eye injury.
Caustic effect on skin and mucous membranes.
Gastric or intestinal disorders when ingested.
· **Hazards**
Causes serious eye damage.
Danger of gastric perforation.
· **4.3 Indication of any immediate medical attention and special treatment needed**
Medical supervision for at least 48 hours.

(Cont'd. on page 4)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS

Printing date 14.07.2015 Revision: 14.07.2015

Trade name: FERTAN Rust Remover

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SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** None.
· **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information** No further relevant information available.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
Particular danger of slipping on leaked/spilled product.
· **6.2 Environmental precautions:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **6.3 Methods and material for containment and cleaning up:**
Use limestone to neutralize and absorb spill.
Dispose contaminated material as waste according to section 13.
Send for recovery or disposal in suitable receptacles.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
The usual precautionary measures are to be adhered to when handling chemicals.
Avoid contact with the eyes and skin.
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.

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Provide ventilation for receptacles.
Unsuitable material for receptacle: aluminium.
Unsuitable material for receptacle: steel.

· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from metals.
Do not store together with alkalis (caustic solutions).

· **Further information about storage conditions:** None.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see section 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7664-38-2 phosphoric acid	
IOELV (EU)	Short-term value: 2 mg/m³ Long-term value: 1 mg/m³
PEL (USA)	Long-term value: 1 mg/m³
REL (USA)	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³
TLV (USA)	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³
EL (Canada)	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³
EV (Canada)	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³

· **DNELs** No further relevant information available.

· **PNECs** No further relevant information available.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

· **Respiratory protection:**
Not required under normal conditions of use.
For spills, respiratory protection may be advisable.
Use suitable respiratory protective device when aerosol or mist is formed.

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· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**
Chloroprene rubber, CR
Natural rubber, NR

· **Eye protection:**
Contact lenses should not be worn.

Safety glasses

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**
No further relevant information available.

· **Risk management measures**
See Section 7 for additional information.
No further relevant information available.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Yellow tint
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value (10 g/l) at 20 °C (68 °F):**	2,42 (1% Solution in Water)
· **Change in condition**	
Melting point/Melting range:	Not Determined.
Boiling point/Boiling range:	100 - 105 °C (212 - 221 °F)

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· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto/Self-ignition temperature:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Self-igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C (68 °F):**	23 hPa (17 mm Hg)
· **Density at 20 °C (68 °F):**	1,132 ± 0,010 g/cm³ (9,447 ± 0,083 lbs/gal)
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions**
Reacts with alkali (lyes).
Reacts with certain metals.
Toxic fumes may be released if heated above the decomposition point.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:**
Under fire conditions only:
Carbon monoxide and carbon dioxide
Phosphorus oxides (e.g. P2O5)

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SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**

· **LD/LC50 values relevant for classification:**		
79-14-1 glycollic acid		
Oral	LD50	2040 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
· **Serious eye damage/irritation**
Causes serious eye damage.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):**
· **Germ cell mutagenicity**
Based on available data, the classification criteria are not met.
· **Carcinogenicity**
Based on available data, the classification criteria are not met.
· **Reproductive toxicity**
Based on available data, the classification criteria are not met.
· **STOT-single exposure**
Based on available data, the classification criteria are not met.
· **STOT-repeated exposure**
Based on available data, the classification criteria are not met.
· **Aspiration hazard**
Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
68439-51-0 Alcohols, C12-14, ethoxylated, propoxylated	
LC50	3,5 mg/l (daphnia) 48h 4,0 mg/l (pimephales promelas) 96h

· **12.2 Persistence and degradability** Easily biodegradable
· **12.3 Bioaccumulative potential** Does not accumulate in organisms.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Small amounts may be diluted with plenty of water and washed away. Dispose of larger amounts in accordance with Local Authority requirements.
Dilute concentrate with water and neutralize afterwards with suitable material (lime or chalk). The formed salts are inert and pose little hazard.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to local official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**
· **DOT, ADR, IMDG, IATA** UN1760
· **14.2 UN proper shipping name**
· **DOT** Corrosive liquids, n.o.s. (Phosphoric acid solution, glycollic acid)
· **ADR** 1760 CORROSIVE LIQUID, N.O.S. (PHOSPHORIC ACID, SOLUTION, glycollic acid)
· **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (PHOSPHORIC ACID, SOLUTION, glycollic acid)
· **14.3 Transport hazard class(es)**
· **DOT**

· **Class** 8 Corrosive substances.
· **Label** 8

· **ADR**

· **Class** 8 (C9) Corrosive substances.

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· **Label** 8

· **IMDG, IATA**

· **Class**	8 Corrosive substances.
· **Label**	8
· **14.4 Packing group**	
· **DOT, ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Corrosive substances.
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Acids
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

· **Transport/Additional information:**

· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **UN "Model Regulation":**	UN1760, CORROSIVE LIQUID, N.O.S. (PHOSPHORIC ACID, SOLUTION, glycollic acid), 8, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

7664-38-2	phosphoric acid

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer)**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **Canada**

· **Canadian Domestic Substances List (DSL)**
All ingredients listed on DSL or NDSL.

· **Canadian Ingredient Disclosure list (limit 0.1%)**
None of the ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

77-92-9	citric acid
7664-38-2	phosphoric acid
79-14-1	glycollic acid

· **Other regulations, limitations and prohibitive regulations**
This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

· **Substances of very high concern (SVHC) according to REACH, Article 57**
None of the ingredients are listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.

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H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Met. Corr.1: Corrosive to metals, Hazard Category 1
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

· **Sources**
SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

Final Charge Global 50/50 Prediluted Antifreeze and Coolant

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 11/01/2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : Final Charge Global 50/50 Prediluted Antifreeze and Coolant

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Heavy Duty Engine Coolant

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
3100 Sanders Road
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : 800 424 9300 (United States); 00 1 703 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : Harmful if swallowed.
Suspected of damaging fertility or the unborn child.
May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Precautionary statements (GHS-US) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist, spray, vapors
Wash affected areas thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear personal protective equipment as required.
If swallowed: Immediately call a doctor, a POISON CENTER
If swallowed: rinse mouth. Do NOT induce vomiting
If inhaled: Remove person to fresh air and keep comfortable for breathing
If exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
ethylene glycol	(CAS-No.) 107-21-1	<= 50	Acute Tox. 4 (Oral), H302
water	(CAS-No.) 7732-18-5	< 50	Not classified
diethylene glycol	(CAS-No.) 111-46-6	< 3	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
potassium p-tert-butylbenzoate	(CAS-No.) 16518-26-6	< 2	Repr. 2, H361
denatonium benzoate	(CAS-No.) 3734-33-6	0.003 - 0.005 [30 - 50 ppm]	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash skin with plenty of water. Remove contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Rinse immediately with plenty of water (for at least 15 minutes), Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. If the person is fully conscious, make him/her drink two glasses of water. Never give an unconscious person anything to drink. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Causes damage to organs (kidneys) Oral. Suspected of damaging fertility or the unborn child.

Symptoms/effects after skin contact : May cause moderate irritation.

Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

4.3. Indication of any immediate medical attention and special treatment needed

A more effective intravenous antidote for physician uses is 4-methylpyrazaole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occured.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water fog. Fine water spray. Foam. Carbon dioxide. Dry chemical powder. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Product is not flammable or combustible but may burn under fire conditions.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Refer to section 8.2.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Store away from other materials.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Direct sunlight. Keep container closed when not in use. Product may become solid at temperatures below -37 ºC (-34 ºF). Do not store near food, foodstuffs, drugs or potable water supplies. Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty.

Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

denatonium benzoate (3734-33-6)
Not applicable

ethylene glycol (107-21-1)		
ACGIH	Local name	Ethylene glycol
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
ACGIH	ACGIH TWA (ppm)	25 ppm (Vapor fraction)
ACGIH	ACGIH STEL (mg/m³)	10 mg/m³ (Inhalable fraction, Aerosol only)
ACGIH	ACGIH STEL (ppm)	50 ppm (Vapor fraction)
ACGIH	Remark (ACGIH)	Upper respiratory tract & eye irritant
ACGIH	Regulatory reference	ACGIH 2018

diethylene glycol (111-46-6)
Not applicable

water (7732-18-5)
Not applicable

potassium p-tert-butylbenzoate (16518-26-6)
Not applicable

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Respiratory protection not required in normal conditions. If exposed to levels above exposure limits wear appropriate respiratory protection.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Molecular mass	:	62.07 g/mol Ethylene Glycol
Color	:	Red
Odor	:	Mild
Odor threshold	:	No data available
pH	:	8.6
Relative evaporation rate (butylacetate=1)	:	Nil
Freezing point	:	-37 °C (-34 ºF)
Boiling point	:	107 °C (224 ºF)
Flash point	:	116 °C (241 ºF) [100% Ethylene Glycol] *ASTM D56*
Auto-ignition temperature	:	400 °C (752 ºF) [100% Ethylene Glycol] *Literature*
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	< 0.1 mm Hg @ 20 ºC
Relative vapor density at 20 °C	:	No data available
Specific Gravity	:	1.07
Density	:	1.07 kg/l (8.91 lbs/gal)
Solubility	:	Water: Complete
Log Pow	:	No data available

Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	Not applicable
Explosive properties	:	Not applicable.
Oxidizing properties	:	Not applicable.

9.2. Other information

VOC content : 0

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Extremely high or low temperatures. Keep away from any flames or sparking source.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Alcohols. Aldehydes. Carbon dioxide. Carbon monoxide. Ethers. Fume.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Final Charge Global 50/50 Prediluted Antifreeze and Coolant	
ATE US (oral)	500 mg/kg bodyweight

denatonium benzoate (3734-33-6)	
LD50 oral rat	584 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit, Literature study, Dermal)
ATE US (oral)	584 mg/kg bodyweight

ethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg bodyweight (according to BASF-internal standards, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LC50 inhalation rat (mg/l)	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE US (oral)	500 mg/kg bodyweight

diethylene glycol (111-46-6)	
LD50 oral rat	19600 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	11890 mg/kg (Rabbit, Dermal)
LC50 inhalation rat (mg/l)	> 4.6 mg/l/4h (Other, 4 h, Rat, Weight of evidence)
ATE US (oral)	500 mg/kg bodyweight
ATE US (dermal)	11890 mg/kg bodyweight

Skin corrosion/irritation : Not classified
pH: 8.6

Serious eye damage/irritation : Not classified
pH: 8.6

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity	:	Suspected of damaging fertility or the unborn child.
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.
Symptoms/effects	:	Causes damage to organs (kidneys) Oral. Suspected of damaging fertility or the unborn child.
Symptoms/effects after skin contact	:	May cause moderate irritation.
Symptoms/effects after eye contact	:	Direct contact with the eyes is likely to be irritating.
Symptoms/effects after ingestion	:	Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

SECTION 12: Ecological information

12.1. Toxicity

denatonium benzoate (3734-33-6)	
LC50 fish 1	> 1,000.00 mg/l (96 h, Salmo gairdneri, Literature study)
EC50 Daphnia 1	13.00 mg/l (48 h, Daphnia magna, Literature study)

ethylene glycol (107-21-1)	
LC50 fish 1	40,761.00 mg/l (96 h, Salmo gairdneri, Static system)
EC50 Daphnia 1	> 10,000.00 mg/l (24 h, Daphnia magna)

diethylene glycol (111-46-6)	
LC50 fish 1	> 5,000.00 ppm (24 h, Carassius auratus)
EC50 Daphnia 1	> 10,000.00 mg/l (24 h, Daphnia magna)
LC50 fish 2	75,200.00 mg/l (Other, 96 h, Pimephales promelas, Flow-through system, Experimental value)
EC50 Daphnia 2	> 10,000.00 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value)

12.2. Persistence and degradability

denatonium benzoate (3734-33-6)	
Persistence and degradability	Biodegradability in water: no data available. No (test) data on mobility of the substance available.

ethylene glycol (107-21-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance
BOD (% of ThOD)	0.36

diethylene glycol (111-46-6)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O_2/g substance
Chemical oxygen demand (COD)	1.51 g O_2/g substance
ThOD	1.51 g O_2/g substance
BOD (% of ThOD)	0.02

12.3. Bioaccumulative potential

denatonium benzoate (3734-33-6)	
Log Pow	1.78 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

ethylene glycol (107-21-1)	
BCF fish 1	10.00 (72 h, Leuciscus idus)
BCF other aquatic organisms 1	0.21 - 0.6 (Procambarus sp., Chronic)
BCF other aquatic organisms 2	190.00 (24 h, Algae)
Log Pow	-1.34 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

diethylene glycol (111-46-6)	
BCF fish 1	100.00 (Other, 3 day(s), Leuciscus melanotus, Static system, Fresh water, Experimental value)
Log Pow	-1.98 (Calculated, Other)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

denatonium benzoate (3734-33-6)	
Ecology - soil	No (test)data on mobility of the substance available.

ethylene glycol (107-21-1)	
Surface tension	48.00 mN/m (20 °C)
Ecology - soil	No (test)data on mobility of the substance available.

diethylene glycol (111-46-6)	
Surface tension	0.05 N/m
Log Koc	0.00 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Effect on the ozone layer : No known effect on the ozone layer

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Non Bulk (in quantities under 5,000 lbs in any one inner package):
Not regulated by the US DOT

Bulk (in quantities 5,000 lbs or over in any one inner package):

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (Ethylene Glycol), 9, III

UN-No.(DOT) : UN3082

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
Ethylene Glycol

Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)

DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	241
DOT Symbols	:	G - Identifies PSN requiring a technical name
DOT Packaging Exceptions (49 CFR 173.xxx)	:	155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	No limit
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
Other information	:	No supplementary information available.

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

Transport by sea

In accordance with IMDG / IMO

Proper Shipping Name (IMDG)	:	Not regulated by IMDG (in quantites under 5,000 lbs in any one inner package)

Air transport

In accordance with IATA / ICAO

Proper Shipping Name (IATA)	:	Not regulated by IATA (in quantites under 5,000 lbs in any one inner package)

SECTION 15: Regulatory information

15.1. US Federal regulations

Final Charge Global 50/50 Prediluted Antifreeze and Coolant	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed

denatonium benzoate (3734-33-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
CERCLA RQ	5000 lb(s)
SARA Section 311/312 Hazard Classes	Refer to Section 2 for the OSHA hazard classification Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.
SARA Section 313 - Emission Reporting	Ethylene glycol is subject to Form R Reporting requirements.

diethylene glycol (111-46-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Final Charge Global 50/50 Prediluted Antifreeze and Coolant	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

potassium p-tert-butylbenzoate (16518-26-6)
Listed on the Canadian NDSL (Non-Domestic Substances List)

15.3. US State regulations

WARNING: This product can expose you to ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

ethylene glycol (107-21-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		(ingested) 8,700 (oral) µg/day

ethylene glycol (107-21-1)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

diethylene glycol (111-46-6)
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

Revision date : 11/01/2019

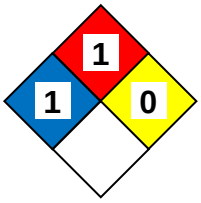
Full text of H-statements:

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

LAWSON Products

Material Safety Data Sheet

Revision Date *16-Sep-2014*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code 93206
Product name Flexseal, L.V. Red RTV Silicone
Recommended Use Sealant

Supplier Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
No information available

Aggravated Medical Conditions
None Known.

Principal Routes of Exposure
Eyes. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes. Redness. Swelling. Severity depends on degree of exposure.

Skin Repeated or prolonged exposure may cause:. Moderate irritation.

Inhalation May cause irritation of respiratory tract.

Ingestion May cause the following effects. Stomach distress. Irritation of lips, gums and tongue.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Dimethyl Siloxane Hydroxy Terminated	70131-67-8	60-100
Silicon Dioxide - hydrated	7631-86-9	7-13
Ethyltriacetoxysilane	17689-77-9	1-5
Methyltriacetoxysilane	4253-34-3	1-5

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Skin contact Wipe off with a towel. Flush skin with water and follow by washing skin with soap and water.

Ingestion Call a physician or Poison Control Center immediately.

Inhalation Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flash point °C No data available
Flash point °F No data available
Method Open cup

Autoignition temperature °C No data available
Autoignition temperature °F

Flammability Limits (% in Air)
Upper No data available
Lower No data available

Suitable extinguishing media
Carbon dioxide (CO2). Water. Water fog. Dry chemical powder. Foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special Fire-Fighting Procedures
Firefighters should wear NIOSH/MSHA approved (or equivalent) self-contained pressure-demand breathing apparatus and full protective clothing.

Fire and Explosion Hazards
None known.

Hazardous decomposition products
See Section 10.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Wipe or scrape up and dispose of spill. Place in non-leaking, tightly sealed container for proper disposal. Use caution as spill may create a slip hazard.

7. HANDLING AND STORAGE

7. HANDLING AND STORAGE

Handling
Avoid contact with skin and eyes. Do not handle contact lenses until all sealant has been cleaned from the fingertips, nails, and cuticles. Wash hands with soap and water before eating, drinking, smoking, or using toilet facilities.

Storage
Store in a well ventilated area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Methyltriacetoxysilane	-	ND	-	ND
Silicon Dioxide - hydrated	15 mg/m^3 (total dust), 5 mg/m^3 (respirable fraction)	10 ppm	10 mg/m^3 (total dust)	ND
Ethyltriacetoxysilane	-	10 mg/m^3 (dust)	-	15 ppm
Dimethyl Siloxane Hydroxy Terminated	-	-	-	-

Ventilation and Environmental Controls
Use in a well ventilated area. Provide adequate ventilation to keep exposure limits below TLV.

Hygiene measures
Wash hands before breaks and immediately after handling the product.

Respiratory protection
None necessary under normal conditions.

Hand Protection
Cotton gloves.

Eye protection
ANSI approved safety glasses are recommended to prevent accidental eye contact.

Skin and body protection
None necessary under normal conditions

Other Protective Equipment
An eye wash station should be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color	Red
Odor	Slight
Odor Threshold	No information available
pH	Not Applicable
Specific Gravity	1.032 @ 77F (25C)
Vapor pressure	No data available
Vapor density	No data available
Evaporation Rate	Not Applicable
Water solubility	No data available
VOC Content	0%; 0 gm/liter
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	Not Applicable
Boiling point/range °F	Not Applicable
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	No data available
Flash point °F	No data available

10. STABILITY AND REACTIVITY

Stability
No information available.

Conditions to avoid
No information available.

Incompatability
No information available.

Hazardous Decomposition Products
Sulfur oxides. Carbon oxides. Incompletely burned carbon products. Silicone dioxide. Iodine compounds. Formaldehyde.

Polymerization
No information available.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Methyltriacetoxysilane 4253-34-3	-	-	-
Silicon Dioxide - hydrated 7631-86-9	5000 mg/kg	2000 mg/kg	2.2 mg/L
Ethyltriacetoxysilane 17689-77-9	-	-	-
Dimethyl Siloxane Hydroxy Terminated 70131-67-8	-	16 mL/kg	8750 mg/m^3

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity None known

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects See table below

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Methyltriacetoxysilane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Silicon Dioxide - hydrated	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Ethyltriacetoxysilane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Dimethyl Siloxane Hydroxy Terminated	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Silicon Dioxide - hydrated

Water Flea Data

Ceriodaphnia dubia EC50=7600 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products
Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Not Regulated

TDG
Not Regulated

15. REGULATORY INFORMATION

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Methyltriacetoxysilane	Not Listed	Not Listed	Not Listed
Silicon Dioxide - hydrated	Listed	Listed	Not Listed
Ethyltriacetoxysilane	Not Listed	Not Listed	Not Listed
Dimethyl Siloxane Hydroxy Terminated	Not Listed	Not Listed	Not Listed

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Methyltriacetoxysilane	X	X	-	X
Silicon Dioxide - hydrated	X	X	-	X
Ethyltriacetoxysilane	X	X	-	X
Dimethyl Siloxane Hydroxy Terminated	-	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations.

16. OTHER INFORMATION

NFPA

Health - 1
Flammability - 1
Reactivity - 0

HMIS

Health - 1
Flammability - 1
Physical Hazard - 0

Prepared By Maureen Ruggeberg, Regulatory Affairs Specialist

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Flo-Perm All Season Windshield Washer Antifreeze – 35^0 C
SAFETY DATA SHEET

SECTION 1: Identification

Product identifier	Flo-Perm All Season Windshield Washer Antifreeze – 35^0 C
Part #:	33535
Recommended Use	Windshield wash fluid
Restrictions on Use	None known
Manufacturer/Supplier's details	Vulsay Industries Ltd. 35 Regan Road, Brampton, Ontario L7A 1B2 Phone # 905 846 2200
Emergency phone number(s)	24 hours EMERGENCY Phone # - 1-800-468-1760

SECTION 2: Hazard identification

General hazard statement
Blue colour liquid, with a mild, characteristic alcohol odour.
FLAMMABLE LIQUID AND VAPOUR: Confined space hazard
TOXIC: Causes damage to organs. May be harmful if inhaled, absorbed through skin or swallowed. Mild central nervous system depressant following inhalation, skin absorption or ingestion. May cause headache, nausea, dizziness, drowsiness, and incoordination. Severe visual effects, including increased sensitivity to light, blurred vision, and blindness may develop following an 8-24 hour symptom-free period. Coma and death may result.
Eye irritant.

Classification of the substance or mixture
- Flammable liquids (chapter 2.6), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 3
- Acute toxicity, dermal (chapter 3.1), Cat. 3
- Acute toxicity, inhalation (chapter 3.1), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

GHS label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H226	Flammable liquid and vapor
H301	Toxic if swallowed

H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs (may cause blindness if swallowed).

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/…/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fume, gas, mist, vapours, spray.
P264	Wash hands and skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321	Specific treatment (see first-aid measures section).
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P501	Dispose of contents/container, in a safe manner, to appropriate waste disposal facility in accordance with regional, national and local laws and regulations.
P370+P378	In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder, water spray or fog to extinguish.

SECTION 3: Composition/information on ingredients

Substances

Hazardous components

Component	Concentration
Methanol (CAS no.: 67-56-1; EC no.: 200-659-6; Index no.: 603-001-00-X)	>= 35 - <= 50 % (Volume)

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician. Methanol is toxic and flammable. Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment and remove any sources of ignition).

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Obtain medical attention.
In case of skin contact	Rinse skin with water/shower. Remove immediately all contaminated clothing. Wash contaminated clothing before reuse.
In case of eye contact	Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Ensure that folded skin of eyelids is thoroughly washed with water. Obtain medical attention if eye irritation, pain, blinking or redness persist.
If swallowed	Rinse mouth. Do NOT induce vomiting. Contains methanol. If swallowed, call a Poison Control Center or doctor immediately. Immediate medical treatment is required. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed
Symptoms/injuries after inhalation : Symptoms may include dizziness, headache, nausea and loss of coordination. CNS depression. Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

Symptoms/injuries after skin contact: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Repeated and/or prolonged skin contact may cause irritation.

Symptoms/injuries after eye contact: Causes serious eye damage.

Symptoms/injuries after ingestion: Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness. Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

Chronic symptoms: Some teratogenic and fetotoxic effects, were observed in animal studies but are inconclusive.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically. The severity of outcome following methanol ingestion may be more related to the time between ingestion and treatment, rather than the amount ingested. Therefore, there is a need for rapid treatment of any ingestion exposure. Antidote is fomepizole which enhances elimination of metabolic formic acid. This must be administered by a trained medical professional only. For specialist advice physicians should contact the Poison Control Centre.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Synthetic Fire fighting foam AR-FFF (3% solution). Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable Extinguishing Media

Foam	General purpose synthetic foams or protein foams

Water may be effective for cooling, but may not be effective for extinguishing a fire because it may not cool methanol below its flash point.

Specific hazards arising from the chemical
Highly flammable liquid and vapor. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases. Under fire conditions closed containers may rupture or explode. Can be ignited by static discharge. Can accumulate static charge by flow, splashing or agitation. Even dilute solutions in water may be flammable. Can accumulate in confined spaces, resulting in a toxicity and flammability hazard.

Special protective actions for fire-fighters
Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
EYES AND FACE: Splash proof goggles and/or face shield should be worn in situations having the potential for eye contact.
SKIN (HAND, ARMS AND BODY): Chemical protective methanol impervious gloves should be worn at all times when handling this product. In confined work spaces or where spaces or where the risk of skin exposure is much higher, impervious clothing should also be worn.
RESPIRATORY: Must be worn in all situations where the recommended occupational exposure limit is exceeded. Proper equipment includes an atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus for concentrations in excess of the recommended occupational exposure limit.
MECHANICAL VENTILATION:
GENERAL: Highly recommended for all indoor situations. Concentrations in air should be maintained below lower explosive limit at all times, or below the recommended threshold limit value if unprotected personnel are included.
LOCAL: Required for personnel entry into confined spaces (i.e. bulk storage tanks)
MAKE-UP AIR: Should always be supplied to balance air exhausted (generally or locally)

Environmental precautions
Prevent entry to sewers, on the ground, and public waters.

Methods and materials for containment and cleaning up
Stop leak if safe to do so. Remove all sources of ignition. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Wash spill area with soapy water. Large spills: Dike to collect large liquid spills. Alcohol resistant foams may be applied to spill to diminish vapour and fire hazard. Remove liquid by intrinsically safe pumps or vacuum equipment designed for vacuuming flammable materials (i.e. equipped with inert gases and ignition sources controlled). Place in suitable, covered, labelled containers.

Reference to other sections
SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations

SECTION 7: Handling and storage

Precautions for safe handling
Flammable liquid. Contents may catch fire. Keep away from heat, flame and spark. Use only in a well-ventilated area. Keep containers tightly sealed. Handling equipment should be grounded to prevent accumulation of static charge. Avoid any direct contact. Use good personal hygiene. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities
Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment. Have appropriate fire extinguishers and spill cleanup equipment in or near storage area.
Storage conditions: Keep only in the original container in a cool, well ventilated place away from : Ignition sources, oxidizing agents. Keep in fireproof place. Keep container tightly closed. Do not store in confined spaces. away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources.
Storage area: Store at room temperature. Keep out of direct sunlight. Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Provide the tank with earthing.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 67-56-1
Methanol (67-56-1)
USA ACGIH ACGIH TWA (mg/m³) 262 mg/m³
USA ACGIH ACGIH TWA (ppm) 200 ppm
USA ACGIH ACGIH STEL (mg/m³) 327 mg/m³
USA ACGIH ACGIH STEL (ppm) 250 ppm
USA ACGIH Remark (ACGIH) Headache; eye dam; dizziness; nausea
USA OSHA OSHA PEL (TWA) (mg/m³) 260 mg/m³
USA OSHA OSHA PEL (TWA) (ppm) 200 pp

Appropriate engineering controls
MECHANICAL VENTILATION:
GENERAL: Highly recommended for all indoor situations. Concentrations in air should be maintained below lower explosive limit at all times, or below the recommended threshold limit value if unprotected personnel are included.
LOCAL: Required for personnel entry into confined spaces (i.e. bulk storage tanks)
MAKE-UP AIR: Should always be supplied to balance air exhausted (generally or locally)

Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Splash proof goggles and/or face shield should be worn in situations having the potential for eye contact.

Skin protection
Chemical protective methanol impervious gloves should be worn at all times when handling this product. In confined work spaces or where spaces or where the risk of skin exposure is much higher, impervious clothing should also be worn.

Body protection
: Wear chemical resistant overall.

Respiratory protection

Must be worn in all situations where the recommended occupational exposure limit is exceeded. Proper equipment includes an atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus for concentrations in excess of the recommended occupational exposure limit.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear blue liquid with slight alcohol odour
Odor	Slight alcohol odour
Odor threshold	No data available.
pH	7.5 - 9.0
Melting point/freezing point	-35 deg C
Initial boiling point and boiling range	79 deg C
Flash point	32 deg C TCC
Evaporation rate	No data available.
Flammability (solid, gas)	Highly flammable liquid
Upper/lower flammability limits	Upper: (% BY VOLUME): 36.5 for METHANOL, Lower: (% BY VOLUME): 6.0 for METHANOL , For the product mixture, no data is available
Vapor pressure	No data available.
Vapor density	No data available.
Relative density (water = 1)	0.930 - 0.940 @ 20 ^{0}C
Solubility(ies)	100% soluble in water
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions.

Chemical stability
The product is stable under storage at normal ambient temperatures. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Hygroscopic

Possibility of hazardous reactions
Under fire conditions closed containers may rupture or explode

Conditions to avoid
Avoid sparks, open flames and all ignition sources

Incompatible materials
Oxidizing agents. Strong acids. Strong bases. Methanol is not compatible with gasket and O-rings materials made of Buna-N and Nitrile.

Hazardous decomposition products
CO, CO2, Formaldehyde gas produced on combustion

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Methanol
LD50 Oral - Rat - 5600 mg/kg

Methanol
LD50 Skin - Rabbit - 15800 mg/kg

Methanol
LC50 Inhalation - Rat - 64000 ppm 4hr

Skin corrosion/irritation
Not classified
(Based on available data, the classification criteria are not met)

Serious eye damage/irritation
Causes serious eye irritation

Respiratory or skin sensitization
Not classified
(Based on available data, the classification criteria are not met)

Germ cell mutagenicity
Not classified
(Based on available data, the classification criteria are not met)

Carcinogenicity
Not classified
(Based on available data, the classification criteria are not met)

Reproductive toxicity
Not classified
(Based on available data, the classification criteria are not met)

STOT-single exposure
Causes damage to organs.

Inhalation
At high concentrations severe nose and throat irritation.
Skin Absorption
May be harmful based on animal tests.
Ingestion
1) MILD TO MODERATE TOXICITY: Patients will initially have signs of acute intoxication, such as ataxia, sedation, and disinhibition. Patients may also complain of abdominal pain, nausea, vomiting, and headache. Acidosis or signs of visual impairment suggest a more severe poisoning.
2) SEVERE TOXICITY: Severe metabolic acidosis develops hours after exposure (if ethanol is not coingested) and may lead to multi-organ dysfunction including hypotension, tachycardia, dysrhythmias, seizures, coma, pancreatitis, and acute renal failure. Rhabdomyolysis may occur in severe poisonings. Hypomagnesemia, hypokalemia, and hypophosphatemia have also been reported. In addition, ocular toxicity may develop; manifestations include mydriasis, hyperemic optic discs, and papilledema. Visual impairment may develop, which may range from

blurry/hazy vision to color vision defects to "snowfield" vision to total blindness. Permanent sequelae after severe intoxication may include basal ganglia necrosis with parkinsonian features (ie, tremor, rigidity, bradykinesia) and blindness.

Toxic, can cause death depression of the central nervous system, impaired vision and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure may cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system e.g. tremor, seizures.

STOT-repeated exposure
No data available

Aspiration hazard
Based on available data, the classification criteria are not met

SECTION 12: Ecological information

Toxicity
The following data is for methanol, the main ingredient of Windshield Washer.
LC50 (96h,fish): 15400 – 29400 mg/l
EC50 (48h, daphnia):>10000 mg/l
EC50 (72h, algae): 22000 mg/l Selenastrum carpricornutum

Persistence and degradability
Readily biodegradable

Bioaccumulative potential
Does not bioaccumulate

Mobility in soil
Mobile in soils

Results of PBT and vPvB assessment
Methanol is not considered to be persistent, bioaccumulating or toxic (PBT). Methanol is not considered to be very persistent nor very bioaccumulating (vPvB).

Other adverse effects
Avoid release to the environment. Do not flush into surface water or sanitary sewer system.

Terrestrial fate: The mobility of methanol in the subsurface will not be significantly limited by adsorption. Sorption of methanol to organic carbon in soil will be minor, and methanol will tend to remain in soil pore water.
Aquatic Fate: Methanol is completely miscible in water. Accordingly, its mobility in the subsurface will not be limited by solubility. Methanol has been shown to undergo rapid biodegradation in a variety of screening studies using sewage seed and activated sludge inoculum, which suggests that biodegradation, will occur in aquatic environments where the concentration does not inhibit bacterial activity.
Atmospheric Fate: Methanol has a vapour pressure of 127 mm Hg at 25 C and is expected to exist solely as a vapour in the ambient atmosphere. Vapour-phase methanol is degraded in the atmosphere by reaction with photo chemically produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days.

SECTION 13: Disposal considerations

Disposal of the product
Review federal, provincial and local government regulations prior to disposal. Store material for disposal as indicated in Section 7, Handling and storage. Reclaim and dispose of at a licensed facility permitted to handle hazardous waste. Recycle wherever possible.

Disposal of contaminated packaging
Empty containers may contain hazardous residue. Never weld, cut or grind empty containers. If disposing of empty containers, ensure they are well rinsed with water, then dispose of at an authorized landfill. After cleaning, all existing labels should be removed.

SECTION 14: Transport information

Canadian TDG (Transportation of Dangerous Goods):
Containers of 450L or less: This product meets the requirements for exemption under TDG regulation special provisions, part 1, section 1.36b: Class 3, Flammable liquids: Alcohol Exemption.

Containers larger than 450L and bulk: TDG regulation apply:
UN Number: 1986
Class: 3 (6.1)
Packing Group: III
Proper Shipping Name: ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Methanol/Water Solution)

U. S. Department of Transportation (DOT):
UN Number: 1986
Class: 3 (6.1)
Packing Group: III
Proper Shipping Name: ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Methanol)

Proper Shipping Name: Consumer Commodity ORM-D Per 49 CFR Part 173.10 (PG III, inner packaging no more than 5.0 L)

IMDG
Proper Shipping Name: Limited Quantities of Class 3 (This must be notated on Shipper's Declaration)

IATA
Proper Shipping Name: Flammable Liquid, n.o.s. (Methanol) ID #: UN 1993 Class: 3
Hazard Label: Flammable Liquid PG: III
Ltd. Qty. Packaging Instruction: Y309 (Max qty. per package 10L)
Special Provision: A3

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
All ingredients are listed on the DSL/NDSL.

Toxic Substances Control Act (TSCA) Inventory
All ingredients are listed on the TSCA Inventory.

Massachusetts Right To Know Components
Chemical name: Methanol
CAS number: 67-56-1

New Jersey Right To Know Components

Common name: METHYL ALCOHOL
CAS number: 67-56-1

Pennsylvania Right To Know Components
Chemical name: Methanol
CAS number: 67-56-1

California Prop. 65 Components
This product contains chemicals known to the State of California to cause birth defects.
This product contains chemicals known to the State of California to cause reproductive harm.

SECTION 16: Other information

SDS Prepared By: Quality Assurance Department

Phone #: 905 846 2200

Preparation date: March 7, 2017

Revision #: First Issue

Disclaimer
The recommendations and data presented herein are based on sources considered to be reliable. However, no. warranty is expressed or implied regarding the accuracy of the data or the results obtained from the use of this information or the use of product. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Flo-Perm Magnum Global Concentrate Antifreeze/Coolant
SAFETY DATA SHEET

SECTION 1: Identification

Product identifier

Product name	Flo-Perm Magnum Global Concentrate Antifreeze/Coolant
Part No.	92270, 92271
Recommended Use	Antifreeze/Coolant
Restrictions on Use	None known

Supplier's details

Name	Vulsay Industries Ltd.
Address	35 Regan Road Brampton, Ontario L7A 1B2 Canada
Telephone	905 846 2200
Fax	905 846 2249
Emergency phone number(s)	24 hours EMERGENCY Phone # - 1-800-468-1760

SECTION 2: Hazard identification

Classification of the substance or mixture
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 2
- Toxic to reproduction (chapter 3.7), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2B

GHS label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H302	Harmful if swallowed
H373	May cause damage to organs (kidneys) through prolonged or repeated exposure
H360	May damage fertility or the unborn child

H320	Causes eye irritation

Precautionary statement(s)

P202	Do not handle until all safety precautions have been read and understood.
P201	Obtain special instructions before use.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection.
P270	Do not eat, drink or smoke when using this product.
P260	Do not breathe mist, vapours, spray.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301+P330+P331	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P362+P364	Take off contaminated clothing and wash it before reuse.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local regulations

SECTION 3: Composition/information on ingredients

Component	Concentration (volume)
ETHYLENE GLYCOL (CAS no.: 107-21-1; EC no.: 203-473-3; Index no.: 603-027-00-1)	**90 - 97 %**
DIETHYLENE GLYCOL (CAS no.: 111-46-6; EC no.: 203-872-2; Index no.: 603-140-00-6)	**<=5%**
Hydrated inorganic acid, organic acid salts (CAS no.: Mixture)	**< 6 %**
Water (CAS no.: 7732-18-5)	**<5%**

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, get medical attention.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any

	ointments, oils, or medication in the victim's eyes without specific instructions from a physician. Get medical attention immediately.
If swallowed	DO NOT INDUCE VOMITING. IMMEDIATELY call a hospital or poison control center. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. IMMEDIATELY transport the victim to a hospital.

Personal protective equipment for first-aid responders
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Most important symptoms/effects, acute and delayed
Ethylene glycol may be acutely toxic following ingestion. Due to its low volatility and low dermal absorption rate, acute toxicity is unlikely following exposure to ethylene glycol by the inhalation or dermal routes.
Acute toxicity following ingestion of ethylene glycol manifests in three phases. The first is characterized by central nervous system (CNS) depression much like in ethanol intoxication, with features including dizziness, agitation, nystagmus, nausea, tachycardia, elevated blood pressure and vomiting between 0.5 and 12 hours. The second phase at around 12 hours after ingestion is characterized by cardiorespiratory effects, with the development of hyperpnoea, metabolic acidosis, dyspnoea, hyperventilation, tachycardia, cyanosis and elevated blood pressure. A third phase, involving renal toxicity may present 24–36 hours after ingestion with flank pain, renal angle tenderness, acute tubular necrosis, hypercalcaemia, hyperkalaemia and hypomagnesaemia. Oliguria or anuria may occur. Some investigators report a fourth stage characterized by delayed neurological dysfunction.

Death may occur after substantial exposures due to cardiopulmonary failure or CNS damage in later stages. Severe intoxication, if survived, may lead to neurological effects including facial paralysis, slurred speech, loss of motor skills and impaired vision.

Indication of immediate medical attention and special treatment needed, if necessary
If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water spray may be used to flush spills away from fire and diluted spills to noncombustible proportions(see warning on water spray on hot glycol below.)

Specific hazards arising from the chemical
Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.
Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Special protective actions for fire-fighters
Water spray may cause foaming of hot glycol so indirect application of water spray or use of other extinguishing media should be used on hot glycol.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. In case of spills, beware of slippery floors and surfaces.

Environmental precautions
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up
Contain spilled material if possible. Collect in suitable and properly labeled containers. Small spills: Absorb with intert absorbing material. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information

SECTION 7: Handling and storage

Precautions for safe handling
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

Conditions for safe storage, including any incompatibilities
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Product may become solid at temperatures below -18 ºC (0 ºF). Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty. Do not store near food, foodstuffs, drugs or potable water supplies.
Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.
Incompatible materials : Sources of ignition.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 107-21-1 (EC: 203-473-3)
ETHYLENE GLYCOL
ACGIH: 10 mg/m3 TWA inhalation

CAS: 111-46-6 (EC: 203-872-2)
DIETHYLENE GLYCOL
ACGIH: 10 mg/m3 TWA inhalation

Appropriate engineering controls
General ventilation is sufficient in most cases. If general ventilation is not sufficient, use local exhaust ventilation.

Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Wear safety glasses or chemical goggles

Skin protection
Wear protective gloves

Body protection
Wear protective clothing such as apron is necessary

Respiratory protection
Not normally required if product is used as directed. : If exposed to levels above exposure limits wear appropriate respiratory protection.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear, slightly viscous, light yellow colour liquid
Odor	No characteristic odor
Odor threshold	No data available.
pH	9 - 11
Melting point/freezing point	Lower then -15deg C (Ethylene Glycol)
Initial boiling point and boiling range	197 ^{0}C (Ethylene Glycol)
Flash point	111 ^{0}C TCC (Ethylene Glycol)
Evaporation rate	<0.01
Flammability (solid, gas)	Not applicable
Upper/lower flammability limits	Data not available
Vapor pressure	0.06 mm Hg (Ethylene Glycol)
Vapor density	2.1 (Ethylene Glycol)
Relative density (water =1)	1.1 -1.15 @20^{0} C]
Solubility	100% soluble in water

Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	400 ^{0}C (Ethylene Glycol)
Decomposition temperature	No data available.
Viscosity	16.9 cP @ 25°C (Ethylene Glycol)
Explosive properties	No data available.
Oxidizing properties	No data available.

SECTION 10: Stability and reactivity

Reactivity
Not reactive under normal conditions

Chemical stability
Stable

Possibility of hazardous reactions
Hazardous polymerization will not occur

Conditions to avoid
Extremely high or low temperatures. Open flames, sparks, heat and ignition sources

Incompatible materials
Keep away from strong acids, strong bases and oxidizing materials

Hazardous decomposition products
Carbon dioxide, carbon monoxide, fume, aldehydes, ketones

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
ETHYLENE GLYCOL
Acute oral LD50's = 4,700 mg/kg (rats)
5,500 mg/kg (mouse)
LD50 Skin - Rabbit - 9,530 mg/kg

DIETHYLENE GLYCOL
LD50 Oral - Rat - 12,565 mg/kg
Citation: Sigma Aldrich SDS
LD50 Skin - Rabbit - 11,890 mg/kg

Skin corrosion/irritation
Not classified - Based on the pH and the irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation of the skin.

Serious eye damage/irritation
Not classified - Based on the pH and irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation or inflammation of the eyes

Respiratory or skin sensitization

Not classified

Germ cell mutagenicity
No data available. Not known to be a mutagen

Carcinogenicity
Not classified

Reproductive toxicity
Ethylene glycol is not classified as a human reproductive or developmental toxicant. However, fetal toxicity may arise secondary to maternal toxicity. It is unlikely that exposure to low concentrations of ethylene glycol would result in adverse effects in the fetus, though exposure should be minimized

STOT-single exposure
If vaporized or sprayed: upper respiratory irritation and systemic effects.
Ingestion: moderately toxic, may cause central nervous system effects, cardio pulmonary effects (metabolic acidosis) and kidney failure. Large amounts ingested may cause serious injury and death.
Skin: Slight irritation but injury unlikely.

STOT-repeated exposure
May cause damage to organs (kidneys) through repeated or prolonged exposure
May cause dry skin on repeated exposure

Aspiration hazard
Not classified

Additional information

ETHYLENE GLYCOL: *TOXICITY:

STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: Federal Register (1/19/89)
Final Limit: Ceiling Limit 50 ppm [015,545,610]
ACGIH: Ceiling Limit 50 ppm (vapor) [015,415,421,610]
NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): 1
Flammability (F): 1
Reactivity (R): 0
H1: Materials only slightly hazardous to health (see NFPA for details).
F1: Materials that must be preheated before ignition can occur (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

DIETHYLENE GLYCOL: *TOXICITY:

STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: None
ACGIH: None

NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): 1
Flammability (F): 1
Reactivity (R): 0
H1: Materials only slightly hazardous to health (see NFPA for details).
F1: Materials that must be preheated before ignition can occur (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

SECTION 12: Ecological information

Toxicity
Ecological information of the product : Data not available

Ethylene Glycol (107-21-1)
EC50 Daphnia 1 > 10,000.00 mg/l (EC50; 24 h)
LC50 fish 2 40,761.00 mg/l (LC50; 96 h; Salmo gairdneri)

Diethylene Glycol (111-46-6)
LC50 fish 1 > 5,000.00 mg/l (LC50; 24 h)
EC50 Daphnia 1 > 10,000.00 mg/l (EC50; 24 h)
denatonium benzoate (3734-33-6)
LC50 fish 1 > 1,000.00 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1 13.00 mg/l (EC50; 48 h; Daphnia magna)

Persistence and degradability
Ethylene Glycol (107-21-1)
Persistence and degradability Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD) 0.47 g O2/g substance
Chemical oxygen demand (COD) 1.24 g O2/g substance
ThOD 1.29 g O2/g substance
BOD (% of ThOD) 0.36

Diethylene Glycol (111-46-6)
Persistence and degradability Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photolysis in the air.
Biochemical oxygen demand (BOD) 0.02 g O2/g substance
Chemical oxygen demand (COD) 1.51 g O2/g substance
ThOD 1.51 g O2/g substance
BOD (% of ThOD) 0.02

Bioaccumulative potential
Ethylene Glycol (107-21-1)
BCF fish 1 10.00 (BCF; 72 h)
BCF other aquatic organisms 1 0.21 - 0.6 (BCF)
BCF other aquatic organisms 2 190.00 (BCF; 24 h)
Log Pow -1.34 (Experimental value)
Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

Diethylene Glycol (111-46-6)
BCF fish 1 100.00 (BCF; Other; 3 days; Leuciscus melanotus; Static system; Fresh water; Experimental value)

Log Pow -1.98 (Calculated; Other)
Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

Mobility in soil
Mobility: The product is miscible with water. May spread in water systems.

Results of PBT and vPvB assessment
This substance is not classified as PBT or vPvB.

Other adverse effects
No data available.

SECTION 13: Disposal considerations

Disposal of the product
DISPOSAL AND WASTE TREATMENT: Avoid release to the environment. Provincial and/or federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition, or to the satisfaction or authorities. Dispose of contents/container, in a safe manner, to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

Canadian TDG (Transportation of Dangerous Goods):.NOT REGULATED

DOT (US)
UN Number: 3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s.

Non Bulk: Not regulated by the US DOT in quantities under 5,000 lbs in any one inner package

IMDG: NOT REGULATED
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Product Name: ETHYLENE GLYCOL
Ship Type: 3
Pollution Category: Y

IATA: NOT REGULATED

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Massachusetts Right To Know Components
Chemical name: Ethylene glycol
CAS number: 107-21-1

New Jersey Right To Know Components
Common name: ETHYLENE GLYCOL
CAS number: 107-21-1

Pennsylvania Right To Know Components
Chemical name: 1,2-Ethanediol
CAS number: 107-21-1

Canadian Domestic Substances List (DSL)
All ingredients are listed on the DSL/NDSL

Toxic Substances Control Act (TSCA) Inventory
All ingredients are listed on the TSCA inventory

California Prop. 65 Components
Known to the state to cause reproductive toxicity

SECTION 16: Other information

SDS Prepared By: Quality Assurance Department

Phone #: 905 846 2200

Preparation date: March 06, 2016

Revision #: First Issue

Disclaimer
The recommendations and data presented herein are based on sources considered to be reliable. However, no. warranty is expressed or implied regarding the accuracy of the data or the results obtained from the use of this information or the use of product. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Vulsay Industries Ltd.
MATERIAL SAFETY DATA SHEET

FLO-PERM GLOBAL CONCENTRATE ANTI-FREEZE

REVISION DATE: May 24, 2014

PRODUCT INFORMATION

TRADE NAME: FLO-PERM Global Concentrate Anti-freeze
SUPPLIER'S NAME: Vulsay Industries Ltd.
ADDRESS: 35 Regan road, Brampton, Ontario L7A 1 B2
PHONE: (905) 846 2200 FAX #: (905) 846 2249
CHEMICAL NAME: Ethylene Glycol
PRODUCT USE: Anti-freeze/coolant

PART NUMBERS
92270, 92271

24 hours EMERGENCY Phone # - Call CANUTEC at (613) 996 6666
NFPA RATING: Health: 2 Flammability:1 Reactivity:0

PREPARATION INFORMATION

SOURCES USED: MSDS of ingredients and similar relevant data PREPARED BY: Quality control department
REVISION NOTE: Reprint with name change to Flo-perm from Magnum

HAZARDOUS INGREDIENTS

INGREDIENT	VOLUME (%)	CAS #	LD50	LC50
Monoethylene glycol	80-90	107-21-1	8.5 g/kg (rats-Oral)	Not determined
Diethylene Glycol	3 – 7	111-46-6	12.5 g/kg (rats – Oral)	Not determined
Sodium Nitrite	<0.44	7632-00-0	180 mg/kg (rat – Oral)	5500 µg/m3 Inhalation - rat
Potassium Hydroxide (45%)	<0.22	1310-58-3	273 mg/kg (rat – Oral)	Not available
Sodium Nitrate	<0.1	7631-99-4	1267 mg/Kg (rats – Oral)	Not available
Inhibitors	<0.1	Mixture	Not applicable	Not applicable
Dye (generally yellow)	<0.02	Mixture	Not applicable	Not applicable

EMERGENCY OVERVIEW: HARMFUL OR FATAL IF SWALLOWED. Solution is poisonous to both humans and animals. Excessive exposure has been shown to cause birth defects in laboratory testing.

PHYSICAL DATA

PHYSICAL STATE Liquid
ODOUR AND APPEARANCE. Light yellow coloured liquid with a sweet smell
ODOUR THRESHOLD Not Available
VAPOUR PRESSURE (mm): Not determined
SOLUBILITY IN WATER. Completely soluble
VAPOUR DENSITY (AIR =1). >1
EVAPORATION RATE (n-butyl acetate = 1) <1
VOLATILE. Not volatile
BOILING POINT (DEG C) 166
SPECIFIC GRAVITY (20 DEG C): 1.1 - 1.14
FREEZING POINT (DEG C). -22
pH: 7.0 – 11.0

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: 116^0 C (241^0 F) TCC
LOWER FLAMMABILITY LIMIT: 3.2%
UPPER FLAMMABILITY LIMIT: 15.3%
AUTO IGNITION TEMPERATURE: 398^0 C (748^0 F)
UNUSUAL FIRE AND EXPLOSION HAZARDS: Extreme heat as in fire or high engine temperature
MEAN OF EXTINCTION: Water fog or fine spray, alcohol resistant foams, CO2, dry chemical, Do not use direct water stream, may spread fire.
SPECIAL PROCEDURES: Wear positive-pressure, self-contained breathing apparatus and full protective equipment

REACTIVITY DATA

CHEMICAL STABILITY: Stable, Hazardous polymerization will not occur
INCOMPATIBILITY: Strong oxidizing materials,
HAZARDOUS DECOMPOSITION PRODUCTS: CO, C02,

MAGNUM GLOBAL CONCENTRATE ANTI-FREEZE

TOXICOLOGICAL PROPERTIES

EFFECTS OF ACUTE EXPOSURE: Vie- Slightly irritation but injury unlikely. If vaporized or sprayed- upper respiratory irritation and systemic effects. Ingestion - moderately toxic, may cause central nervous system effects, cardio-pulmonary effects (metabolic acidosis) and kidney failure. Large amounts ingested may cause serious injury and death.
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: Skin absorption or ingestion: Long term exposure may cause bladder stones, kidney and liver damage, deposition of calcium salts in various tissues. Ethylene Glycol has been shown to cause developmental and reproductive effects at high dose levels in laboratory animals. The relationship of these results to humans has not been fully established.
ACUTE TOXICITY DATA: Based on animal and human testing data from similar materials and products, the acute toxicity of this product is expected to be ORAL: LD50 > 1300 mg/kg (human) LD50 > 8500 mg/kg (rat)

PREVENTATIVE MEASURES, HANDLING AND STORAGE

PERSONAL PROTECTIVE EQUIPMENT: Normal body covering clothing for most conditions
GLOVES (SPECIFY): Impervious for prolonged or repeated exposure
RESPIRATORY (SPECIFY): Air purifying respirator if atmospheric level is high
EYES (SPECIFY): Glasses for splash, full-face respirator if vapours cause discomfort.
FOOTWEAR: Normal
ENGINEERING CONTROLS: General ventilation, local for mists
LEAK AND SPILL PROCEDURE: Small spills, soak up with suitable absorbent. Large spills - dike material, pump into suitable containers for disposal.
WASTE DISPOSAL: Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must comply with all Federal, State/Provincial and local laws and regulations.
HANDLING, STORAGE AND SHIPPING: Keep container closed when not in use. Store away from heat or open flame. Do not store near foodstuffs, or potable water supplies. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Poison. Do not drink this material. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material. Empty containers may contain product residue. Do not reuse empty containers. Product may freeze below -18^0 C (0^0 F).

ENVIRONMENTAL EFFECTS AND HAZARDS:

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes rivers, streams, or public waterways. Block off drains and ditches. Provincial and/or federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition, or to the satisfaction or authorities.

FIRST AID MEASURES

INHALATION: Remove patient to fresh air if effects occur. Consult a physician. SKIN: Wash contaminated skin with water and mild soap. Remove contaminated clothing.
EYES: Flush eyes with water for at least 15 minutes. Obtain medical attention if necessary.
INGESTION: Contains ethylene glycol. **If swallowed, call a poison control center or doctor immediately.**

ADDITIONAL INFORMATION

WHIMS CLASSIFICATION: D2A, Very toxic material

TDG (CANADA): Shipping Name: Compounds, Anti-freeze Not regulated.
DOT (USA): Non-bulk is not regulated in quantities under 5,000 lbs in any one inner package.

IATA (International Air Transportation Association): Not regulated under IATA.

OSHA Classification: Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

MAGNUM GLOBAL CONCENTRATE ANTI-FREEZE

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA): Ethylene Glycol RQ 5000 lbs Reportable Spill => 10455 lbs or 1254 gal

Ozone Depleting Substances (40 CFR 82 Clean Air Act): This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III: There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312): Immediate Health:YES Delayed Health:YES Fire:NO Pressure:NO Reactivity:NO

SARA Toxic Release Inventory (TRI) (313): Ethylene Glycol

Toxic Substances Control Act (TSCA) Status: All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

This product may be subject to export notification under TSCA Section 12(b); Contains: ETHANOL,2-(2-Butoxy)

Other Chemical Inventories: Component(s) of this material is (are) listed on the Canadian DSL, European EINECS

DISCLAIMER: THE INFORMATION, RECOMMENDATIONS AND DATA PRESENTED HEREIN ARE BELIEVED TO BE CORRECT. HOWEVER, NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THE DATA IS MADE. The conditions or methods of handling, storage, use and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

Flo-Perm Universal “SCA Pre-Charged” Concentrate Antifreeze/Coolant
SAFETY DATA SHEET

SECTION 1: Identification

Product identifier

Product name	Flo-Perm Universal “SCA Pre-Charged” Concentrate Antifreeze/Coolant
Part No.	92030, 93701, 90624, 9685T, 9685DLVRD, 90701, 90700V
Recommended Use	Antifreeze/Coolant
Restrictions on Use	None known

Supplier's details

Name	Vulsay Industries Ltd.
Address	35 Regan Road Brampton, Ontario L7A 1B2 Canada
Telephone	905 846 2200
Fax	905 846 2249
Emergency phone number(s)	24 hours EMERGENCY Phone # - 1-800-468-1760

SECTION 2: Hazard identification

Classification of the substance or mixture
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 2
- Toxic to reproduction (chapter 3.7), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2B

GHS label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H302	Harmful if swallowed
H373	May cause damage to organs (kidneys) through prolonged or repeated exposure
H360	May damage fertility or the unborn child

H320	Causes eye irritation

Precautionary statement(s)

P202	Do not handle until all safety precautions have been read and understood.
P201	Obtain special instructions before use.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection.
P270	Do not eat, drink or smoke when using this product.
P260	Do not breathe mist, vapours, spray.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301+P330+P331	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P362+P364	Take off contaminated clothing and wash it before reuse.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local regulations

SECTION 3: Composition/information on ingredients

Component	Concentration (volume)
ETHYLENE GLYCOL (CAS no.: 107-21-1; EC no.: 203-473-3; Index no.: 603-027-00-1)	**90 - 97 %**
DIETHYLENE GLYCOL (CAS no.: 111-46-6; EC no.: 203-872-2; Index no.: 603-140-00-6)	**<=5%**
Hydrated inorganic acid, organic acid salts (CAS no.: Mixture)	**< 6 %**
Water (CAS no.: 7732-18-5)	**<5%**

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, get medical attention.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any

	ointments, oils, or medication in the victim's eyes without specific instructions from a physician. Get medical attention immediately.
If swallowed	DO NOT INDUCE VOMITING. IMMEDIATELY call a hospital or poison control center. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. IMMEDIATELY transport the victim to a hospital.

Personal protective equipment for first-aid responders
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Most important symptoms/effects, acute and delayed
Ethylene glycol may be acutely toxic following ingestion. Due to its low volatility and low dermal absorption rate, acute toxicity is unlikely following exposure to ethylene glycol by the inhalation or dermal routes.
Acute toxicity following ingestion of ethylene glycol manifests in three phases. The first is characterized by central nervous system (CNS) depression much like in ethanol intoxication, with features including dizziness, agitation, nystagmus, nausea, tachycardia, elevated blood pressure and vomiting between 0.5 and 12 hours. The second phase at around 12 hours after ingestion is characterized by cardiorespiratory effects, with the development of hyperpnoea, metabolic acidosis, dyspnoea, hyperventilation, tachycardia, cyanosis and elevated blood pressure. A third phase, involving renal toxicity may present 24–36 hours after ingestion with flank pain, renal angle tenderness, acute tubular necrosis, hypercalcaemia, hyperkalaemia and hypomagnesaemia. Oliguria or anuria may occur. Some investigators report a fourth stage characterized by delayed neurological dysfunction.

Death may occur after substantial exposures due to cardiopulmonary failure or CNS damage in later stages. Severe intoxication, if survived, may lead to neurological effects including facial paralysis, slurred speech, loss of motor skills and impaired vision.

Indication of immediate medical attention and special treatment needed, if necessary
If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water spray may be used to flush spills away from fire and diluted spills to noncombustible proportions(see warning on water spray on hot glycol below.)

Specific hazards arising from the chemical
Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.
Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Special protective actions for fire-fighters
Water spray may cause foaming of hot glycol so indirect application of water spray or use of other extinguishing media should be used on hot glycol.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. In case of spills, beware of slippery floors and surfaces.

Environmental precautions
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up
Contain spilled material if possible. Collect in suitable and properly labeled containers. Small spills: Absorb with intert absorbing material. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information

SECTION 7: Handling and storage

Precautions for safe handling
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

Conditions for safe storage, including any incompatibilities
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Product may become solid at temperatures below -18 ºC (0 ºF). Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty. Do not store near food, foodstuffs, drugs or potable water supplies.
Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.
Incompatible materials : Sources of ignition.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 107-21-1 (EC: 203-473-3)
ETHYLENE GLYCOL
ACGIH: 10 mg/m3 TWA inhalation

CAS: 111-46-6 (EC: 203-872-2)
DIETHYLENE GLYCOL
ACGIH: 10 mg/m3 TWA inhalation

Appropriate engineering controls
General ventilation is sufficient in most cases. If general ventilation is not sufficient, use local exhaust ventilation.

Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Wear safety glasses or chemical goggles

Skin protection
Wear protective gloves

Body protection
Wear protective clothing such as apron is necessary

Respiratory protection
Not normally required if product is used as directed. : If exposed to levels above exposure limits wear appropriate respiratory protection.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear, slightly viscous, green colour liquid
Odor	no characteristic odor
Odor threshold	No data available.
pH	10 -11
Melting point/freezing point	Lower then -15deg C (Ethylene Glycol)
Initial boiling point and boiling range	197 ^{0}C (Ethylene Glycol)
Flash point	111 ^{0}C TCC (Ethylene Glycol)
Evaporation rate	<0.01
Flammability (solid, gas)	Not applicable
Upper/lower flammability limits	Data not available
Vapor pressure	0.06 mm Hg (Ethylene Glycol)
Vapor density	2.1 (Ethylene Glycol)
Relative density (water =1)	1.1 -1.15 @20^{0} C]
Solubility	100% soluble in water

Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	400 ^{0}C (Ethylene Glycol)
Decomposition temperature	No data available.
Viscosity	16.9 cP @ 25°C (Ethylene Glycol)
Explosive properties	No data available.
Oxidizing properties	No data available.

SECTION 10: Stability and reactivity

Reactivity
Not reactive under normal conditions

Chemical stability
Stable

Possibility of hazardous reactions
Hazardous polymerization will not occur

Conditions to avoid
Extremely high or low temperatures. Open flames, sparks, heat and ignition sources

Incompatible materials
Keep away from strong acids, strong bases and oxidizing materials

Hazardous decomposition products
Carbon dioxide, carbon monoxide, fume, aldehydes, ketones

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
ETHYLENE GLYCOL
Acute oral LD50's = 4,700 mg/kg (rats)
5,500 mg/kg (mouse)
LD50 Skin - Rabbit - 9,530 mg/kg

DIETHYLENE GLYCOL
LD50 Oral - Rat - 12,565 mg/kg
Citation: Sigma Aldrich SDS
LD50 Skin - Rabbit - 11,890 mg/kg

Skin corrosion/irritation
Not classified - Based on the pH and the irritation potential of this mixture’s constituents, the mist or liquid can be expected to cause mild to moderate irritation of the skin.

Serious eye damage/irritation
Not classified - Based on the pH and irritation potential of this mixture’s constituents, the mist or liquid can be expected to cause mild to moderate irritation or inflammation of the eyes

Respiratory or skin sensitization

Not classified

Germ cell mutagenicity
No data available. Not known to be a mutagen

Carcinogenicity
Not classified

Reproductive toxicity
Ethylene glycol is not classified as a human reproductive or developmental toxicant. However, fetal toxicity may arise secondary to maternal toxicity. It is unlikely that exposure to low concentrations of ethylene glycol would result in adverse effects in the fetus, though exposure should be minimized

STOT-single exposure
If vaporized or sprayed: upper respiratory irritation and systemic effects.
Ingestion: moderately toxic, may cause central nervous system effects, cardio pulmonary effects (metabolic acidosis) and kidney failure. Large amounts ingested may cause serious injury and death.
Skin: Slight irritation but injury unlikely.

STOT-repeated exposure
May cause damage to organs (kidneys) through repeated or prolonged exposure
May cause dry skin on repeated exposure

Aspiration hazard
Not classified

Additional information

ETHYLENE GLYCOL: *TOXICITY:

STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: Federal Register (1/19/89)
Final Limit: Ceiling Limit 50 ppm [015,545,610]
ACGIH: Ceiling Limit 50 ppm (vapor) [015,415,421,610]
NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): 1
Flammability (F): 1
Reactivity (R): 0
H1: Materials only slightly hazardous to health (see NFPA for details).
F1: Materials that must be preheated before ignition can occur (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

DIETHYLENE GLYCOL: *TOXICITY:

STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: None
ACGIH: None

NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): 1
Flammability (F): 1
Reactivity (R): 0
H1: Materials only slightly hazardous to health (see NFPA for details).
F1: Materials that must be preheated before ignition can occur (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

SECTION 12: Ecological information

Toxicity
Ecological information of the product : Data not available

Ethylene Glycol (107-21-1)
EC50 Daphnia 1 > 10,000.00 mg/l (EC50; 24 h)
LC50 fish 2 40,761.00 mg/l (LC50; 96 h; Salmo gairdneri)

Diethylene Glycol (111-46-6)
LC50 fish 1 > 5,000.00 mg/l (LC50; 24 h)
EC50 Daphnia 1 > 10,000.00 mg/l (EC50; 24 h)
denatonium benzoate (3734-33-6)
LC50 fish 1 > 1,000.00 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1 13.00 mg/l (EC50; 48 h; Daphnia magna)

Persistence and degradability
Ethylene Glycol (107-21-1)
Persistence and degradability Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD) 0.47 g O2/g substance
Chemical oxygen demand (COD) 1.24 g O2/g substance
ThOD 1.29 g O2/g substance
BOD (% of ThOD) 0.36

Diethylene Glycol (111-46-6)
Persistence and degradability Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photolysis in the air.
Biochemical oxygen demand (BOD) 0.02 g O2/g substance
Chemical oxygen demand (COD) 1.51 g O2/g substance
ThOD 1.51 g O2/g substance
BOD (% of ThOD) 0.02

Bioaccumulative potential
Ethylene Glycol (107-21-1)
BCF fish 1 10.00 (BCF; 72 h)
BCF other aquatic organisms 1 0.21 - 0.6 (BCF)
BCF other aquatic organisms 2 190.00 (BCF; 24 h)
Log Pow -1.34 (Experimental value)
Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

Diethylene Glycol (111-46-6)
BCF fish 1 100.00 (BCF; Other; 3 days; Leuciscus melanotus; Static system; Fresh water; Experimental value)

Log Pow -1.98 (Calculated; Other)
Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

Mobility in soil
Mobility: The product is miscible with water. May spread in water systems.

Results of PBT and vPvB assessment
This substance is not classified as PBT or vPvB.

Other adverse effects
No data available.

SECTION 13: Disposal considerations

Disposal of the product
DISPOSAL AND WASTE TREATMENT: Avoid release to the environment. Provincial and/or federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition, or to the satisfaction or authorities. Dispose of contents/container, in a safe manner, to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

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UN Number: 3082
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Packing Group: III
Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s.

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Product Name: ETHYLENE GLYCOL
Ship Type: 3
Pollution Category: Y

IATA: NOT REGULATED

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Safety, health and environmental regulations specific for the product in question

Massachusetts Right To Know Components
Chemical name: Ethylene glycol
CAS number: 107-21-1

New Jersey Right To Know Components
Common name: ETHYLENE GLYCOL
CAS number: 107-21-1

Pennsylvania Right To Know Components
Chemical name: 1,2-Ethanediol
CAS number: 107-21-1

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All ingredients are listed on the DSL/NDSL

Toxic Substances Control Act (TSCA) Inventory
All ingredients are listed on the TSCA inventory

California Prop. 65 Components
Known to the state to cause reproductive toxicity

SECTION 16: Other information

SDS Prepared By: Quality Assurance Department

Phone #: 905 846 2200

Preparation date: March 06, 2016

Revision #: First Issue

Disclaimer
The recommendations and data presented herein are based on sources considered to be reliable. However, no. warranty is expressed or implied regarding the accuracy of the data or the results obtained from the use of this information or the use of product. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	PRO LSPR 6PK MARK FLUORESCENT ORANGE	**Revision Date:**	5/12/2017
Product Identifier:	2554838	**Supercedes Date:**	6/5/2015
Product Use/Class:	Marking Paint/Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	**Manufacturer:**	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
27% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P405	Store locked up.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.

P501 Dispose of contents/container in accordance with local, regional and national regulations.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Propane	74-98-6	10-25	GHS04	H280
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	2.5-10	GHS08	H304
n-Butane	106-97-8	2.5-10	GHS04	H280
Hydrotreated Light Distillate	64742-47-8	2.5-10	GHS08	H304
Xylenes (o-, m-, p- isomers)	1330-20-7	2.5-10	GHS02-GHS07	H226-315-319-332
Barium Sulfate	7727-43-7	2.5-10	Not Available	Not Available
Ethylbenzene	100-41-4	1.0-2.5	GHS02-GHS07-GHS08	H225-304-332-351-373
Stoddard Solvent	8052-41-3	0.1-1.0	GHS08	H304-372
Pigment Orange 13	3520-72-7	0.1-1.0	Not Available	Not Available
Crystalline Silica / Quartz	14808-60-7	0.1-1.0	Not Available	Not Available

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat due to buildup of steam. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Full protective equipment including self-contained breathing apparatus should be used. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only in a well-ventilated area. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of flammable aerosols. Keep away from heat, sparks, flame and sources of ignition. Contents under pressure. Do not expose to heat or store above 120 ° F. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	10.0	N.E.	N.E.	N.E.	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
Hydrotreated Light Distillate	64742-47-8	10.0	N.E.	N.E.	N.E.	N.E.
Xylenes (o-, m-, p- isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Barium Sulfate	7727-43-7	5.0	5 mg/m3	N.E.	15 mg/m3	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	N.E.	100 ppm	N.E.
Stoddard Solvent	8052-41-3	1.0	100 ppm	N.E.	500 ppm	N.E.
Pigment Orange 13	3520-72-7	1.0	N.E.	N.E.	N.E.	N.E.
Crystalline Silica / Quartz	14808-60-7	1.0	0.025 mg/m3	N.E.	50 µg/m3	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.857	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	-37 - 537	**Explosive Limits, vol%:**	0.9 - 12.6
Flammability:	Supports Combustion	**Flash Point, °C:**	-96
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation. Allergic reactions are possible. Prolonged or repeated contact may cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B).

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
74-98-6	Propane	N.I.	N.I.	658 mg/L Rat
64742-49-0	Naphtha, Petroleum, Hydrotreated Light	>5000 mg/kg Rat	>3160 mg/kg Rabbit	>4951 mg/L Rat
106-97-8	n-Butane	N.I.	N.I.	658 mg/L Rat
64742-47-8	Hydrotreated Light Distillate	>5000 mg/kg Rat	>2000 mg/kg Rabbit	>5000 mg/L Rat
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
3520-72-7	Pigment Orange 13	>5000 mg/kg Rat	N.I.	N.I.
14808-60-7	Crystalline Silica / Quartz	5500 mg/kg Rat	5500	100 mg/L

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

Chemical Name	CAS-No.
Castor oil, sulfated, sodium salt	68187-76-8

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	4	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	4	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 551

SDS REVISION DATE: 5/12/2017

REASON FOR REVISION:
Product Composition Changed
Substance and/or Product Properties Changed in Section(s):
02 - Hazard Identification
05 - Fire-fighting Measures
16 - Other Information
Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

SAFETY DATA SHEET

This Safety Data Sheet (SDS) is for welding consumables and related products and may be used to comply with OSHA's Hazard Communication standard, 29 CFR 1910.1200, and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499 and Canadian Workplace Hazardous Materials Information System (WHMIS) per Health Canada administrative policy. The OSHA standard must be consulted for specific requirements. This Safety Data Sheet complies with ISO 11014-1 and ANSI Z400.1. This document is translated in several languages and is available on our website at www.hobartbrothers.com, from your sales representative or by calling customer service at 1 (937) 332-4000.

SECTION 1 – IDENTIFICATION

Manufacturer/Supplier
Name: HOBART BROTHERS COMPANY
Address: 101 TRADE SQUARE EAST, TROY, OH 45373
Website: www.hobartbrothers.com

Telephone No: +1 (937) 332-4000
Emergency No: +1 (800) 424-9300

Product Type: FLUX CORED AND METAL CORED STAINLESS AND NICKEL BASED WELDING WIRES

Trade Name: IN-FLUX O, T1; STERLING; FABCO; FABCOR; FABSHIELD 309L-O; GOLDCOR; GSF; GOLDSEAL; CHROMAWELD; 309L-S; 347-S; 410NiMo; 410NiMoT1; McKAY 308LT0-4, 308LT1-4, 309LT0-4, 309LT1-4, 316LT0-4 and 316LT1-4 WIRES

AWS Specification: A5.22 and A5.9

Recommended Use: FLUX CORED AND METAL CORED STAINLESS AND NICKEL BASED WELDING WIRES
Restrictions on Use: Use only as indicated for welding operations

SECTION 2 – IDENTIFICATION OF HAZARDS

HAZARD CLASSIFICATION – The products described in Section 1 are not classified as hazardous according to applicable GHS hazard classification criteria as required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200).

LABEL ELEMENTS: **Hazard Symbol** – No symbol required
Hazard Statement – Not applicable
Signal Word – No signal word required
Precautionary Statement – Not Applicable

HAZARDS NOT OTHERWISE CLASSIFIED

WARNING! - Avoid breathing welding fumes and gases, they may be dangerous to your health. Always use adequate ventilation. Always use appropriate personal protective equipment.
PRIMARY ROUTES OF ENTRY: Respiratory System, Eyes and/or Skin.
ELECTRIC SHOCK: Arc welding and associated processes can kill. See Section 8.
ARC RAYS: The welding arc can injure eyes and burn skin.
FUMES AND GASES: Can be dangerous to your health.

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures and electrodes used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation, plus those from the base metal and coating, etc., of the materials shown in Section 3 of this Safety Data Sheet. Monitor for the component materials identified in the list in Section 3.

Fumes from the use of this product may contain complex oxides or compounds of the following elements and molecules: amorphous silica fume, calcium oxide, chromium, copper, fluorspar or fluorides, manganese, nickel, silica and zirconium. Other reasonably expected constituents of the fume would also include complex oxides of iron, titanium, silicon and molybdenum. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 and F1.3, available from the "American Welding Society", 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

IMPORTANT - This section covers the hazardous materials from which this product is manufactured. This data has been classified according to the criteria of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) as required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200). The fumes and gases produced during welding with normal use of this product are addressed in Section 8.

INGREDIENT	CAS NO.	EINECS[r]	% Weight	GHS Classification(s)	GHS HAZARD STATEMENTS (See Section 16 for Complete Phrases)
CALCIUM CARBONATE	1317-65-3	215-279-6	<3	**NONE**	
CHROMIUM (metal)	7440-47-3	231-157-5	5-35	**NONE**	
COLUMBIUM	7440-03-1	231-113-5	0-5	**NONE**	
COPPER	7440-50-8	231-159-6	0-5	**NONE**	
FLUORSPAR	7789-75-5	232-188-7	0-10	**NONE**	
IRON	7439-89-6	231-096-4	5-85	**NONE**	

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INGREDIENT	CAS NO.	EINECS[r]	% Weight	GHS Classification(s)	GHS HAZARD STATEMENTS (See Section 16 for Complete Phrases)
MANGANESE	7439-96-5	231-105-1	<5	**- Acute Tox. 4 (Inhalation)[(1)] - Acute Tox. 4 (Oral)[(1)] - STOT RE 1[(2)]**	**H332 H302 H372**
MOLYBDENUM	7439-98-7	231-107-2	0-5	**- STOT RE 2[(2)] - Eye Irrit. 2[(3)] - STOT SE 3[(4)]**	**H373 H319 H335**
NICKEL	7440-02-0	231-111-4	0-35	**Powder/Element: - Carc. 2[(5)] - Skin Sens. 1[(6)] - STOT RE 1[(2)] - Aquatic Chronic 3**	**H351 H317 H372 H412**
SILICA	14808-60-7	238-878-4	<5	**- STOT RE 2[(2)] - Carc. 2[(5)] - Acute Tox. 4[(1)]**	**H373 H351 H332**
(Amorphous Silica Fume)	69012-64-2	273-761-1	---	**NONE**	
TITANIUM	7440-32-6	231-142-3	<2	**NONE**	
TITANIUM DIOXIDE	13463-67-7	236-675-5	0-12	**- Carc. 2[(5)]**	**H351**
ZIRCONIUM	7440-67-7	231-176-9	0-5	**- Pyr. Sol. 1[(7)] - Water-react. 1[(8)]**	**H250 H260**
HEXAVALENT CHROMIUM [CHROMIUM (VI) TRIOXIDE] (Fume constituent)	1333-82-0	215-607-8	Varies	**- Ox. Sol. 1[(9)] - Carc. 1A[(5)] - Muta. 1B[(10)] - Repr. Tox. 2[(11)] - Acute Tox. 2 (Inhalation)[(1)] - Acute Tox. 3 (Skin & Oral)[(1)] - STOT RE 1[(2)] - Skin Corr. 1A[(12)] - Skin Sens. 1[(6)] - Resp. Sens. 1[(13)] - Aquatic Acute 1 - Aquatic Chronic 1**	**H271 H350 H340 H361f H330 H311, H301 H372 H314 H317 H334, H317 H400 H410**

--- Dashes indicate the ingredient is not present within the group of products **Γ** – European Inventory of Existing Commercial Chemical Substances Number **(1)** Acute toxicity (Cat. 1, 2, 3 and 4) **(2)** Specific target organ toxicity (STOT) – repeated exposure (Cat. 1 and 2) **(3)** Serious eye damage/eye irritation (Cat. 1 and 2) **(4)** Specific target organ toxicity (STOT) – single exposure ((Cat. 1, 2) and Cat. 3 for narcotic effects and respiratory tract irritation, only) **(5)** Carcinogenicity (Cat. 1A, 1B and 2) **(6)** Skin sensitization (Cat. 1, Sub-cat. 1A and 1B) **(7)** Pyrophoric solid (Cat. 1) **(8)** Substance or mixture which in contact with water emits flammable gases (Cat. 1, 2 and 3) **(9)** Oxidizing solid (Cat. 1, 2 and 3) **(10)** Germ cell mutagenicity (Cat. 1A, 1B and 2) **(11)** Reproductive toxicity (Cat. 1A, 1B and 2) **(12)** Skin corrosion/irritation (Cat. 1, 1A, 1B, 1C and 2) **(13)** Respiratory sensitization (Cat. 1, Sub-cat. 1A and 1B)

SECTION 4 – FIRST AID MEASURES

INGESTION: Not an expected route of exposure. Do not eat, drink, or smoke while welding; wash hands thoroughly before performing these activities. If symptoms develop, seek medical attention at once.
INHALATION during welding: If breathing is difficult, provide fresh air and contact physician. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.
SKIN CONTACT during welding: Remove contaminated clothing and wash the skin thoroughly with soap and water. If symptoms develop, seek medical attention at once.
EYE CONTACT during welding: Dust or fume from this product should be flushed from the eyes with copious amounts of clean, tepid water until victim is transported to an emergency medical facility. Do not allow victim to rub or keep eyes tightly closed. Obtain medical assistance at once.
Arc rays can injure eyes. If exposed to arc rays, move victim to dark room, remove contact lenses as necessary for treatment, cover eyes with a padded dressing and rest. Obtain medical assistance if symptoms persist.

Section 11 of this SDS covers the acute effects of overexposure to the various ingredients within the welding consumable. Section 8 of this SDS lists the exposure limits and covers methods for protecting yourself and your co-workers.

SECTION 5 – FIRE-FIGHTING MEASURES

Fire Hazards: Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded.

Welding arcs and sparks can ignite combustibles and flammable products. If there are flammable materials, including fuel or hydraulic lines, in the work area and the worker cannot move the work or the flammable material, a fire-resistant shield such as a piece of sheet metal or fire resistant blanket should be placed over the flammable material. If welding work is conducted within 35 feet or so of flammable materials, station a responsible person in the work zone to act as fire watcher to observe where sparks are flying and to grab an extinguisher or sound the alarm if needed.
Unused welding consumables may remain hot for a period of time after completion of a welding process. See American National Standard Institute (ANSI) Z49.1 for further general safety information on the use and handling of welding consumables and associated procedures.
Suitable Extinguishing Media: This product is essentially nonflammable until welded; therefore, use a suitable extinguishing agent for a surrounding fire.
Unsuitable Extinguishing Media: None known.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

In the case of a release of solid welding consumable products, solid objects can be picked up and placed into a disposal container. If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Refer to recommendations in Section 8. Wear proper personal protective equipment while handling. Do not discard as general trash.

SECTION 7 - HANDLING AND STORAGE

HANDLING: No specific requirements in the form supplied. Handle with care to avoid cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and product labels.
STORAGE: Keep separate from acids and strong bases to prevent possible chemical reactions.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Read and understand the instructions and the labels on the packaging. Welding fumes do not have a specific OSHA PEL (Permissible Exposure Limit) or ACGIH TLV (Threshold Limit Value). The OSHA PEL for Particulates – Not Otherwise Regulated (PNOR) is 5 mg/m^3 – Respirable Fraction, 15 mg/m^3 – Total Dust. The ACGIH TLV for Particles – Not Otherwise Specified (PNOS) is 3 mg/m^3 – Respirable Particles, 10 mg/m^3 – Inhalable Particles. The individual complex compounds within the fume may have a lower OSHA PEL or ACGIH TLV than the OSHA PNOR and ACGIH PNOS. An Industrial Hygienist, the OSHA PELs for Air Contaminants (29 CFR 1910.1000), and the ACGIH TLVs should be consulted to determine the specific fume constituents present and their respective exposure limits. All exposure limits are in milligrams per cubic meter (mg/m^3).

INGREDIENT	CAS	EINECS	OSHA PEL	ACGIH TLV
CALCIUM CARBONATE	1317-65-3	215-279-6	5 R*, 5 (as CaO)	3 R*, 2 (as CaO)
CHROMIUM#	7440-47-3	231-157-5	1 (Metal)	0.5 (Metal) {A4}
			0.5 (Cr II & Cr III Cpnds)	0.5 (Cr III Cpnds) {A4}
			0.005 (Cr VI Cpnds, Calif. OSHA PEL)	0.05 (Cr VI Sol Cpnds) {A1} 0.01 (Cr VI Insol Cpnds) {A1}
COLUMBIUM+	7440-03-1	231-113-5	5 R*	3 R*
COPPER	7440-50-8	231-159-6	0.1 (Fume), 1 (Dust)	0.2 (Fume), 1 (Dust)
FLUORSPAR	7789-75-5	232-188-7	2.5 (as F)	2.5 (as F) {A4}
IRON+	7439-89-6	231-096-4	5 R*	5 R* (Fe2O3) {A4}
IRON OXIDE	1309-37-1	215-168-2	10 (Oxide Fume)	5R* (Fe_2O_3) {A4}
MANGANESE#	7439-96-5	231-105-1	5 CL** (Fume)	0.1 I* {A4} ♦
			1, 3 STEL***■	0.02 R* ♦♦
MOLYBDENUM	7439-98-7	231-107-2	5 R*	3 R*; 10 I* (Ele and Insol) 0.5 R* (Sol Cpnds) {A3}
NICKEL#	7440-02-0	231-111-4	1 (Metal)	1.5 I* (Ele) {A5}
			1 (Sol Cpnds)	0.1 I* (Sol Cpnds) {A4}
			1 (Insol Cpnds)	0.2 I* (Insol Cpnds) {A1}
SILICA++	14808-60-7	238-878-4	0.1 R*	0.025 R* {A2}
(Amorphous Silica Fume)	69012-64-2	273-761-1	0.8	2 R*
TITANIUM+	7440-32-6	231-142-3	5 R*	3 R*
TITANIUM DIOXIDE	13463-67-7	236-675-5	15 (Dust)	10 {A4}
ZIRCONIUM	7440-67-7	231-176-9	5 (Zr Cpnds)	5, 10 STEL*** (Zr Cpnds) {A4}
			5, 10 STEL***■(Zr Cpnds)	

R* - Respirable Fraction I* - Inhalable Fraction ** - Ceiling Limit *** - Short Term Exposure Limit + - As a nuisance particulate covered under "Particulates Not Otherwise Regulated" by OSHA or "Particulates Not Otherwise Specified" by ACGIH ++ - Crystalline silica is bound within the product as it exists in the package. However, research indicates silica is present in welding fume in the amorphous (noncrystalline) form #- Reportable material under Section 313 of SARA ■ - NIOSH REL TWA and STEL ♦ - Limit of 0.1 mg/m3 is for Inhalable Mn in 2015 by ACGIH ♦♦ - Limit of 0.02 mg/m3 is for Respirable Mn in 2015 by ACGIH Ele – Element Sol – Soluble Insol – Insoluble Inorg – Inorganic Cpnds – Compounds NOS – Not Otherwise Specified {A1} - Confirmed Human Carcinogen per ACGIH {A2} - Suspected Human Carcinogen per ACGIH {A3} - Confirmed Animal Carcinogen with Unknown Relevance to Humans per ACGIH {A4} - Not Classifiable as a Human Carcinogen per ACGIH {A5} - Not Suspected as a Human Carcinogen per ACGIH (noncrystalline form) EINECS – European Inventory of Existing Commercial Chemical Substances OSHA – U.S. Occupational Safety and Health Administration ACGIH – American Conference of Governmental Industrial Hygienists

VENTILATION: Use enough ventilation or local exhaust at the arc or both to keep the fumes and gases below the PEL/TLV in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.
RESPIRATORY PROTECTION: Use NIOSH-approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below the regulatory limits.
EYE PROTECTION: Wear helmet or use face shield with filter lens for open arc welding processes. As a rule of thumb begin with Shade Number 14. Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to shield others from the weld arc flash.
PROTECTIVE CLOTHING: Wear hand, head and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark non-synthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.
PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: Not applicable
SPECIAL PRECAUTIONS (IMPORTANT): When welding with electrodes that require special ventilation (such as stainless or hardfacing, or other products which require special ventilation, or on lead- or cadmium-plated steel and other metals or coatings like galvanized steel, which produce hazardous fumes) maintain exposure below the PEL/TLV. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV. Always use exhaust ventilation. Refer to the following sources for important additional information: American National Standard Institute (ANSI) Z49.1; Safety in Welding and Cutting published by the American Welding Society, 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353; and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, DC 20402.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded.
PHYSICAL STATE: Solid
APPEARANCE: Cored/ Round wire
COLOR: Gray
ODOR: Not Applicable
ODOR THRESHOLD: Not Applicable
pH: Not Applicable
MELTING POINT/FREEZING POINT: Not Available
INITIAL BOILING POINT AND BOILING RANGE: Not Available
FLASH POINT: Not Available
EVAPORATION RATE: Not Applicable
FLAMMABILITY (SOLID, GAS): Not Available
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Not Available
VAPOR PRESSURE: Not Applicable

SAFETY DATA SHEET

VAPOR DENSITY: Not Applicable
RELATIVE DENSITY: Not Available
SOLUBILITY(IES): Not Available
PARTITION COEFFICIENT: N-OCTANOL/WATER: Not Applicable
AUTO-IGNITION TEMPERATURE: Not Available
DECOMPOSITION TEMPERATURE: Not Available
VISCOSITY: Not Applicable

SECTION 10 – STABILITY AND REACTIVITY

GENERAL: Welding consumables applicable to this sheet are solid and nonvolatile as shipped. This product is only intended for use per the welding parameters it was designed for. When this product is used for welding, hazardous fumes may be created. Other factors to consider include the base metal, base metal preparation and base metal coatings. All of these factors can contribute to the fume and gases generated during welding. The amount of fume varies with the welding parameters.
STABILITY: This product is stable under normal conditions.
REACTIVITY: Contact with acids or strong bases may cause generation of gas.

SECTION 11 – TOXICOLOGICAL INFORMATION

SHORT-TERM (ACUTE) OVEREXPOSURE EFFECTS: **Welding Fumes** - May result in discomfort such as dizziness, nausea or dryness or irritation of nose, throat or eyes. **Calcium Oxide** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Chromium** - Inhalation of fume with chromium (VI) compounds can cause irritation of the respiratory tract, lung damage and asthma-like symptoms. Swallowing chromium (VI) salts can cause severe injury or death. Dust on skin can form ulcers. Eyes may be burned by chromium (VI) compounds. Allergic reactions may occur in some people. **Columbium** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Copper** - Metal fume fever characterized by metallic taste, tightness of chest and fever. Symptoms may last 24 to 48 hours following overexposure. **Fluorides** - Fluoride compounds evolved may cause skin and eye burns, pulmonary edema and bronchitis. **Iron, Iron Oxide** - None are known. Treat as nuisance dust or fume. **Manganese** - Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of the throat and aching of body. Recovery is generally complete within 48 hours of the overexposure. **Molybdenum** - Irritation of the eyes, nose and throat. **Nickel, Nickel Compounds** - Metallic taste, nausea, tightness in chest, metal fume fever, allergic reaction. **Silica (Amorphous)** - Dust and fumes may cause irritation of the respiratory system, skin and eyes. **Titanium Dioxide** - Irritation of respiratory system. **Zirconium** - May cause irritation of the eyes, nose and throat due to mechanical effects.

LONG-TERM (CHRONIC) OVEREXPOSURE EFFECTS: **Welding Fumes** - Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis or "siderosis." Studies have concluded that there is sufficient evidence for ocular melanoma in welders. **Calcium Oxide** - Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia. **Chromium** - Ulceration and perforation of nasal septum. Respiratory irritation may occur with symptoms resembling asthma. Studies have shown that chromate production workers exposed to hexavalent chromium compounds have an excess of lung cancers. Chromium (VI) compounds are more readily absorbed through the skin than chromium (III) compounds. Good practice requires the reduction of employee exposure to chromium (III) and (VI) compounds. **Columbium** - No adverse long term health effects have been reported in the literature. **Copper** - Copper poisoning has been reported in the literature from exposure to high levels of copper. Liver damage can occur due to copper accumulating in the liver characterized by cell destruction and cirrhosis. High levels of copper may cause anemia and jaundice. High levels of copper may cause central nervous system damage characterized by nerve fiber separation and cerebral degeneration. **Fluorides** - Serious bone erosion (Osteoporosis) and mottling of teeth. **Iron, Iron Oxide Fumes** - Can cause siderosis (deposits of iron in lungs) which some researchers believe may affect pulmonary function. Lungs will clear in time when exposure to iron and its compounds ceases. Iron and magnetite (Fe_3O_4) are not regarded as fibrogenic materials. **Manganese** - Long-term overexposure to manganese compounds may affect the central nervous system. Symptoms may be similar to Parkinson's disease and can include slowness, changes in handwriting, gait impairment, muscle spasms and cramps and less commonly, tremor and behavioral changes. Employees who are overexposed to manganese compounds should be seen by a physician for early detection of neurologic problems. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. **Molybdenum** - Prolonged overexposure may result in loss of appetite, weight loss, loss of muscle coordination, difficulty in breathing and anemia. **Nickel, Nickel Compounds** - Lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated a higher incidence of lung and nasal cancers. **Silica (Amorphous)** - Research indicates that silica is present in welding fume in the amorphous form. Long term overexposure may cause pneumoconiosis. Noncrystalline forms of silica (amorphous silica) are considered to have little fibrotic potential. **Titanium Dioxide** - Pulmonary irritation and slight fibrosis. **Zirconium** - May cause pulmonary fibrosis and pneumoconiosis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing impaired lung functions (asthma-like conditions). Persons with a pacemaker should not go near welding and cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. Respirators are to be worn only after being medically cleared by your company-designated physician.

EMERGENCY AND FIRST AID PROCEDURES: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. If irritation or flash burns develop after exposure, consult a physician.

CARCINOGENICITY: Chromium VI compounds, nickel compounds and silica (crystalline quartz) are classified as IARC Group 1 and NTP Group K carcinogens. Titanium dioxide, nickel metal/alloys and welding fumes are classified as IARC Group 2B carcinogens.

CALIFORNIA PROPOSITION 65: WARNING: These products contain or produces a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.)

SAFETY DATA SHEET

INGREDIENT	CAS	IARC[E]	NTP[Z]	OSHA[H]	65[Θ]
CALCIUM CARBONATE	1317-65-3	---	---	---	---
CHROMIUM	7440-47-3	3[Σ], 1[ΣΣ]	K[ΣΣ]	X[ΣΣ]	X[ΣΣ]
COLUMBIUM	7440-03-1	---	---	---	---
COPPER	7440-50-8	---	---	---	---
FLUORSPAR	7789-75-5	---	---	---	---
IRON	7439-89-6	---	---	---	---
IRON OXIDE	1309-37-1	3	---	---	---
MANGANESE	7439-96-5	---	---	---	---
MOLYBDENUM	7439-98-7	---	---	---	---
NICKEL	7440-02-0	2B[β], 1[ββ]	S[β], K[ββ]	---	X[β], X[ββ]
SILICA	14808-60-7	1[Ψ]	K	---	X
(Amorphous Silica fume)	69012-64-2	3	---	---	---
TITANIUM	7440-32-6	---	---	---	---
TITANIUM DIOXIDE	13463-67-7	2B	---	---	X
Welding Fumes	---	2B	---	---	---
ZIRCONIUM	7440-67-7	---	---	---	---

E – International Agency for Research on Cancer (1 – Carcinogenic to Humans, 2A – Probably Carcinogenic to Humans, 2B – Possibly Carcinogenic to Humans, 3 – Not Classifiable as to its Carcinogenicity to Humans, 4 --- Probably Not Carcinogenic to Humans) Z – US National Toxicology Program (K – Known Carcinogen, S – Suspected Carcinogen) H – OSHA Designated Carcinogen List Θ – California Proposition 65 (X – On Proposition 65 list) Σ – Chromium Metal and Chromium III Compounds ΣΣ – Chromium VI β – Nickel metal and alloys ββ -- Nickel compounds Ψ – Silica Crystalline α-Quartz --- Dashes indicate the ingredient is not listed with the IARC, NTP, OSHA or Proposition 65

SECTION 12 – ECOLOGICAL INFORMATION

Welding processes can release fumes directly to the environment. Welding wire can degrade if left outside and unprotected. Residues from welding consumables and processes could degrade and accumulate in the soil and groundwater.

SECTION 13 – DISPOSAL CONSIDERATIONS

Use recycling procedures if available. Discard any product, residue, packaging, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

SECTION 14 – TRANSPORT INFORMATION

No international regulations or restrictions are applicable. No special precautions are necessary.

SECTION 15 – REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label and the safety data sheet. Observe all local and federal rules and regulations. Take all necessary precautions to protect yourself and others.

United States EPA Toxic Substance Control Act: All constituents of these products are on the TSCA inventory list or are excluded from listing.

CERCLA/SARA TITLE III: Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs):

Ingredient name	**RQ(lb)**	**TPQ (lb)**
Products on this SDS are a solid solution in the form of a solid article.		
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Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class

As shipped: Immediate
In use: Immediate delayed

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potentially subject to annual SARA 312 reporting: Chromium, Copper, Manganese, and Nickel. See Section 3 for weight percentage.

CANADIAN WHMIS CLASSIFICATION: Class D; Division 2, Subdivision A

CANADIAN CONTROLLED PRODUCTS REGULATION: This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

SECTION 16 – OTHER INFORMATION

The following Hazard Statements, provided in the OSHA Hazard Communication Standard (29 CFR Part 1910.1200) correspond to the columns labeled 'GHS Hazard Statements' within Section 3 of this safety data sheet. Take appropriate precautions and protective measures to eliminate or limit the associated hazard.

H250: Catches fire spontaneously if exposed to air
H260: In contact with water releases flammable gases which may ignite spontaneously
H271: May cause fire or explosion; strong oxidizer
H301: Toxic if swallowed
H302: Harmful if swallowed
H311: Toxic in contact with skin
H314: Causes severe skin burns and eye damage
H317: May cause an allergic skin reaction
H319: Causes serious eye irritation
H330: Fatal if inhaled
H332: Harmful if inhaled

SAFETY DATA SHEET

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
H340: May cause genetic defects
H350: May cause cancer
H351: Suspected of causing cancer
H361f: Suspected of damaging fertility or the unborn child
H372: Causes damage to organs through prolonged or repeated exposure
H373: May cause damage to organs through prolonged or repeated exposure
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects
H412: Harmful to aquatic life with long lasting effects.

For additional information please refer to the following sources:

USA: **American National Standards Institute (ANSI) Z49.1** "Safety in Welding and Cutting", **ANSI/American Welding Society (AWS) F1.5** "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", **ANSI/AWS F1.1** "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", **AWSF3.2M/F3.2** "Ventilation Guide for Weld Fume", American Welding Society, 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353. Safety and Health Fact Sheets available from AWS at www.aws.org.
OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.
Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.
NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

Canada: **CSA Standard CAN/CSA-W117.2-01** "Safety in Welding, Cutting and Allied Processes".

Hobart Brothers Company strongly recommends the users of this product study this SDS, the product label information and become aware of all hazards associated with welding. Hobart Brothers Company believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Hobart Brothers Company cannot make any expressed or implied warranty as to this information.

H.B. Fuller CONSTRUCTION PRODUCTS

FOSTER 32-80
802293PM

Print Date: 01-10-2020

SAFETY DATA SHEET

REVISION DATE: 01-10-2020 SUPERSEDES: 04-20-2017

SECTION IDENTIFICATION OF THE HAZARDS/LABELS

PRODUCT INFORMATION

PRODUCT:	FOSTER 32-80
PRODUCT DESCRIPTION:	Coating
INTENDED USE:	Coating
PRODUCT IDENTIFIER:	802293PM

COMPANY INFORMATION

H.B. Fuller Construction Products Inc.
1105 S. Frontenac Street
Aurora, IL 60504
Phone: 1-800-552-6225

Medical Emergency Phone Number (24 Hours): 1-888-853-1758
Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION HAZARDS IDENTIFICATION

HAZARD SYMBOLS

HAZARDS	Hazardous to the aquatic environment - Acute Category 2; Hazardous to the aquatic environment - Chronic Category 2; Additional category for effects on or via lactation
HAZARD H STATEMENTS	May cause harm to breast-fed children.; Toxic to aquatic life with long lasting effects.
PRECAUTIONARY STATEMENTS	Obtain special instructions before use. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Avoid release to the environment.
FIRST AID	IF exposed or concerned: Get medical advice/attention. Collect spillage.
DISPOSAL	Dispose of contents/container in accordance with local/regional/national/international regulation for chemical wastes.

SECTION COMPOSITION INFORMATION INGREDIENTS

	CAS	PERCENT		
Chlorinated paraffin	63449-39-8	10 - 30	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Effects on or via lactation; H362	
Titanium dioxide	13463-67-7	1 - 5	Carc. 2; H351	* (see below)

*This product contains one or more materials that may be hazardous when present as an airborne dust. During normal handling of the product, the material is encapsulated within the product and will not present an exposure risk. Once the product has reached its final state and is abraded or disturbed, dusting and exposure may occur. This product contains titanium dioxide, which is hazardous when present as an airborne dust. As provided, and during normal use of this product, this substance is encapsulated within the product. As such, it is considered to be inextricably bound, and not readily available for exposure.

Unlisted ingredients are not 'hazardous' per the Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200) and/or are not found on the Canadian Workplace Hazardous Materials Information System ingredient disclosure list. See Section 8 for exposure limit guidelines.

SE TI FIRST AID MEAS RES

IF IN EYES: Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.

IF ON SKIN: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

IF INHALED: Remove to fresh air. Call a physician if symptoms persist.

IF SWALLOWED: Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis that may be fatal.

SE TI FIRE FI HTI MEAS RES

EXTINGUISHING MEDIA:	Use water spray, foam, dry chemical or carbon dioxide.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	There is a possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers.
SPECIAL FIRE FIGHTING INSTRUCTIONS:	Persons exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide, Carbon monoxide Chlorine containing gases

SE TI A IDE TAL RELEASE MEAS RES

SPECIAL PROTECTION:	Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred.
METHODS FOR CLEAN-UP:	Dike if necessary, contain spill with inert absorbent and transfer to containers for disposal. Keep spilled product out of sewers, watersheds, or water systems.

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SE TI HA DLI A D ST RA E

Handling:	Avoid contacting and avoid breathing the material. Use only in a well ventilated area.
Storage:	Store in a cool, dry place. Protect from freezing.

Consult the Technical Data Sheet for specific storage instructions.

SE TI E S RE TR LS ERS AL R TE TI

E S RE LIMITS

		A IH E S RE LIMITS	SHA EL
Calcium carbonate	* (see below)	No data available.	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Kaolin clay	* (see below)	2 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Titanium dioxide	* (see below)	10 mg/m3 TWA	15 mg/m3 TWA (total dust)

*This product contains one or more materials that may be hazardous when present as an airborne dust. During normal handling of the product, the material is encapsulated within the product and will not present an exposure risk. Once the product has reached its final state and is abraded or disturbed, dusting and exposure may occur. This product contains titanium dioxide, which is hazardous when present as an airborne dust. As provided, and during normal use of this product, this substance is encapsulated within the product. As such, it is considered to be inextricably bound, and not readily available for exposure.

E I EERI TR L METH DS

VENTILATION:	General room ventilation might be required under normal conditions of use.
EYE PROTECTION:	Wear safety glasses when handling this product.
SKIN PROTECTION:	Avoid skin contact by wearing chemically resistant gloves and long sleeved shirt. An apron may be appropriate if splashing can occur.
GLOVES:	Nitrile
RESPIRATORY PROTECTION:	No respiratory protection required under normal conditions of use. Respirators should be selected by and used following requirements found in OSHA's respirator standard (29 CFR 1910.134).

SE TI HYSI AL A D HEMI AL R ERTIES

PHYSICAL STATE:	Liquid
COLOR:	Off-white
ODOR:	Sweet Mild
ODOR THRESHOLD:	Not established
pH:	Not established
FREEZING/MELTING POINT (deg. C):	Not established
BOILING POINT (deg. C):	Not established
FLASH POINT:	Non flammable
EVAPORATION RATE:	Not established
FLAMMABILITY:	Not a flammable solid or gas
UPPER EXPLOSIVE LIMIT (% in air):	Not established
LOWER EXPLOSIVE LIMIT (% in air):	Not established
VAPOR PRESSURE (mm Hg):	Not established
VAPOR DENSITY:	Not established
WEIGHT PER GALLON (lbs.):	10.40
SPECIFIC GRAVITY:	1.260
SOLUBILITY:	Not established
OCTANOL/WATER COEFFICIENT:	Not established
AUTOIGNITION TEMPERATURE:	Not established
DECOMPOSITION TEMPERATURE:	Not established
VISCOSITY:	No data available.
SOLIDS (% by weight):	51.3
VOC, weight percent	1.67
VOC, U.S. EPA Method 24, less water and exempt	41g/liter of material

solvents (theoretically determined)

SE TI STA ILITY A D REA TI ITY

STABILITY:	Stable under normal conditions.
CHEMICAL INCOMPATIBILITY:	Not established
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS:	Chlorine containing gases Carbon monoxide, carbon dioxide

SE TI T I L I AL I F RMATI

T T D

M E T AME	LD L
Chlorinated paraffin	Oral LD50 Rat > 21,500 microliter/kg
Chlorinated paraffin	Oral LD50 Rat > 21,500 microliter/kg
Kaolin clay	Oral LD50 Rat > 5,000 mg/kg Dermal LD50 Rat > 5,000.00 mg/kg

T

Skin corrosion / irritation: No irritation hazard in normal industrial use.

Serious eye damage / irritation : No irritation hazard in normal industrial use.

Respiratory / skin sensitization: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: Contains a material that is suspected of causing cancer.

Reproductive toxicity: No data available.

Specific target organ toxicity-single exposure: No data available.

Respiratory irritation / Narcotic effects: No data available.

Specific target organ toxicity-repeated exposure: No data available.

Target organs potentially affected by exposure: Kidneys Liver Lungs

Aspiration hazard: Not an aspiration hazard.

Medical Conditions Aggravated by Exposure: Liver disease, Kidney disease, Lung disease

SE TI E L I AL I F RMATI

OVERVIEW:	No ecological information available for this product.
MOBILITY:	No data available.
PERSISTENCE:	No data available.
BIOACCUMULATION:	No data available.

T **R**

:	E
Chlorinated paraffin	A T F 96 Hr LC50 Oncorhynchus mykiss: >0.0109 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 94.5 - 271 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >0.1 mg/L [flow-through] A T D Not established A T A Not established

Chlorinated paraffin	**A T F** 96 Hr LC50 Oncorhynchus mykiss: >0.0109 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 94.5 - 271 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >0.1 mg/L [flow-through] **A T D** Not established **A T A** Not established

SE TI DIS SAL SIDERATI S

To the best of our knowledge, this product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Solidify and dispose of in an approved landfill. Consult state, local or provincial authorities for more restrictive requirements.

SE TI TRA S RT I F RMATI

Consult Bill of Lading for transportation information.

US DOT:	NOT REGULATED
IATA:	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (C14-C17 CHLORINATED PARAFFINS), 9, PGIII, MARINE POLLUTANT (PACKAGES <5 L NOT REGULATED, IATA 4.4, SP A197).
IMDG:	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (C14-C17 CHLORINATED PARAFFIN), 9, III, MARINE POLLUTANT (PACKAGES <5 L NOT REGULATED, IMDG 3.3 SP 969)

SE TI RE LAT RY I F RMATI

I E T RY STAT S

U.S. EPA TSCA:	This product is in compliance with the Toxic Substances Control Act's Inventory requirements.
CANADIAN CEPA DSL:	The components of this product are included on the DSL or are exempt from DSL requirements.
EUROPEAN REACH:	As a result of the introduction of REACH into Europe, this product cannot be imported into Europe unless the REACH requirements are met.
AUSTRALIA AICS:	This product is in compliance with the Australian Inventory of Chemical Substances requirements.
JAPAN ENCS:	This product is in compliance with the Japanese Existing and New Chemical Substances requirements.
PHILIPPINES:	This product is in compliance with the Philippine Inventory of Chemicals and Chemical Substances requirements.
CHINA IECSC INVENTORY:	This product is in compliance with the Inventory of Existing Chemical Substances in China (IECSC) requirements.

If you need more information about the inventory status of this product call 651-236-5858.

This product may contain chemical substances that are regulated for export by various government agencies (such as the Environmental Protection Agency, the Bureau of Industry and Security, or the Drug Enforcement Administration, among others). Before exporting this product from the USA or Canada, we recommend you contact us at reg.request@hbfuller.com to request an export review.

FEDERAL RE RTI

*This product contains one or more materials that may be hazardous when present as an airborne dust. During normal handling of the product, the material is encapsulated within the product and will not present an exposure risk. Once the product has reached its final state and is abraded or disturbed, dusting and exposure may occur. This product contains titanium dioxide, which is hazardous when present as an airborne dust. As provided, and during normal use of this product, this substance is encapsulated within the product. As such, it is considered to be inextricably bound, and not readily available for exposure.

EPA SARA Title III Section 313
Unless listed below, this product does not contain toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372. EPA has advised that when a percentage range is listed the midpoint may be used to fulfill reporting obligations.

	AS	

STATE REPORTING
Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986:
Unless listed below, this product does not contain known levels of any chemical known to the State of California to cause cancer or reproductive harm.

L		AS	
Titanium dioxide	(Carcinogen)	13463-67-7	1 - 5
Quartz	(Carcinogen)	14808-60-7	0.1 - 1
Acetaldehyde	(Carcinogen)	75-07-0	0.001 - 0.01
Formaldehyde	(Carcinogen)	50-00-0	< 10 ppm
1,4-Dioxane	(Carcinogen)	123-91-1	< 10 ppm
Ethylene glycol	(Developmental toxin)	107-21-1	0.1 - 1
Methanol	(Developmental toxin)	67-56-1	< 10 ppm

S H S H
Unless listed below, this product does not contain SVHC's at 0.1% or greater, as of the version date of this SDS.
tert-Octylphenol, ethoxylated
4-(1,1,3,3-Tetramethylbutyl)phenol, ethoxylated
substances

SE TI THERI F RMATI

SDS VERSION DATE: 01-10-2020

This Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).
HMIS RATING: HEALTH -- 2 FLAMMABILITY -- 0 REACTIVITY -- 0
See SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for personal protective equipment recommendations.

Prepared by: The Global Regulatory Department
Phone: 651-236-5842

The information and recommendations set forth herein are believed to be accurate. Because some of the information is derived from information provided to H.B. Fuller Construction Products, Inc. from its suppliers, and because H.B. Fuller Construction Products, Inc. has no control over the conditions of handling and use, H.B. Fuller Construction Products, Inc. makes no warranty, expressed or implied, regarding the accuracy of the data or the results to be obtained from the use thereof. The information is supplied solely for your information and consideration, and H.B.

Fuller Construction Products, Inc. assumes no responsibility for use or reliance thereon. It is the responsibility of the user of H.B. Fuller Construction Products, Inc. products to comply with all applicable federal, state and local laws and regulations.

H.B. Fuller CONSTRUCTION PRODUCTS

FOSTER 40-80
802320PM

Print Date: 05-16-2019

SAFETY DATA SHEET

REVISION DATE: 05-16-2019 SUPERSEDES: 01-25-2016

SECTION 1: IDENTIFICATION OF THE PRODUCT AND SUPPLIER

PRODUCT INFORMATION

PRODUCT:	FOSTER 40-80
PRODUCT DESCRIPTION:	Disinfectant
INTENDED USE:	Cleaner
PRODUCT IDENTIFIER:	802320PM

COMPANY INFORMATION

H.B. Fuller Construction Products Inc.
1105 S. Frontenac Street
Aurora, IL 60504
Phone: 1-800-552-6225

Medical Emergency Phone Number (24 Hours): 1-888-853-1758
Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification: This product is not classified as hazardous under GHS criteria.

GHS Precautions:

Safety Precautions: No special precautionary measures are required. Please read the entire Safety Data Sheet for other information regarding handling of this product.

First Aid Measures: IF SWALLOWED: Do not induce vomiting. Seek medical attention if symptoms develop. IF IN EYES: Use an eye wash to remove chemical from the eye. IF ON SKIN: Wash with soap and water. IF INHALED: Remove individual to fresh air after an airborne exposure if any symptoms develop.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	PERCENT	Classification	Note

Unlisted ingredients are not 'hazardous' per the Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200) and/or are not found on the Canadian Workplace Hazardous Materials Information System ingredient disclosure list. See Section 8 for exposure limit guidelines.

SECTION 4: FIRST AID MEASURES

IF IN EYES: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

IF ON SKIN: Wash with soap and water.

IF INHALED: Remove individual to fresh air after an airborne exposure if any symptoms develop, as a precautionary measure.

IF SWALLOWED: Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis that may be fatal.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:	Use water spray, foam, dry chemical or carbon dioxide.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	There is a possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers.
SPECIAL FIRE FIGHTING INSTRUCTIONS:	Persons exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide, Carbon monoxide

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPECIAL PROTECTION:	No adverse health effects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this SDS.
METHODS FOR CLEAN-UP:	Dike if necessary, contain spill with inert absorbent and transfer to containers for disposal. Keep spilled product out of sewers, watersheds, or water systems.

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION 7: HANDLING AND STORAGE

Handling: No special handling instructions due to toxicity.

Storage: Store in a cool, dry place.Protect from freezing.
Consult the Technical Data Sheet for specific storage instructions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:

Chemical Name	Note	ACGIH EXPOSURE LIMITS	OSHA PEL
No data available.			

ENGINEERING CONTROL METHODS:

VENTILATION:	General room ventilation might be required under normal conditions of use.
EYE PROTECTION:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.
SKIN PROTECTION:	Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
GLOVES:	Not normally required. Use nitrile gloves if conditions warrant.
RESPIRATORY PROTECTION:	No respiratory protection required under normal conditions of use. Respirators should be selected by and used following requirements

found in OSHA's respirator standard (29 CFR 1910.134).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Light Green
ODOR:	Fragrant
ODOR THRESHOLD:	Not established
pH:	9.7
FREEZING/MELTING POINT (deg. C):	Not established
BOILING POINT (deg. C):	Not established
FLASH POINT:	Non flammable
EVAPORATION RATE:	Not established
FLAMMABILITY:	Not a flammable solid or gas
UPPER EXPLOSIVE LIMIT (% in air):	Not established
LOWER EXPLOSIVE LIMIT (% in air):	Not established
VAPOR PRESSURE (mm Hg):	Not established
VAPOR DENSITY:	Not established
WEIGHT PER GALLON (lbs.):	8.32
SPECIFIC GRAVITY:	1.000
SOLUBILITY:	Not established
OCTANOL/WATER COEFFICIENT:	Not established
AUTOIGNITION TEMPERATURE:	Not established
DECOMPOSITION TEMPERATURE:	Not established
VISCOSITY:	No data available.
SOLIDS (% by weight):	0.2
VOC, weight percent	0.02
VOC, U.S. EPA Method 24, less water and exempt solvents (theoretically determined)	39.7g/liter of material

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	Stable under normal conditions.
CHEMICAL INCOMPATIBILITY:	Not established
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide, carbon dioxide

SECTION 11: TOXICOLOGICAL INFORMATION

Component Toxicity / Toxicology Data:

COMPONENT NAME	LD50/LC50
No data available.	

This product is a mixture. Unless noted, the information below is based on components.

Skin corrosion / irritation: No irritation hazard in normal industrial use.

Serious eye damage / irritation :Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.

Respiratory / skin sensitization: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

Specific target organ toxicity-single exposure: No data available.

Respiratory irritation / Narcotic effects: No data available.

Specific target organ toxicity-repeated exposure: No data available.

Target organs potentially affected by exposure: No organs known to be damaged from exposure to this product.

Aspiration hazard: Not an aspiration hazard.

Medical Conditions Aggravated by Exposure: No medical conditions affected by exposure.

SECTION 12: ECOLOGICAL INFORMATION

OVERVIEW:	No ecological information available for this product.
MOBILITY:	No data available.
PERSISTENCE:	No data available.
BIOACCUMULATION:	No data available.

This product has not been tested for ecological effects. Relevant information for components is listed below:

Component:	**Ecotoxicity values:**
No data available.	**Acute Toxicity (Fish):** **Acute Toxicity (Daphnia):** **Acute Toxicity (Algae):**

SECTION 13: DISPOSAL CONSIDERATIONS

To the best of our knowledge, this product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Solidify and dispose of in an approved landfill. Consult state, local or provincial authorities for more restrictive requirements.

SECTION 14: TRANSPORT INFORMATION

Consult Bill of Lading for transportation information.

US DOT:	NOT REGULATED
IATA:	NOT REGULATED
IMDG:	NOT REGULATED

SECTION 15: REGULATORY INFORMATION

INVENTORY STATUS

U.S. EPA TSCA:	This product is in compliance with the Toxic Substances Control Act's Inventory requirements.
CANADIAN CEPA DSL:	The components of this product are included on the DSL or are exempt from DSL requirements.
EUROPEAN REACH:	As a result of the introduction of REACH into Europe, this product cannot be imported into Europe unless the REACH requirements are met.
AUSTRALIA AICS:	This product is in compliance with the Australian Inventory of Chemical Substances requirements.
KOREAN TCCL:	This product is in compliance with the Korean Existing Chemicals List requirements.

If you need more information about the inventory status of this product call 651-236-5858.

This product may contain chemical substances that are regulated for export by various government agencies (such as the Environmental Protection Agency, the Bureau of Industry and Security, or the Drug Enforcement Administration, among others). Before exporting this product from the USA or Canada, we recommend you contact us at reg.request@hbfuller.com to request an export review.

FEDERAL REPORTING

EPA SARA Title III Section 313
Unless listed below, this product does not contain toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372. EPA has advised that when a percentage range is listed the midpoint may be used to fulfill reporting obligations.

Chemical Name	CAS#	%

STATE REPORTING
Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986:
Unless listed below, this product does not contain known levels of any chemical known to the State of California to cause cancer or reproductive harm.

Chemical Name/List		CAS	Percent
Formaldehyde	(Carcinogen)	50-00-0	< 10 ppm

Substances of Very High Concern (SVHC) Content:
Unless listed below, this product does not contain SVHC's at 0.1% or greater, as of the version date of this SDS.

SECTION 16: OTHER INFORMATION

SDS VERSION DATE: 05-16-2019

This Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

HMIS RATING: HEALTH -- 0 FLAMMABILITY -- 0 REACTIVITY -- 0
See SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for personal protective equipment recommendations.

Prepared by: The Global Regulatory Department

Phone: 651-236-5842

The information and recommendations set forth herein are believed to be accurate. Because some of the information is derived from information provided to H.B. Fuller Construction Products, Inc. from its suppliers, and because H.B. Fuller Construction Products, Inc. has no control over the conditions of handling and use, H.B. Fuller Construction Products, Inc. makes no warranty, expressed or implied, regarding the accuracy of the data or the results to be obtained from the use thereof. The information is supplied solely for your information and consideration, and H.B. Fuller Construction Products, Inc. assumes no responsibility for use or reliance thereon. It is the responsibility of the user of H.B. Fuller Construction Products, Inc. products to comply with all applicable federal, state and local laws and regulations.

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **FUEL INJECTOR CLEANER**

Product Use : Fuel additive.
Chemical Family : Mixture.
Manufacturer part no. : M4912C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:
Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).
WHMIS classification:
Class B3 (Combustible Liquids);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.
WHMIS symbols required on a supplier label:

Emergency Overview : Light amber liquid. Petroleum odour.
WARNING! Combustible liquid and vapour. May be harmful if inhaled. May be harmful if absorbed through the skin. May be harmful or fatal if swallowed. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. May be an aspiration hazard. Can enter the lungs and cause damage. May cause eye and skin irritation. Contains material which can cause damage to the blood system, the liver and the kidneys. Contains material which may cause cancer, based on animal data. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

Contains material that may be harmful in the environment.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Skin : May cause moderate skin irritation. Prolonged contact, such as when trapped against the skin under clothing or jewelry, may be more irritating. May be absorbed and cause symptoms similar to those for inhalation.

Eyes : May cause mild to moderate irritation.

Ingestion : May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Material is an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Contains material that may be harmful in the environment. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Petroleum distillates	68476-34-6	70.00 - 100.00
Petroleum naphtha	64742-94-5	0.10 - 1.00
Naphthalene	91-20-3	0.10 - 1.00
Xylene	1330-20-7	0.10 - 1.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if symptoms persist.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention. Wash contaminated clothing before reuse.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes For Physician : Treat symptomatically. Material is an aspiration hazard.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Combustible liquid and vapour. Will ignite when exposed to heat, flame and other sources of ignition. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Vapours may be heavier than air and may collect in confined and low-lying areas. Material will float on water and can be re-ignited at the water's surface.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact. May be sensitive to static discharge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); Sulphur oxides; Aldehydes; Hydrocarbons; Polycyclic aromatic hydrocarbons; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Use proper bonding and grounding techniques when transferring liquid. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep containers closed when not in use.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Acids; Strong oxidizing agents.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Petroleum distillates	100 mg/m³ (vapor and aerosol, as total hydrocarbons) (skin)	N/Av	N/Av	N/Av
Petroleum naphtha	N/Av	N/Av	500 ppm (2000 mg/m³) (as petroleum distillates, naphtha)	N/Av
Naphthalene	10 ppm (skin)	N/Av	10 ppm (50 mg/m³)	N/Av
Xylene	100 ppm	150 ppm	100 ppm (435 mg/m³)	N/Av

Ventilation and engineering measures : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Wear resistant clothing and boots.

Eye / face protection : Chemical splash goggles are recommended.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations : Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid.

Appearance : Light amber liquid.

Odour : Petroleum odour.

Odour threshold : N/Av

pH : N/Av

Boiling point : > 148.9°C

Specific gravity : 0.86

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : N/Av

Solubility in water : Insoluble.

Vapour density (Air = 1) : N/Av

Evaporation rate (n-Butyl acetate = 1) : N/Av

Volatile organic Compounds (VOC's) : N/Av

Volatiles (% by weight) : N/Av

Flash point : 60°C
Flash point Method : TCC
Lower flammable limit (% by vol.) : N/Av
Flame Projection Length : N/Ap
Absolute pressure of container : N/Ap
Auto-ignition temperature : N/Av
Upper flammable limit (% by vol.) : N/Av
Flashback observed : N/Ap
Viscosity : < 10 cSt @ 40°C
General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
Materials To Avoid And Incompatibility : Strong oxidizing agents; Acids.
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and kidneys.
Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : Moderate skin irritant. Mild to moderate eye irritant.
Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50} (4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Petroleum distillates	> 4.81, < 6 mg/L (aerosol)	7600 mg/kg	> 4300 mg/kg
Petroleum naphtha	> 17.1 mg/L (mist)	> 6000 mg/kg	> 3160 mg/kg
Naphthalene	N/Av	490 mg/kg (rat) 533 mg/kg (mouse)	> 20 000 mg/kg
Xylene	6350 ppm (27.6 mg/L) (vapour)	3253 mg/kg	12 180 mg/kg

Carcinogenic status : Contains Naphthalene. Naphthalene is classified as carcinogenic by IARC (Group 2B) and NTP (Group 2 - Reasonably anticipated). Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: Petroleum distillates.
Reproductive effects : Not expected to cause reproductive effects.
Teratogenicity : This product contains Xylene. Xylene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.
Mutagenicity : Not expected to be mutagenic in humans.
Epidemiology : None known or reported by the manufacturer.
Sensitization to material : May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals. No data available to indicate product or components may be respiratory sensitizers.
Synergistic materials : None known or reported by the manufacturer.
other important hazards : CNS depression may result from extreme exposures.
Conditions aggravated by overexposure : Pre-existing skin, eye, respiratory or blood system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. This product contains the following substance which may also be hazardous for the environment: Petroleum naphtha; Naphthalene; Xylene.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Petroleum distillates	68476-34-6	57 mg/L (Fathead minnow)	N/Av	None.
Petroleum naphtha	64742-94-5	3.6 mg/L (Rainbow trout)	N/Av	None.
Naphthalene	91-20-3	0.96 mg/L (pink salmon)	0.12 mg/L/40 days	1
Xylene	1330-20-7	8.2 mg/L (Rainbow trout)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Petroleum distillates	68476-34-6	68 mg/L (Daphnia magna)	0.2 mg/L	None.
Petroleum naphtha	64742-94-5	1.1 mg/L (Daphnia magna)	N/Av	None.
Naphthalene	91-20-3	3.4 mg/L (Daphnia magna)	0.22 - 0.6 mg/L	None.
Xylene	1330-20-7	3.2 - 9.56 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Petroleum distillates	68476-34-6	> 10 mg/L/72hr (Green algae)	1 mg/L/72hr	None.
Petroleum naphtha	64742-94-5	7.2 mg/L/72hr (Green algae)	0.22 mg/L/72hr	None.
Naphthalene	91-20-3	0.4 mg/L/72hr (Skeletonema costatum)	N/Av	1
Xylene	1330-20-7	3.2 - 4.9 mg/L/72hr (Green algae)	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
Contains the following chemicals which are not readily biodegradable: Petroleum naphtha; Naphthalene
Contains the following chemicals which are considered to be inherently biodegradable: Xylene.
The following ingredients are considered to be readily biodegradable: Petroleum distillates.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Petroleum distillates (CAS 68476-34-6)	3.9 - 6	N/Av
Petroleum naphtha (CAS 64742-94-5)	> 3, < 6.5	N/Av
Naphthalene (CAS 91-20-3)	3.7	427 (Fathead minnow)
Xylene (CAS 1330-20-7)	3.12 - 3.2	50 - 58

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not cut, weld, drill or grind on or near this container. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1268	PETROLEUM PRODUCTS, N.O.S.	3	III	
TDG Additional information	Not regulated for road or rail shipment if packaged in non-bulk containers (450 Litres or less each). Section 1.33 of the Regulations is an exemption permitting the transportation of this product in small means of containment as not regulated.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

WARNING! Combustible liquid and vapour. May be harmful if inhaled. May be harmful if absorbed through the skin. May be harmful or fatal if swallowed. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. May be an aspiration hazard. Can enter the lungs and cause damage. May cause eye and skin irritation. Contains material which can cause damage to the blood system, the liver and the kidneys. Contains material which may cause cancer, based on animal data. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

PRECAUTIONS: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Use proper bonding and grounding techniques when transferring liquid. Avoid contact with incompatible materials. Wash thoroughly after handling. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if symptoms persist. For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. If irritation persists, seek prompt medical attention. For eye contact, flush with running water for at least 15 minutes. If irritation persists, seek prompt medical attention. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CNS: Central Nervous System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose

MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TCC: Tagliabue Closed Cup
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	icc ComplianceCenter

DISCLAIMER OF LIABILITY

This Material Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Radiator Specialty Co. of Canada and CCOHS' Web Information Service. The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Radiator Specialty Co. of Canada expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this MSDS does not apply to use with any other product or in any other process.

This Material Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Radiator Specialty Co. of Canada.

MSDS Preparation Date (mm/dd/yyyy)

: 07/27/2007

MSDS Revision Date (mm/dd/yyyy)

: 07/04/2016

Revision No. : 4

Revision Information : (M)SDS sections updated:
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT

Safety Data Sheet Review

MotoMaster

Gas Line Antifreeze

Part # - 038-2331

Hazard Identification

DANGER

Product is a highly flammable liquid and vapour. Toxic if inhaled, swallowed or in contact with skin. Causes damage to organs (eyes) if swallowed.

Keep away from heat, sparks, open flames and hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting and other equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe fume, mist, vapour and spray. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well ventilated area. Wear protective gloves and clothing.

Toxicological Information

Likely routes of exposure:

Ingestion, Inhalation, Skin contact & Eye contact

Ingestion: Toxic, can cause death, depression of the central nervous system, impaired vision and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure may cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system such as tremors and/or seizures.

Skin Absorption: Harmful based on human experience. Can cause effects as described for inhalation. Depression of the central nervous system occurs. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness.

Toxicological Information

Inhalation: May be harmful based on human experience and animal testing. Depression of the central nervous system occurs. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness. At high concentrations it can cause death based on human experience. Repeated exposure may cause damage to the central nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes. At high concentrations, inhalation may cause harmful effects on the liver, visual disturbances, cataracts and opacities.

Skin Corrosion/Irritation: Human experience shows very mild irritation. Repeated exposures may cause dermatitis. Symptoms may include dry, red, cracked skin.

Serious Eye Damage/Irritation: Animal tests show serious eye irritation.

Aspiration Hazard: Not known to be an aspiration hazard.

Toxicological Information

Carcinogenicity: No information was located.

Reproductive Toxicity: Regarding development of offspring, animal studies show effects occur. If inhaled, effects are known to cause decrease weight, birth defects, teratogenic (external, soft tissue and skeletal defects) and embryotoxic (late resorptions).

Sexual Function and Fertility: Not known to cause effects on sexual function or fertility.

Effects on or via Lactation: May cause effects on or via lactation. Can transfer to mother's milk.

Germ Cell Mutagenicity: Conclusions cannot be drawn from the limited studies available.

Interactive Effects: No information was located.

Exposure Control/Personal Protection

Engineering Controls: General ventilation is usually adequate. For large scale use of this product, do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in the areas where this product is used and stored. Control static electricity discharges which include bonding of equipment to ground. Use only non-combustible, compatible materials for walls, floors, ventilation system, air cleaning devices, pallets and shelving. Provide safety shower in work area, if contact or splash hazard exists.

Exposure Control/Personal Protection

Respiratory Protection: Not normally required if product is used as directed. For non-routine or emergency situations, wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

Eye/Face Protection: Wear chemical safety goggles.

Skin Protection: Wear chemical protective clothing such as nitrile rubber gloves, aprons and boots.

First Aid Measures

Target Organs

Eyes, liver and nervous system.

Medical Conditions Aggravated by Exposure

Respiratory condition, dermatitis and eye conditions.

Most Important Symptoms and Effects, Acute and Delayed

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

First Aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue. Remove source of exposure or move victim to fresh air. Keep victim at rest in a position comfortable for breathing. If breathing has stopped, trained personnel should begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Get medical advice/attention if you feel unwell or are concerned.

First Aid Measures

Ingestion

Rinse mouth with water. Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. “DO NOT INDUCE VOMITING”. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. If breathing has stopped, trained personnel should immediately begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Immediately call a Poison Centre or Doctor. Treatment is urgently required.

First Aid Measures

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts) immediately. Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Get medical advice/attention if you feel unwell or are concerned. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

First Aid Measures

Eye Contact

Avoid direct contact. Wear chemical protective goggles if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice/attention.

Disposal Considerations

For proper disposal of this product, please refer to the complete Safety Data Sheet located on your computer network or the Safety Data Sheet binder/s in your facility.

For Further Information

If additional information is required about this product, please refer to the complete Safety Data Sheet located on your computer network or the Safety Data Sheet binder/s in your facility.

Please remember to sign the companies staff record sheet confirming that you reviewed this power point presentation.

DISTRIBUTED BY: **Josef Gas.**

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFIER:	**OXYGEN**		
Product Name(s):	GASEOUS OXYGEN	Formula:	O2
Synonym(s):	NONE	Chemical Family:	ELEMENT
PRODUCT USE(S):	To provide life support to Hospital/ Home patients, to increase rate of combustion or burning in industrial appl. To replace chlorine for pulp bleaching.	W.H.M.I.S. Classification Class(es):	A,C

HAZARDOUS INGREDIENTS:

INGREDIENT PARAMETERS	C.A.S. / P.I.N. NUMBER(S)	CONC. % VOL./VOL.	L.D. 50 (Species & Route)	L.C. 50 (Species & Route)
OXYGEN	7782447/1072	APPR. 100	NOT APPL.	NOT APPL.

PHYSICAL DATA

PHYSICAL STATE:	Gas @ N.T.P.
ODOUR AND APPEARANCE:	Colourless and Odourless
ODOUR THRESHOLD:	NONE
SPECIFIC GRAVITY (air=1):	1.14 (@ Boiling Point)
VAPOUR PRESSURE:	Container Rated Pressure
VAPOUR DENSITY:	1.105
EVAPORATION RATE:	Not Appl.
BOILING POINT:	-183.0°C (-302.9°F)
FREEZING POINT:	-218.4°C (-308.9°F)
pH:	Not Applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION:	Not Applicable
SOLUBILITY IN WATER:	0.0489 (vol./vol.)
% VOLATILES:	100

FOR TRANSPORT EMERGENCY CALL COLLECT CANUTEC TEL: 1-613-996-6666

FIRE OR EXPLOSION HAZARDS

CONDITIONS OF FLAMMABILITY:	NONE. Oxygen will support and sustain combustion of other materials. Some materials that do not burn in air may ignite when the Oxygen concentration increases above 21%.
MEANS OF EXTINCTION:	Cool containers with water spray. Extinguish surrounding fires
FLASH POINT:	NONE
UPPER FLAMMABLE LIMIT: NONE	LOWER FLAMMABLE LIMIT:NONE
AUTOIGNITION TEMPERATURE:	NONE
HAZARDOUS COMBUSTION PRODUCTS:	NONE
SENSITIVITY TO MECHANICAL IMPACT:	NONE
SENSITIVITY TO STATIC DISCHARGE:	NONE
SPECIAL PROCEDURES:	Evacuate areas where a leak or a spill is present. Fight the surrounding fires at the case may be.

REACTIVITY DATA

CONDITIONS OF CHEMICAL UNSTABILITY:	NONE
INCOMPATIBILITY:	All combustible, organic materials. All reducing agents. Alkali metals.
CONDITIONS OF REACTIVITY:	Oxygen reacts readily with most organic compounds.
HAZARDOUS DECOMPOSITION PRODUCTS:	NONE

TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN (CONTACT):	NO
SKIN (ABSORPTION):	NO
EYE CONTACT:	YES
INHALATION:	YES
INGESTION:	NO

EFFECTS OF ACUTE EXPOSURE:
Exposure to PURE oxygen (for prolonged periods at pressures higher than atmospheric) may cause nausea, dizziness, pulmonary damages, epileptic seizures, death.
Such effects have been reported as a function of the pressure. Therapeutic uses of Oxygen should be supervised by competent medical personnel.

EFFECTS OF CHRONIC EXPOSURE:	NONE KNOWN
EXPOSURE LIMITS:	NOT APPLICABLE
IRRITANCY:	Lung irritant when PURE and at pressures higher than atmospheric.
SENSITIZATION:	NONE
CARCINOGENICITY:	NONE
REPRODUCTIVE TOXICITY:	NONE
TERATOGENICITY:	NONE
MUTAGENICITY:	NONE
TOXIC SYNERGISTIC PRODUCTS:	NONE

FIRST AID

EYE:	Gaseous Oxygen may harm the unprotected eye if delivered at pressures higher than atmospheric. Obtain medical attention if damages are suspected.
INGESTION:	Not applicable
INHALATION:	Exposures to PURE Oxygen for a prolonged period (from 5 minutes @ 100psig. to 5 hrs @ 1atm.) have been reported to cause pulmonary irritation, edema. Reduce pressure, move to fresh air when possible. Obtain Medical attention.
SKIN:	Not applicable

PREVENTIVE MEASURES

PERSONAL PROTECTION

EYE:	Safety glasses or goggles to protect from accidental deliveries (leaks) under pressure.
HAND:	Not applicable.
FEET:	Safety footwear where applicable.
CLOTHING:	Long sleeves, trousers recommended.
RESPIRATOR:	Not applicable.

ENGINEERING CONTROLS: Provide ventilation. Keep oil, grease, and combustible materials away.

SPILL AND LEAK PROCEDURE:
Remove all sources of ignition. Clear the area. Spills on combustible surfaces may cause a fire hazard. Try to stop the leak at source if without risk. Gas will dissipate depending on the site/area ventilation. Verify oxygen concentration prior to re-entry.

WASTE DISPOSAL:
No wastes may be generated other than empty containers.

HANDLING PROCEDURES & EQUIPMENT:
Use in ventilated areas. Keep away from Oil, Grease, Combustible, Flammable materials.
Use appropriate carts for moving containers. Secure container when in use. Close the container valve when NOT in use, or when empty. Secure (restrain) during transportation or use.

STORAGE REQUIREMENTS:
Store in well ventilated areas. Keep away from sources of ignition. Store at temperatures below 52^{o}C.

SPECIAL SHIPPING INFORMATION:
Transport upright in well-ventilated vehicle. Do not transport in trunk of enclosed vehicle. Commercial (cylinders) quantities may NOT be transported in passenger compartments.

T.D.G. SHIPPING NAME:	Oxygen	T.D.G. CLASSIFICATION CLASS(ES):	2.2 (5.1)
T.D.G. P.I.N. / U.N. :	1072		

PREPARED BY:	Josef Gas
TEL:	(416) 658-1212
EFFECTIVE DATE:	JANUARY 1 2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	GASOLINE, UNLEADED
Synonyms	:	Regular, Unleaded Gasoline (US Grade), Mid-Grade, Plus, Super, WinterGas, SummerGas, Supreme, SuperClean, SuperClean WinterGas, RegularClean, PlusClean, Premium, marked or dyed gasoline, TQRUL, transitional quality regular unleaded, BOB, Blendstock for Oxygenate Blending, Conventional Gasoline, RUL, MUL, SUL, PUL.
Product code	:	100126, 101823, 100507, 101811, 101814, 100141, 101813, 101810, 101812, 100063, 101822, 100138, 101821, 100064, 101820, 101819, 100506, 101818, 101816, 101817, 100488

Manufacturer or supplier's details

Petro-Canada
P.O. Box 2844, 150 - 6th Avenue South-West
Calgary Alberta T2P 3E3
Canada

Emergency telephone number		Suncor Energy: +1 403-296-3000; Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use	:	Unleaded gasoline is used in spark ignition engines including motor vehicles, inboard and outboard boat engines, small engines such as chain saws and lawn mowers, and recreational vehicles.
Prepared by	:	Product Safety: +1 905-804-4752

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Clear liquid.
Colour	Clear to slightly yellow or green, undyed liquid. May be dyed red for taxation purposes.
Odour	Gasoline
Hazard Summary	Flammable liquid Irritating to eyes and skin. May cause cancer. May cause heritable genetic damage.

Potential Health Effects

Primary Routes of Entry : Eye contact

Ingestion
Inhalation
Skin contact

Target Organs	:	Blood Immune system
Inhalation	:	Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Skin	:	May irritate skin.
Eyes	:	May irritate eyes.
Ingestion	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration hazard if swallowed - can enter lungs and cause damage.
Chronic Exposure	:	Chronic exposure to benzene may result in increased risk of leukemia and other blood disorders.
Aggravated Medical Condition	:	None known.

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans	
	Benzene	71-43-2
ACGIH	Confirmed human carcinogen	
	Benzene	71-43-2
	Confirmed animal carcinogen with unknown relevance to humans	
	Ethanol	64-17-5
	Gasoline, natural	8006-61-9

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)

gasoline	86290-81-5	95 - 100 %
toluene	108-88-3	1 - 40 %
benzene	71-43-2	0.5 - 1.5 %
ethanol	64-17-5	0.1 - 0.3 %

SECTION 4. FIRST AID MEASURES

If inhaled	:	Artificial respiration and/or oxygen may be necessary. Move to fresh air. Seek medical advice.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Seek medical advice.
In case of eye contact	:	Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
If swallowed	:	Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Seek medical advice.
Most important symptoms and effects, both acute and delayed	:	First aider needs to protect himself.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Water fog. Foam
Unsuitable extinguishing media	:	Do NOT use water jet.
Specific hazards during firefighting	:	Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	Carbon oxides (CO, CO2), nitrogen oxides (NOx), polynuclear aromatic hydrocarbons, phenols, aldehydes, ketones, smoke and irritating vapours as products of incomplete combustion.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Prevent further leakage or spillage if safe to do so.
Remove all sources of ignition.
Soak up with inert absorbent material.
Non-sparking tools should be used.
Ensure adequate ventilation.
Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Use only with adequate ventilation.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

gasoline	86290-81-5	TWA	300 ppm	CA AB OEL
		STEL	500 ppm	CA AB OEL
		TWA	300 ppm	CA BC OEL
		STEL	500 ppm	CA BC OEL
		TWA	300 ppm	ACGIH
		STEL	500 ppm	ACGIH
toluene	108-88-3	TWA	50 ppm 188 mg/m3	CA AB OEL
		TWA	20 ppm	CA BC OEL
		TWAEV	50 ppm 188 mg/m3	CA QC OEL
		TWA	20 ppm	ACGIH
benzene	71-43-2	TWA	0.5 ppm 1.6 mg/m3	CA AB OEL
		STEL	2.5 ppm 8 mg/m3	CA AB OEL
		TWA	0.5 ppm	CA BC OEL
		STEL	2.5 ppm	CA BC OEL
		TWA	0.5 ppm	CA ON OEL
		STEL	2.5 ppm	CA ON OEL
		TWAEV	1 ppm 3 mg/m3	CA QC OEL
		STEV	5 ppm 15.5 mg/m3	CA QC OEL
		TWA	0.5 ppm	ACGIH
		STEL	2.5 ppm	ACGIH
ethanol	64-17-5	TWA	1,000 ppm 1,880 mg/m3	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		TWAEV	1,000 ppm 1,880 mg/m3	CA QC OEL
		STEL	1,000 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI

Engineering measures : Use only in well-ventilated areas.
Ensure that eyewash station and safety shower are proximal to the work-station location.

Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Filter type	:	A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.
Hand protection		
Material	:	polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Protective measures	:	Wash contaminated clothing before re-use.
Hygiene measures	:	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear liquid.
Colour	:	Clear to slightly yellow or green, undyed liquid. May be dyed red for taxation purposes.
Odour	:	Gasoline
Odour Threshold	:	No data available

pH	:	No data available
Pour point	:	No data available
Boiling point/boiling range	:	25 - 225 °C (77 - 437 °F)
Flash point	:	-50 - -38 °C (-58 - -36 °F) Method: Tagliabue.
Auto-Ignition Temperature	:	257 °C (495 °F)
Evaporation rate	:	No data available
Flammability	:	Extremely flammable in presence of open flames, sparks, shocks, and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. Rapid escape of vapour may generate static charge causing ignition. May accumulate in confined spaces.
Upper explosion limit	:	7.6 %(V)
Lower explosion limit	:	1.3 %(V)
Vapour pressure	:	< 802.5 mmHg (20 °C / 68 °F)
Relative vapour density	:	3
Relative density	:	0.685 - 0.8
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Containers may explode in heat of fire. Vapours may form explosive mixtures with air.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Reactive with oxidising agents, acids and interhalogens.
Hazardous decomposition products	:	May release COx, NOx, phenols, polycyclic aromatic hydrocarbons, aldehydes, ketones, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

Components:

gasoline:

Acute oral toxicity : LD50 Rat: 13,600 mg/kg,

Acute dermal toxicity : LD50 Rabbit: > 5,000 mg/kg,

toluene:

Acute oral toxicity : LD50 Rat: 5,580 mg/kg,

Acute inhalation toxicity : LC50 Rat: 7585 ppm
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Rabbit: 12,125 mg/kg,

benzene:

Acute oral toxicity : LD50 Rat: 2,990 mg/kg,

Acute inhalation toxicity : LC50 Rat: 13700 ppm
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Rabbit: > 8,240 mg/kg,

ethanol:

Acute oral toxicity : LD50 Rat: 7,060 mg/kg,

Acute inhalation toxicity : LC50 Rat: > 32380 ppm
Exposure time: 4 h
Test atmosphere: vapour

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

gasoline:
Result: Moderate skin irritant

toluene:
Result: Moderate skin irritant

benzene:
Result: Moderate skin irritant

ethanol:
Result: Skin irritation

Serious eye damage/eye irritation

Product:

Remarks: No data available

Components:

gasoline:
Result: Mild eye irritation

toluene:
Result: Mild eye irritation

benzene:
Result: Moderate eye irritation

ethanol:
Result: Eye irritation

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to bacteria	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labelled prior to recycling or disposal. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.
Contaminated packaging	:	Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No.	:	1203
Proper shipping name	:	Gasoline
Class	:	3
Packing group	:	II
Labels	:	3
Packing instruction (cargo aircraft)	:	364

IMDG-Code

UN number	:	1203
Proper shipping name	:	GASOLINE
Class	:	3
Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

TDG

UN number	:	1203
Proper shipping name	:	GASOLINE
Class	:	3
Packing group	:	II
Labels	:	3
ERG Code	:	128
Marine pollutant	:	no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B2: Flammable liquid
D2A: Very Toxic Material Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The components of this product are reported in the following inventories:

DSL	On the inventory, or in compliance with the inventory
TSCA	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
EINECS	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

For Copy of (M)SDS	:	Internet: www.petro-canada.ca/msds Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228 For Product Safety Information: 1 905-804-4752
Prepared by	:	Product Safety: +1 905-804-4752

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety Data Sheet
Germ Away

SECTION I - IDENTIFICATION

PRODUCT NAME: Germ Away
PRODUCT CODE: 2170
PRODUCT USE: Disinfectant foaming cleaner
COMPANY NAME: QuestSpecialty Corporation
COMPANY ADDRESS: PO Box 624 Brenham, TX 77834
COMPANY PHONE: 1-800-231-0454
EMERGENCY PHONE: 800-255-3924

SECTION II – HAZARDS IDENTIFICATION

CLASSIFICATION: Flammable Aerosol: Category 2
Liquefied Gas
Eye Irritant: Category 2b
HAZARD STATEMENT(S): WARNING: Flammable Aerosol Contains gas under pressure; May explode if heated. Causes eye irritation.
This product contains the following percentage of chemicals of unknown toxicity**:** 0%
PRECAUTIONARY STATEMENTS: Keep away from heat, sparks, open flames, and hot surfaces. -No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store in a well-ventilated place. Wash hands thoroughly after handling. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

SYMBOL:

HAZARDS NOT OTHERWISE CLASSIFIED: N/A

SECTION III – COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	CAS NUMBER	PERCENT
2-Butoxyethanol	111-76-2	5-10%
Propane/n-Butane	68476-86-8	3-7%
Isopropyl Alcohol	67-63-0	1-5%
Ethylenediaminetetraacetic Acid (EDTA)	60-00-4	.5-1.5%
Potassium Hydroxide	1310-58-3	.5-1.5%

SECTION IV - FIRST AID MEASURES

EYES: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
INGESTION: Do not induce vomiting unless directed by medical authority. Immediately rinse mouth with water. Seek immediate medical attention.
INHALATION: Move to fresh air. If breathing is difficult or unconscious, administer oxygen. If not breathing administer artificial respiration. Seek medical attention if irritation persists.
SKIN: Wash thoroughly with soap and water. Seek medical attention if irritation develops.
ACUTE HEALTH HAZARDS: Eyes: redness, tearing, blurred vision
CHRONIC HEALTH HAZARDS: None known
NOTE TO PHYSICIAN: There is no specific treatment regimen. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION V – FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, foam, water spray for cooling.
UNSUITABLE EXTINGUISHING MEDIA: N/A

SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH approved Self Contained Breathing Apparatus with a full face piece operated in a positive pressure demand mode with full body protective clothing when fighting fires. Avoid breathing smoke, fumes, and decomposition products. Cool fire exposed containers with water fog to prevent bursting.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep away from sparks, open flames, and hot surfaces. No smoking. Do not spray on an open flame or other ignition source.

HAZARDOUS COMBUSTION PRODUCTS: N/A

SECTION VI – ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Refer to section VIII for proper Personal Protective Equipment.

SPILL: Absorb spill with non-combustible material such as vermiculite, sand or earth.

WASTE DISPOSAL: Dispose of in accordance with federal, state, and local regulations. Do not reuse, puncture, or incinerate container. Wrap container and place in trash collection.

RCRA STATUS: Not listed as hazardous waste under RCRA, however product should be fully characterized prior to disposal (40 CFR 261).

SECTION VII – HANDLING AND STORAGE

HANDLING AND STORAGE: Protect from sunlight. Store in a well ventilated place. Do not expose to temperatures exceeding 50°C/122°F. Pressurized container: Do not pierce or burn, even after use.

OTHER PRECAUTIONS: Keep out of the reach of children.

INCOMPATIBILITY: Strong acids, strong alkalis, strong oxidizing agents.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

HAZARDOUS INGREDIENT	OSHA PEL	ACGIH TLV
2-Butoxyethanol	50 ppm	20 ppm
Propane/n-Butane	1000 ppm	1000 ppm
Isopropyl Alcohol	500 ppm	400 ppm
Ethylenediaminetetraacetic Acid (EDTA)	15 mg/m3	Not Established
Potassium Hydroxide	2 mg/m3	2 mg/m3

ENGINEERING CONTROLS / VENTILATION: General ventilation and local exhaust recommended.

RESPIRATORY PROTECTION: Not required under normal use. If exposure levels are exceeded then organic vapor cartridge respirator or SCBA will be needed.

PERSONAL PROTECTIVE EQUIPMENT: Safety glasses and chemical resistant gloves

ADDITIONAL MEASURES: Wash hands thoroughly after handling.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White Foam Aerosol

ODOR: Citrus scent, moderate ammonia odor

ODOR THRESHOLD: N/D

BOILING POINT: > 212°F (100°C)

FREEZING POINT: < 32°F (0°C)

FLAMMABILITY: Flammable Aerosol

FLASH POINT: N/D

AUTOIGNITION TEMPERATURE: N/D

LOWER FLAMMABILITY LIMIT: N/D

UPPER FLAMMABILITY LIMIT: N/D

VAPOR PRESSURE (mm Hg): 17.5 @ 77°F (25°C)

VAPOR DENSITY (AIR=1): < 1

EVAPORATION RATE: < 1

SPECIFIC GRAVITY (H2O=1): 1.00 @ 77° F (25° C)

pH: 12.3

SOLIDS (%): 3%

SOLUBILITY IN WATER: 100%

PARTITION COEFFICIENT: n-OCTANOL/WATER (K_{ow}): N/D

VOLATILITY INCLUDING WATER (%): > 80%
VOLATILE ORGANIC COMPOUNDS (VOC): 16%
DIELECTRIC STRENGTH (Volts): N/A
DECOMPOSITION TEMPERATURE: N/D
VISCOSITY: N/D

SECTION X – STABILITY AND REACTIVITY DATA

REACTIVITY: None Known
CHEMICAL STABILITY: Stable
CONDITIONS TO AVOID: Temperatures greater than 122°F and sources of ignition.
INCOMPATIBILITY: Strong acids, strong alkalis, strong oxidizing agents.
HAZARDOUS DECOMPOSITION OR BY-PRODUCT: Oxides of carbon
POSSIBLE HAZARDOUS REACTIONS: None Known

SECTION XI – TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: **2-Butoxyethanol** (111-76-2) LD_{50} (Oral, Rat) 470 mg/kg; LC_{50} (Inhalation, Rat, 4hr) 450 ppm; LD_{50} (Dermal, Rabbit) 220 mg/kg **Isopropyl Alcohol** (67-63-0) LD_{50} (Oral,Rat) 5045 mg/kg; LD_{50} (Oral, Rabbit) 5045 mg/kg; LD_{50} (Dermal, Rabbit) 12,800 mg/kg; LC_{50} (Inhalation, Rat, 8hr) 16,000 ppm
ROUTES OF ENTRY: Eyes, Ingestion, Inhalation, Skin
EYES: Causes mild irritation.
INGESTION: May cause gastrointestinal irritation, abdominal cramps.
INHALATION: Irritant. Avoid breathing spray mist. May cause irritation to respiratory tract.
SKIN: May cause mild irritation, dryness with prolonged or repeated contact.
MEDICAL CONDITION AGGRAVATED: None known
ACUTE HEALTH HAZARDS: Eyes: redness, tearing, blurred vision
CHRONIC HEALTH HAZARDS: None known
CARCINOGENICITY: **OSHA:** No **ACGIH:** No **NTP:** No **IARC:** No **OTHER:** No

SECTION XII – ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: **Isopropyl Alcohol** (67-63-0) LC_{50} (Fathead Minnow, 96 hrs) 100,000 mg/L
BIODEGRADABILITY: Component or components of this product are not biodegradable.
BIOACCUMULATION: This product is not expected to bioaccumulate.
SOIL MOBILITY: This product is mobile in soil.
OTHER ECOLOGICAL HAZARDS: None Known

SECTION XIII – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Dispose of in accordance with federal, state, and local regulations. Do not reuse, puncture, or incinerate container. Wrap container and place in trash collection.
RCRA STATUS: Not listed as hazardous waste under RCRA, however product should be fully characterized prior to disposal (40 CFR 261).

SECTION XIV - TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: Aerosols, Ltd. Qty.
HAZARD CLASS/DIVISION: 2.1
UN/NA NUMBER: UN 1950
PACKAGING GROUP: N/A

AIR SHIPMENT
PROPER SHIPPING NAME: Aerosols, Ltd. Qty.
HAZARD CLASS/DIVISION: 2.1
UN/NA NUMBER: UN 1950
PACKAGING GROUP: N/A

SHIPPING BY WATER:
VESSEL (IMO/IMDG)
PROPER SHIPPING NAME: Aerosols, Ltd. Qty.
HAZARD CLASS/DIVISION: 2.1
UN/NA NUMBER: UN 1950
PACKAGING GROUP: N/A
ENVIRONMENTAL HAZARDS WATER: N/A

SECTION XV - REGULATORY INFORMATION

TSCA STATUS: All Chemicals are listed or exempt.
CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): None
SARA 311/312 HAZARD CATEGORIES:
SARA 313 REPORTABLE INGREDIENTS: 2-Butoxyethanol (111-76-2)
CLEAN WATER ACT: None
STATE REGULATIONS: California Proposition 65: None **2-Butoxyethanol** (111-76-2) Right-to-Know acts for New Jersey, Massachusetts, Pennsylvania, Rhode Island, Illinois, Florida, Minnesota; Massachusetts spill list
INTERNATIONAL REGULATIONS: 2-Butoxyethanol (111-76-2) Europe (EINECS), Japan (ENCS), Australia (AICS), WHMIS (Canada), DSCL (EEC), NDSL, Korea (ECL), Philippines (PICCS), New Zealand (NZIOC), China (IECS).

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification crieteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:
CAUTION: Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Harmful if swallowed or absorbed through skin. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Contents under pressure. Do not use or store near heat or open flame. Exposure to temperatures above 130°F may cause bursting. Never throw container into fire or incinerator.
EPA Reg. No. 44446-23

NFPA HEALTH:	1	**HMIS HEALTH:**	1
NFPA FLAMMABILITY:	0	**HMIS FLAMMABILITY:**	0
NFPA REACTIVITY:	1	**HMIS REACTIVITY:**	1
NFPA OTHER:	None	**HMIS PROTECTION:**	A

SECTION XVI - ADDTIONAL INFORMATION

PREPARATION BY: Jonathon Jarvis
DATE PREPARED: 12/04/2013
REVISION DATE: 04/24/2015

N/A = Not Applicable; N/D = Not Determined

DISCLAIMER: To the best of our knowledge, information contained herein is accurate. However there is no assumption of liability for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazard which exists. The information contained in this SDS was obtained from current and reliable sources; however, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions or handling, storage and disposal of this product are beyond the control of the manufacturer, the manufacturer will not be responsible for loss, injury, or expense arising out of the products improper use. No warranty, expressed or inferred, regarding the product described in this SDS shall be created or inferred by any statement in this SDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this SDS. The user is responsible for full compliance.

SAFETY DATA SHEET
Goof Off Graffiti Remover VOC Spray

Printed: 09/11/2015
Revision: 09/11/2015
Supersedes Revision: 04/16/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Goof Off Graffiti Remover VOC Spray

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Web site address: www.wmbarr.com

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892

Intended Use: Removal of paint, marker, crayon, ink, lipstick, nail and shoe polish, and candle wax.

Product Code: FG670, FG672, FG672W

Additional Information This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

2. HAZARDS IDENTIFICATION

Flammable Aerosols, Category 1
Gas Under Pressure, Liquefied gas
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 1
Skin Sensitization, Category 1
Germ Cell Mutagenicity, Category 1A
Toxic To Reproduction, Category 1B
Specific Target Organ Toxicity (single exposure), Category 3
Aspiration Toxicity, Category 1
Simple Asphyxiant

GHS Signal Word: **Danger**

GHS Hazard Phrases:
H223: Flammable aerosol.
H280: Containers gas under pressure; may explode if heated.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H360: May damage fertility or the unborn child.

GHS Precaution Phrases:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211: Do not spray on an open flame or any other ignition source.
P251: Pressurized container: Do not pierce or burn, even after use.
P261: Avoid breathing gas/mist/vapors/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use personal protective equipment as required.

GHS Response Phrases:

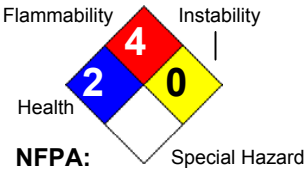
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313: IF exposed or concerned: Get medical attention/advice.
P310: Immediately call a POISON CENTER or doctor/physician.
P321: Specific treatment see label.
P331: Do NOT induce vomiting.
P332+313: If skin irritation occurs, get medical advice/attention.
P333+313: If skin irritation or rash occurs, seek medical advice/attention.
P362: Take off contaminated clothing and wash before re-use.
P363: Wash contaminated clothing before reuse.

GHS Storage and Disposal Phrases:

P403+233: Store container tightly closed in well-ventilated place.
P405: Store locked up.
P410+403: Protect from sunlight and store in well-ventilated place.
P412: Do not expose to temperatures exceeding 50 ºC/122 ºF.
P501: Dispose of contents/container according to local, state and federal regulations.

Hazard Rating System:

HMIS:



NFPA:

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

INHALATION:
High concentrations may lead to central nervous system effects including, drowsiness, dizziness, nausea, headaches, paralysis, loss of consciousness, and death. High vapor concentrations are irritating to the eyes, nose, throat, and lungs. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

EYE CONTACT:
Contact may cause moderate to severe irritation. May cause temporary corneal clouding.

SKIN CONTACT:
Prolonged or repeated contact can result in defatting, redness, drying of the skin which may result in skin irritation and dermatitis, burning sensation, and possible chemical burns to the skin.

INGESTION:
Aspiration hazard. If ingested or vomited, material may enter lungs and produce damage. May produce central nervous system effects, which include dizziness, loss of balance and coordination, nausea, vomiting, unconsciousness, coma and even death.

CHRONIC OVEREXPOSURE EFFECTS:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

TARGET ORGANS OR SYSTEM DAMAGE: eye, respiratory system, nervous system, kidneys, blood-related effects

ROUTES OF ENTRY: inhalation, skin , ingestion

Medical Conditions Generally Aggravated By Exposure: Diseases and disorders of the skin, eye, and lungs (asthma-like conditions).

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
67-64-1	Acetone {2-Propanone}	30.0 -60.0 %	AL3150000
872-50-4	N-Methyl-2-pyrrolidone {2-Pyrrolidinone, 1-Methyl-; 1-Methylazacyclopentan-2-one}	15.0 -30.0 %	UY5790000
68439-46-3	Alcohol ethoxylate (Alcohols, C9-11, Ethoxylated)	<10.0 %	AZ8100000
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	<15.0 %	NA
NA	(Trade Secret)	< 3.0 %	NA
5989-27-5	d-Limonene	<10.0 %	GW6360000
66455-14-9	Alcohols, C12-13, ethoxylated	< 5.0 %	AZ0881666

Additional Chemical Information Specific percentage of composition is being withheld as a trade secret.

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Skin:
Remove contaminated clothing. Immediately wash skin thoroughly with large amounts of water and mild soap, if available. Seek medical attention if irritation develops or persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes. Seek medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, poison control center, or hospital emergency room immediately. Never give anything by mouth to an unconscious person.

Signs and Symptoms Of Exposure: See Potential Health Effects.

Note to Physician: Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

Flammability Classification:	Level 3 Aerosol
Flash Pt:	0.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits:	LEL: 1.8% UEL: 9.5%
Autoignition Pt:	No data.
Suitable Extinguishing Media:	Use carbon dioxide, dry powder, water spray, or foam.
Unsuitable Extinguishing Media:	None known.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear. Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from containers that have been exposed to intense heat or flame.
Flammable Properties and Hazards:	FLASHPOINT OF LIQUID CONCENTRATE: 0 F FLASHPOINT OF PROPELLANT: -138.23 F (closed cup)

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:	Vapors may cause flash fire or ignite explosively. Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc. Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable. Large spills: Dike far ahead of spill for later disposal. Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container. Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc. Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.
Precautions To Be Taken in Storing:	Store in a cool, dry place. Do not store near flames or at elevated temperatures. Store out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
67-64-1	Acetone {2-Propanone}	PEL: 1000 ppm	TLV: 500 ppm STEL: 750 ppm	No data.
872-50-4	N-Methyl-2-pyrrolidone {2-Pyrrolidinone, 1-Methyl-; 1-Methylazacyclopentan-2-one}	No data.	No data.	No data.
68439-46-3	Alcohol ethoxylate (Alcohols, C9-11, Ethoxylated)	No data.	No data.	No data.
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	No data.	No data.	No data.
NA	(Trade Secret)	No data.	No data.	No data.
5989-27-5	d-Limonene	No data.	No data.	No data.
66455-14-9	Alcohols, C12-13, ethoxylated	No data.	No data.	No data.

Respiratory Equipment (Specify Type): For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection: Safety glasses, chemical goggles, or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Chemical goggles or face shields are recommended when splashing or spraying of chemical is possible. A faceshield provides more protection to help reduce chemical contact to the face and eyes.

Protective Gloves: Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing: Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices: Wash hands thoroughly after use and before eating, drinking, or smoking.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[X] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Off-white, opaque.
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	0.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits:	LEL: 1.8% UEL: 9.5%
Specific Gravity (Water = 1):	0.89
Density:	7.423 LB/GL
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate:	> 1
Solubility in Water:	Soluble
Percent Volatile:	93.0 % by weight.
VOC / Volume:	46.2700 % WT

10. STABILITY AND REACTIVITY

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	Strong oxidizers, strong acids, reactive metals (e.g. sodium, calcium, zinc, etc), materials reactive with hydroxyl compounds, copper alloys, alcohols, amines
Hazardous Decomposition or Byproducts:	Carbon monoxide, carbon dioxide, nitrogen oxides, oxides of citrus terpenes, aldehydes, flammable hydrocarbon fragments (e.g. acetylene)
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: This product has not been tested as a whole. Refer to section 2 for acute and chronic effects.

Carcinogenicity/Other Information:

CAS# 67-64-1:
Standard Draize Test, Eyes, Species: Rabbit, 20.00 MG, Severe.
Result:
Behavioral: Change in motor activity (specific assay).
Behavioral: Alteration of classical conditioning.
- American Journal of Ophthalmology., Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611, Vol/p/yr: 29,1363, 1946

CAS# 872-50-4:
Reproductive Effects:, TDLo, Inhalation, Rat, 116.0 PPM, 6 H, multigenerations.
Result:
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
- Drug and Chemical Toxicology., Marcel Dekker, 270 Madison Ave., New York, NY 10016, Vol/p/yr: 18,271, 1995

Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, Moderate.
Result:
Blood:Other hemolysis with or withot anemia.
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Food and Chemical Toxicology., Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, Vol/p/yr: 26,475, 1988

CAS# 68439-46-3:
Acute toxicity, LD50, Oral, Rat, 1378. MG/KG.
Result:
Behavioral: Somnolence (general depressed activity).
Behavioral: Ataxia.
Gastrointestinal:Hypermotility, diarrhea.
- Journal of the American College of Toxicology., Mary Ann Liebert, Inc., New York, NY, Vol/p/yr: 10(4),427, 1991

ACGIH A4 - Not Classifiable as a Human Carcinogen.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
67-64-1	Acetone {2-Propanone}	n.a.	n.a.	A4	n.a.
872-50-4	N-Methyl-2-pyrrolidone {2-Pyrrolidinone, 1-Methyl-; 1-Methylazacyclopentan-2-one}	n.a.	n.a.	n.a.	n.a.
68439-46-3	Alcohol ethoxylate (Alcohols, C9-11, Ethoxylated)	n.a.	n.a.	n.a.	n.a.
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	n.a.	n.a.	n.a.	n.a.
NA	(Trade Secret)	n.a.	n.a.	n.a.	n.a.
5989-27-5	d-Limonene	n.a.	3	n.a.	n.a.
66455-14-9	Alcohols, C12-13, ethoxylated	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information: No information available for this product as a whole.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with local, state, and federal laws.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Consumer Commodity, ORM-D
DOT Hazard Class:
UN/NA Number:

Additional Transport Information:

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
67-64-1	Acetone {2-Propanone}	No	Yes 5000 LB	No
872-50-4	N-Methyl-2-pyrrolidone {2-Pyrrolidinone, 1-Methyl-; 1-Methylazacyclopentan-2-one}	No	No	Yes
68439-46-3	Alcohol ethoxylate (Alcohols, C9-11, Ethoxylated)	No	No	No
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	No	No	No
NA	(Trade Secret)	No	No	No
5989-27-5	d-Limonene	No	No	No
66455-14-9	Alcohols, C12-13, ethoxylated	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:	[X] Yes [ ] No	Acute (immediate) Health Hazard
	[X] Yes [ ] No	Chronic (delayed) Health Hazard
	[X] Yes [ ] No	Fire Hazard
	[X] Yes [ ] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] No	Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
67-64-1	Acetone {2-Propanone}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No
872-50-4	N-Methyl-2-pyrrolidone {2-Pyrrolidinone, 1-Methyl-; 1-Methylazacyclopentan-2-one}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test, 12(b); CA PROP.65: Yes
68439-46-3	Alcohol ethoxylate (Alcohols, C9-11, Ethoxylated)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
NA	(Trade Secret)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
5989-27-5	d-Limonene	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
66455-14-9	Alcohols, C12-13, ethoxylated	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

16. OTHER INFORMATION

Revision Date:	09/11/2015
Preparer Name:	W.M. Barr EHS Dept (901)775-0100
Additional Information About This Product:	No data available.
Company Policy or Disclaimer:	The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

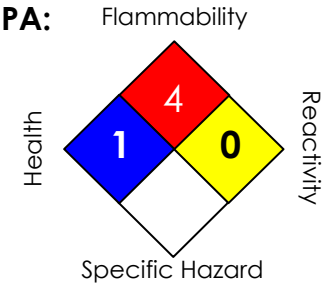
Material Safety Data Sheet

Graffiti Remover 16oz

Air Canada #: 99904A1502

Version 2.0 | Revision Date 03/25/2011 | Print Date 03/29/2011

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	4
PHYSICAL	0

0 = Insignificant, 1 =Slight,
2 =Moderate, 3 =High, 4 = Extreme

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Commercial Product Name	:	Graffiti Remover 16oz
Product code	:	08909902 - Air Canada #: 99904A1502
MSDS-Identcode	:	10005617
Product Use Description	:	Cleaning agent
Company	:	Würth Canada Limited 6330 Tomken Road Mississauga Ontario L5T 1N2 Canada
Telephone	:	+1 (905) 564 6225
Telefax	:	+1 (905) 564 3671
Responsible/issuing person	:	prodsafe.wurth@technidata.com
Emergency telephone number	:	In case of emergency please contact: CANUTEC (5:00 pm - 8:00 am): +1 (613) 996 6666 WÜRTH CANADA LIMITED (8:00 am - 5:00 pm): +1 (905) 564 6225

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Regulatory status	:	This product, material or substance is a WHMIS controlled product per Sections 33 - 66, Part IV of the CPR.
Signal Word	:	DANGER
Form	:	aerosol
Colour	:	cloudy, beige

Odour	:	solvent-like
Odour - Control parameters	:	no data available
Hazard Summary	:	Flammable aerosol May cause fire. Compressed gas Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C / 122 °F. May cause birth defects. May cause cancer. Irritant

Potential Health Effects

Eyes	:	May cause eye irritation.
Skin	:	May cause skin irritation.
Inhalation	:	Inhalation may cause central nervous system effects.
Chronic Exposure	:	Suspect reproductive hazard - contains material which may injure unborn child.
Target Organs	:	Eyes Skin Central nervous system Reproductive system

Carcinogenicity:

ACGIH	:	ethylbenzene (CAS-No.: 100-41-4)
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC	:	ethylbenzene (CAS-No.: 100-41-4)

OSHA : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight percent-Weight percent
acetone	67-64-1	>= 1 - <= 100
xylene	1330-20-7	>= 1 - <= 100
butane	106-97-8	>= 1 - <= 100
propane	74-98-6	>= 1 - <= 100
ethylbenzene	100-41-4	>= 1 - <= 100
butanone	78-93-3	>= 1 - <= 100

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider needs to protect himself. Move out of dangerous area. Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately.

Inhalation : If breathed in, move person into fresh air. Call a physician immediately. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Skin contact : Call a physician immediately. In case of contact, immediately flush skin with soap and plenty of water. Do NOT use solvents or thinners.

Eye contact : Protect unharmed eye. If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. If swallowed, DO NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIRE-FIGHTING MEASURES

Form	:	aerosol
Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Foam
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire. Hazardous decomposition products may be formed under fire conditions (see section 10). Exposure to decomposition products may be a hazard to health.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Refer to protective measures listed in sections 7 and 8. Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin and eyes.

Ensure adequate ventilation, especially in confined areas.
Immediately evacuate personnel to safe areas.
Avoid inhalation of vapour or mist.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Methods for cleaning up : Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.
Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE

Handling

Handling : For personal protection see section 8.
Limit the stocks at work place.
Use only in well-ventilated areas.
Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
Do not spray on a naked flame or any incandescent material.
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
Take precautionary measures against static discharges.
Use appropriate container to avoid environmental contamination.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.
Vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Keep away from heat and sources of ignition.
Do not smoke.
No sparking tools should be used.

Electrical equipment should be protected to the appropriate standard.

Dust explosion class : not applicable

Storage

Requirements for storage areas and containers : Store in original container.
BEWARE: Aerosol is pressurized. Keep away from heat.
Keep away from direct sunlight. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Please observe the storage instructions for aerosols!

Advice on common storage : Incompatible with bases.
Incompatible with oxidizing agents.
Do not store together with oxidizing and self-igniting products.
Keep away from food, drink and animal feedingstuffs.

Other data : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components	CAS-No.	List	Type:	Value	Update
acetone	67-64-1	CA AB OEL	TWA	500 ppm 1,200 mg/m3	2009-04-30
		CA AB OEL	STEL	750 ppm 1,800 mg/m3	2009-04-30
		CA BC OEL	TWA	250 ppm	2006-11-29
		CA BC OEL	STEL	500 ppm	2006-11-29
		CA ON OEL	TWAEV	500 ppm	2005-12-17
		CA ON OEL	STEV	750 ppm	2005-12-17
		CA QC OEL	TWAEV	500 ppm 1,190 mg/m3	2006-12-29
		CA QC OEL	STEV	1,000 ppm 2,380 mg/m3	2006-12-29
xylene	1330-20-7	CA ON OEL	TWAEV	100 ppm 435 mg/m3	2005-12-17
		CA ON OEL	STEV	150 ppm 650 mg/m3	2005-12-17

		CA AB OEL	TWA	100 ppm 434 mg/m3	2009-04-30
		CA AB OEL	STEL	150 ppm 651 mg/m3	2009-04-30
		CA QC OEL	TWAEV	100 ppm 434 mg/m3	2008-02-23
		CA QC OEL	STEV	150 ppm 651 mg/m3	2008-02-23
		CA BC OEL	TWA	100 ppm	2007-07-06
		CA BC OEL	STEL	150 ppm	2007-07-06
butane	106-97-8	CA AB OEL	TWA	1,000 ppm	2009-04-30
		CA BC OEL	TWA	600 ppm	2006-11-29
		CA BC OEL	STEL	750 ppm	2006-11-29
		CA QC OEL	TWAEV	800 ppm 1,900 mg/m3	2006-12-29
		CA ON OEL	TWAEV	800 ppm 1,900 mg/m3	2005-12-17
		CA ON OEL	TWA	800 ppm	2010-01-02
propane	74-98-6	CA AB OEL	TWA	1,000 ppm	2009-04-30
		CA BC OEL	TWA	1,000 ppm	2006-11-29
		CA ON OEL	TWAEV	1,000 ppm	2005-12-17
		CA QC OEL	TWAEV	1,000 ppm 1,800 mg/m3	2006-12-29
ethylbenzene	100-41-4	CA AB OEL	TWA	100 ppm 434 mg/m3	2007-01-01
		CA AB OEL	STEL	125 ppm 543 mg/m3	2007-01-01
		CA BC OEL	TWA	100 ppm	2006-11-29
		CA BC OEL	STEL	125 ppm	2006-11-29
		CA ON OEL	TWAEV	100 ppm 435 mg/m3	2005-12-17
		CA ON OEL	STEV	125 ppm 540 mg/m3	2005-12-17
		CA QC OEL	TWAEV	100 ppm 434 mg/m3	2006-12-29
		CA QC OEL	STEV	125 ppm 543 mg/m3	2006-12-29
butanone	78-93-3	CA AB OEL	TWA	200 ppm 590 mg/m3	2007-01-01
		CA AB OEL	STEL	300 ppm 885 mg/m3	2007-01-01
		CA BC OEL	TWA	50 ppm	2006-11-29
		CA BC OEL	STEL	100 ppm	2006-11-29
		CA ON OEL	TWAEV	200 ppm 590 mg/m3	2005-12-17
		CA ON OEL	STEV	300 ppm 885 mg/m3	2005-12-17
		CA QC OEL	TWAEV	50 ppm 150 mg/m3	2006-12-29
		CA QC OEL	STEV	100 ppm 300 mg/m3	2006-12-29

Engineering measures : Provide sufficient air exchange and/or exhaust in work rooms.

Eye protection : Tightly fitting safety goggles

Hand protection	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.
Skin and body protection	:	Flame retardant antistatic protective clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Product contains low-boiling liquids. Respiratory protective equipment must be air supplied respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. General industrial hygiene practice. Do not inhale aerosol. Avoid contact with skin, eyes and clothing. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Follow the skin protection plan. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	aerosol
Colour	:	cloudy, beige
Odour	:	solvent-like
pH	:	not applicable
Boiling point/boiling range	:	>37.77 °C(99.99 °F)
Density	:	0.86 - 0.88 g/cm3

Volatile organic compounds (VOC) content	:	49.02 %

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	Heat, flames and sparks.
Materials to avoid	:	Strong oxidizing agents Bases
Hazardous decomposition products	:	Carbon monoxide Carbon dioxide (CO2) Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
Hazardous reactions	:	Vapours may form explosive mixtures with air. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

SECTION 11. TOXICOLOGICAL INFORMATION

Carcinogenicity	:	No data is available on the product itself.
Reproductive toxicity	:	No data is available on the product itself.
Teratogenicity	:	No data is available on the product itself.

Component:

acetone	67-64-1	Acute oral toxicity: LD50 rat Dose: 5,800 mg/kg Acute dermal toxicity: LD50 rabbit Dose: 20,000 mg/kg Acute inhalation toxicity: LC50 rat Dose: 70 mg/lExposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin. Eye irritation: Classification: Irritating to eyes. Result: Moderate eye irritation
xylene	1330-20-7	Acute oral toxicity: LD50 rat Dose: 2,840 mg/kg Acute dermal toxicity: LD50 rabbit

		Dose: ca. 4,500 mg/kg Acute inhalation toxicity: LC50 rat Dose: 28 mg/lExposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation Teratogenicity: Damage to fetus cannot be excluded.
butane	106-97-8	Acute inhalation toxicity: LC50 rat Dose: 658 mg/lExposure time: 4 h
propane	74-98-6	Acute inhalation toxicity: LC50 rat Dose: 57000 ppm Exposure time: 15 min
ethylbenzene	100-41-4	Acute oral toxicity: LD50 rat Dose: 3,500 mg/kg Acute dermal toxicity: LD50 rabbit Dose: 15,500 mg/kg Acute inhalation toxicity: LC50 rat Dose: 18 mg/lExposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Eye irritation: Classification: Irritating to eyes. Result: Eye irritation
butanone	78-93-3	Acute oral toxicity: LD50 rat Dose: > 2,600 mg/kg Acute dermal toxicity: LD50 rabbit Dose: > 8,000 mg/kg Acute inhalation toxicity: LC50 rat Dose: 20 mg/lExposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation slight irritation Eye irritation: Classification: Irritating to eyes. Result: Irritating to eyes. Severe eye irritation

SECTION 12. ECOLOGICAL INFORMATION

Volatile organic compounds (VOC) content	:	49.02 %
Additional ecological information	:	The product should not be allowed to enter drains, water courses or the soil.

Component:

acetone	67-64-1	Toxicity to fish: LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 5,540 mg/l Exposure time: 96 h Acute and prolonged toxicity for aquatic invertebrates: EC50 Species: Daphnia magna (Water flea) Dose: 6,100 mg/l Exposure time: 48 h
xylene	1330-20-7	Toxicity to fish: LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 8.2 mg/l Exposure time: 96 h Acute and prolonged toxicity for aquatic invertebrates: EC50 Species: Daphnia magna (Water flea) Dose: 75.5 mg/l Exposure time: 24 h
ethylbenzene	100-41-4	Toxicity to fish: LC50 Species: Carassius auratus (goldfish) Dose: 94.44 mg/l Exposure time: 96 h Acute and prolonged toxicity for aquatic invertebrates: LC50 Species: Daphnia magna (Water flea) Dose: 77 mg/l Exposure time: 24 h Toxicity to algae: EC50 Species: Chlorella vulgaris (Fresh water algae) Dose: 63 mg/l Exposure time: 3 h

butanone	78-93-3	Toxicity to fish: LC50 Species: Pimephales promelas (fathead minnow) Dose: 3,220 mg/l Exposure time: 96 h Acute and prolonged toxicity for aquatic invertebrates: EC50 Species: Daphnia magna (Water flea) Dose: 5,091 mg/l Exposure time: 48 h

SECTION 13. DISPOSAL CONSIDERATIONS

Adequate disposal : In accordance with local and national regulations. This material and its container must be disposed of as hazardous waste.

SECTION 14. TRANSPORT INFORMATION

DOT 49 CFR

ID No	:	UN 1950
Proper shipping name	:	Aerosols
Class	:	2.1
Labels	:	2.1
Emergency Response Guidebook Number	:	126

TDGR

ID No	:	UN 1950
Proper shipping name	:	AEROSOLS
Class	:	2.1
Labels	:	2.1

ICAO/IATA-DGR

ID No	:	UN 1950
Proper shipping name	:	Aerosols, flammable
Class	:	2.1
ICAO-Labels	:	2.1
Packing instruction (cargo aircraft)	:	203
Packing instruction (passenger aircraft)	:	203

Packing instruction (passenger aircraft)	:	Y203
Environmentally hazardous	:	no

IMDG-Code

ID No	:	UN 1950
Description of the goods	:	AEROSOLS
Class	:	2.1
IMDG-Labels	:	2.1
EmS Number 1	:	F-D
EmS Number 2	:	S-U
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D2A Very Toxic Material Causing Other Toxic Effects
D2B Toxic Material Causing Other Toxic Effects
Teratogen
Carcinogen
Moderate skin irritant
Moderate eye irritant

B5 Flammable aerosol
Flammable aerosol

A Compressed Gas
Contents under pressure.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific

material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by : TechniData BCS GmbH
Birlenbacher Str. 19
D-57078 Siegen
Germany
Telephone: +49-(0)271-88072-0
Revision Date : 03/25/2011

Material Safety Data Sheet
The Dow Chemical Company

Product Name: GREAT STUFF(TM) Big Gap Filler Insulating Foam Sealant 16oz HC ES QP

Issue Date: 04/17/2008

Print Date: 02 Nov 2009

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

GREAT STUFF(TM) Big Gap Filler Insulating Foam Sealant 16oz HC ES QP

COMPANY IDENTIFICATION

The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

Customer Information Number: 800-258-2436

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400
Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Yellow
Physical State: Foam
Odor: Mild
Hazards of product:

DANGER! Flammable gas - May cause flash fire. May cause allergic skin reaction. May cause allergic respiratory reaction. May cause eye irritation. May cause skin irritation. May cause lung injury. Vapor reduces oxygen available for breathing. May cause anesthetic effects. May cause respiratory tract irritation. May react with water. Evacuate area. Keep upwind of spill. Stay out of low areas. Elevated temperatures can cause hazardous polymerization. Toxic fumes may be released in fire situations. Contents under pressure. Avoid temperatures above 105F (41C).

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause eye irritation. May cause slight temporary corneal injury.
Skin Contact: Prolonged contact may cause moderate skin irritation with local redness. Material may stick to skin causing irritation upon removal. May stain skin.
Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin Sensitization: Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.
Inhalation: In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.
Respiratory Sensitization: May cause allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.
Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.
Effects of Repeated Exposure: Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols. Contains component(s) which have been reported to cause effects on the following organs in animals: Kidney. Liver. Bone marrow. Contains a component which is reported to be a weak organophosphate-type cholinesterase inhibitor. Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions.
Cancer Information: Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.
Birth Defects/Developmental Effects: In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

3. Composition Information

Component	CAS #	Amount
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly	57029-46-6	>= 15.0 - <= 40.0 %
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 15.0 - <= 40.0 %
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %
Tris(1-chloro-2-propyl) phosphate	13674-84-5	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 5.0 - <= 10.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %

Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. First-aid measures

Eye Contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.
Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.
Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Notes to Physician: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Although cholinesterase depression has been reported with this material, it is not of benefit in determining exposure and need not be considered in the treatment of persons exposed to the material. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Medical Conditions Aggravated by Exposure: Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.
Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.
Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Absorb with materials such as: Sawdust. Dirt. Vermiculite. Sand. Clay. Cob grit. Milsorb®. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums. Plastic drums. Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Contact Dow for clean-up assistance. See Section 13, Disposal Considerations, for additional information.
Personal Precautions: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Evacuate area. Refer to Section 7, Handling, for additional precautionary measures. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Only trained and properly protected personnel must be involved in clean-up operations. Confined space entry procedures must be followed before entering the area. If available, use foam to suppress vapors. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spills, warn public of downwind explosion hazard. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information.
Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling

General Handling: Keep away from heat, sparks and flame. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid breathing vapor. Use only with adequate ventilation. Keep container closed. No smoking, open flames or sources of ignition in handling and storage area. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Contents under pressure. Do not puncture or incinerate container. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. Do not enter confined spaces unless adequately ventilated. Keep out of reach of children. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage

Store in a dry place. Protect from atmospheric moisture. Minimize sources of ignition, such as static build-up, heat, spark or flame. Do not store product contaminated with water to prevent potential hazardous reaction. See Section 10 for more specific information.

Storage Period: 12 Months
Storage temperature: 20 - 30 °C

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	OSHA Table Z-1	Ceiling	0.2 mg/m3 0.02 ppm
Methyl ether	WEEL	TWA	1,880 mg/m3 1,000 ppm

Isobutane	ACGIH	TWA	1,000 ppm
Propane	OSHA Table Z-1	PEL	1,800 mg/m3 1,000 ppm
	ACGIH	TWA	1,000 ppm

Personal Protection

Eye/Face Protection: Use safety glasses. Eye wash fountain should be located in immediate work area.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

9. Physical and Chemical Properties

Physical State	Foam
Color	Yellow
Odor	Mild
Flash Point - Closed Cup	-104 °C (-155 °F) *Estimated*
Flammable Limits In Air	**Lower**: No test data available
	Upper: No test data available
Autoignition Temperature	No test data available
Vapor Pressure	1,151 kPa @ 55 °C *Estimated*
Boiling Point (760 mmHg)	Not applicable.
Vapor Density (air = 1)	No test data available
Specific Gravity (H2O = 1)	1.06 *Estimated*
Freezing Point	No test data available
Melting Point	No test data available

Solubility in Water (by weight)	Insoluble
pH	*Not applicable*
Kinematic Viscosity	Not applicable

10. Stability and Reactivity

Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.
Conditions to Avoid: Avoid temperatures above 49 °C (120 °F). Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous Polymerization

Can occur. Elevated temperatures can cause hazardous polymerization.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. Toxicological Information

Acute Toxicity

Ingestion

Single dose oral LD50 has not been determined. Estimated LD50, Rat > 2,000 mg/kg

Skin Absorption

The LD50 has not been determined.

Sensitization

Skin

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Respiratory

May cause allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Repeated Dose Toxicity

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols. Contains component(s) which have been reported to cause effects on the following organs in animals: Kidney. Liver. Bone marrow. Contains a component which is reported to be a weak organophosphate-type cholinesterase inhibitor. Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions.

Chronic Toxicity and Carcinogenicity

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Developmental Toxicity

In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Genetic Toxicology

In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

12. Ecological Information

ENVIRONMENTAL FATE

Data for Component: **Diphenylmethane Diisocyanate, isomers and homologues**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **4,4' -Methylenediphenyl diisocyanate**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is

expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Paraffin waxes and Hydrocarbon waxes, chlorinated**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7). Expected to be relatively immobile in soil (Koc > 5000). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Henry's Law Constant (H): < 1.0E-07 atm*m3/mole; 25 °C Estimated
Partition coefficient, n-octanol/water (log Pow): 7.4 Estimated
Partition coefficient, soil organic carbon/water (Koc): > 5,000 Estimated

Persistence and Degradability

Expected to degrade only slowly in the environment.
Theoretical Oxygen Demand: 2.89 mg/mg

Data for Component: **Tris(1-chloro-2-propyl) phosphate**

Movement & Partitioning

Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is low (Koc between 500 and 2000).
Henry's Law Constant (H): < 1.35E-5 atm*m3/mole; 25 °C Estimated
Partition coefficient, n-octanol/water (log Pow): 2.59 Measured
Partition coefficient, soil organic carbon/water (Koc): 1,300 Estimated
Bioconcentration Factor (BCF): 0.8 - 4.6; common carp (Cyprinus carpio); Measured

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
4.47E-11 cm3/s	0.24 d	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
14 %	28 d	OECD 301E Test

Theoretical Oxygen Demand: 1.17 mg/mg

Data for Component: **Isobutane**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 1.19E+00 atm*m3/mole; 25 °C Measured
Partition coefficient, n-octanol/water (log Pow): 2.76 Measured
Partition coefficient, soil organic carbon/water (Koc): 35 Estimated
Distribution in Environment: Mackay Level 1 Fugacity Model:

Air	Water.	Biota	Soil	Sediment
100 %	0 %	0 %	0 %	0 %

Persistence and Degradability

Biodegradation may occur under aerobic conditions (in the presence of oxygen).
Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
2.44E-12 cm3/s	4.4 d	Estimated

Theoretical Oxygen Demand: 3.58 mg/mg

Data for Component: **Propane**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 7.07E-01 atm*m3/mole; 25 °C Measured
Partition coefficient, n-octanol/water (log Pow): 2.36 Measured
Partition coefficient, soil organic carbon/water (Koc): 24 - 460 Estimated
Distribution in Environment: Mackay Level 1 Fugacity Model:

Air	Water.	Biota	Soil	Sediment
100 %	0 %	0 %	0 %	0 %

Persistence and Degradability

No relevant information found.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.27E-12 cm3/s	8.4 d	Estimated

Theoretical Oxygen Demand: 3.64 mg/mg

Data for Component: **Methyl ether**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 9.78E-4 atm*m3/mole; 25 °C Measured
Partition coefficient, n-octanol/water (log Pow): 0.10 Measured
Partition coefficient, soil organic carbon/water (Koc): 1.29 - 14 Estimated

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.66E-12 cm3/s	6.4 d	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
5 %	28 d	OECD 301A Test

Theoretical Oxygen Demand: 2.08 mg/mg

ECOTOXICITY

Data for Component: **Diphenylmethane Diisocyanate, isomers and homologues**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **4,4' -Methylenediphenyl diisocyanate**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **Paraffin waxes and Hydrocarbon waxes, chlorinated**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity
LC50, rainbow trout (Oncorhynchus mykiss), static, 96 h: > 100 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, immobilization: 0.037 mg/l

Data for Component: **Tris(1-chloro-2-propyl) phosphate**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, bluegill (Lepomis macrochirus), 96 h: 84 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 63 mg/l
Aquatic Plant Toxicity
EC50, green alga Selenastrum capricornutum, biomass growth inhibition, 96 h: 47 mg/l
EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: 45 mg/l
Toxicity to Micro-organisms
EC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: 784 mg/l

Data for Component: **Isobutane**

No relevant information found.

Data for Component: **Propane**

No relevant information found.

Data for Component: **Methyl ether**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, guppy (Poecilia reticulata), 96 h: > 4,000 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna, 48 h: > 4,000 mg/l

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

14. Transport Information

DOT Non-Bulk
NOT REGULATED

CONSUMER COMMODITY RECLASSIFIED AS ORM-D MATERIAL

DOT Bulk
NOT REGULATED

IMDG
Proper Shipping Name: AEROSOLS
Hazard Class: 2.1 **ID Number:** UN1950
EMS Number: F-D,S-U

LIMITED QUANTITY

ICAO/IATA
Proper Shipping Name: AEROSOLS
Hazard Class: 2.1 **ID Number:** UN1950**Cargo Packing Instruction:** 203
Passenger Packing Instruction: 203

LIMITED QUANTITY

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	Yes

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Component	CAS #	Amount
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 5.0 - <= 10.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 5.0 - <= 10.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30
CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Recommended Uses and Restrictions
Polyurethane foam.

Revision
Identification Number: 67482 / 0000 / Issue Date 04/17/2008 / Version: 2.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

MATERIAL SAFETY DATA SHEET

PROLAB TECHNOLUB INC.
4531 rue Industrielle, Thetford Mines, (Québec), G6H 2J1, Canada
Tél. (418) 423-2777 Fax : (418) 423-7619

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	GS-1000
Manufacturer:	PROLAB TECHNOLUB INC.
Emergency phone:	CANUTEC (613) 996-6666
Material uses:	Synthetic lubricating grease
WHMIS classification:	Not controlled by WHMIS

SECTION 02: COMPOSITION ET INFORMATION ON INGREDIENTS

CONTROLLED	% BY WEIGHT	CAS #	LD/50, ROUTE, SPECY	LC/50, ROUTE,SPECY
NONE				

SECTION 03: HAZARD IDENTIFICATION

Potential acute health effects:	May cause eye irritation.
Potential chronic health effects:	Carcinogenic effects: None known Mutagenic effects: None known Teratogenic effects: None known Reproduction system effects: None known

SECTION 04: FIRST AID MEASURES

Eye contact:	Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain immediate medical attention.
Skin contact:	Wash thoroughly with warmed water using mild soap. If hot material contacts skin, immediately cool before attempting removal. If irritations persists or if contact have been prolonged, obtain medical attention. If high pressure forces the product under skin get immediate medical attention.
Inhalation:	Remove to fresh air. Aspiration may cause pulmonary edema or aspiration pneumonia. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention if symptoms persist.
Ingestion:	Obtain medical attention. Never give anything to an unconscious victim. Not expected to be toxic by ingestion.

SECTION 05: FIRE AND EXPLOSION DATA

Auto-ignition temperature:	Not available
Flash point:	> 175° C
Flammability limit: Lower	Not available
Flammability limit: Upper	Not available
Firefighting media:	C02, dry chemical, dry sand, foam
Firefighting instruction:	Use self-contained breathing apparatus, avoid breathing fumes, vapors or mists. Water spray is an unsuitable extinguishing agent.
Products of combustion:	Carbon monoxide, carbon dioxide, oxides of sulphur, and oxides of calcium.
Fire hazards/explosion in presence of various substances:	None
Special remarks on fire/explosion hazards:	Avoid contact with fire and sparks.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Small spill:	Apply absorbent as sand or fuller earth and dispose as recommended
Large spill:	Dike or contain spill, apply absorbent. Put in container. Prevent from going into sewer and waterways. Notify proper authorities.

SECTION 07: HANDLING AND STORAGE

Storage:	Store in a cool dry place away from heat, sparks and strong oxidizers

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits:	Not available
Engineering controls:	Local exhaust: Normally not needed Mechanical exhaust: Normally not needed
Personal protection:	Eye protection: Safety glasses Protective gloves: Oil resistant Respiratory protection: Not applicable
Work/hygienic practices:	Wash with soap and water after contact. Avoid ingestion. Practice good personal hygiene.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Grade:	2
Physical state & appearance:	Tan grease
Boiling point:	Not applicable
Freezing point:	Not available
Density:	0.98
Solubility in water:	Insoluble
Odor threshold:	Not available
Vapor pressure:	Not available
Vapor density:	Not available
Evaporation rate:	Not available
pH:	Not applicable

SECTION 10: STABILITY AND REACTIVITY DATA

Stability:	Stable
Incompatibility:	strong oxidizers
Corrosivity:	Not corrosive

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of entry:	Skin and eye contact
Toxicity on animals:	Not available
Chronic effects on humans:	May be an eye or skin irritant . Low in toxicity.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:	Not available
B0D5 et COD:	Not available
Products of biodegradation:	Not available
Toxicity of the products of biodegradation:	Not available

Section 13: DISPOSAL CONSIDERATIONS

Waste disposal:	May not be land filled. Recover and/or incinerate where possible. Obey local, provincial and federal regulations.

SECTION 14: TRANSPORT INFORMATION

Regulatory appellation :	Not regulated
TDG classification :	Not regulated
UN Number :	Non applicable
Packing group :	Non applicable
Limited quantity index :	Non applicable

SECTION 15: OTHER REGULATORY INFORMATION AND PICTOGRAMS

Hazardous material information system (N.F.P.A.)	Minimal Slight Moderate Serious Severe	0 1 2 3 4	Health hazard Fire hazard Reactivity Personal protection	1 1 0 0
WHMIS pictograms: Not regulated				

SECTION 16: OTHER INFORMATION

LEGEND:	ND = No data available
REFERENCES:	Material Safety Data Sheet issued by Commission de la Santé et de la Sécurité du Travail du Québec. Material Safety Data Sheet issued by suppliers.
PREPARED BY:	R-D Department Tel: (418) 423-2777 Revised : February 2015

NOTICE TO READER

The information presented herein has been compiled from sources considered dependable and is accurate to the best of PROLAB TECHNOLUB INC.'s knowledge. PROLAB TECHNOLUB INC. Makes no warranty whatever express or implied of merchantability or fitness for the particular purpose. The information relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Customers are encouraged to conduct their own tests. Before using the product, read its label. PROLAB TECHNOLUB INC. assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.

SAFETY DATA SHEET

1. Identification

Product identifier	**Gunk Carburetor Parts Cleaner**	
Other means of identification		
SDS number	CC3K	
Part No.	CC3K	
Tariff code	3814.00.5090	
Recommended use	Parts Cleaner	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	RSC Chemical Solutions	
Address	600 Radiator Road Indian Trail, NC 28079 United States	
Telephone	Customer Service: Technical:	(704) 821-7643 (704) 684-1811
Website	www.rscbrands.com	
E-mail	sds@rscbrands.com	
Emergency phone number	Emergency Telephone: Emergency Contact:	(303) 623-5716 RMPDC (877) 740-5015

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Combustible liquid. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Keep away from flames and hot surfaces-No smoking. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information 19.74% of the mixture consists of component(s) of unknown acute oral toxicity. 22.52% of the mixture consists of component(s) of unknown acute dermal toxicity. 34.09% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

NOTE: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The container label may not include the OSHA label elements listed in this document. Always carefully review the entire SDS and the product label prior to use in the workplace.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-Butoxyethanol		111-76-2	20 - < 30
Petroleum naphtha		64742-94-5	10 - < 20
Tert-butylbenzene		98-06-6	1 - < 3
Triéthanolamine		102-71-6	1 - < 3
1,2,3-trimethylbenzene		526-73-8	< 1
1,2,4-Trimethylbenzene		95-63-6	< 1
1,4-diethylbenzene		105-05-5	< 1
DIETHANOLAMINE		111-42-2	< 1
NAPHTHALENE		91-20-3	< 1
Diethylbenzene		25340-17-4	< 0.3
Benzene, 1,3-diethyl-		141-93-5	< 0.2
Other components below reportable levels			50 - < 60

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Use water spray to reduce vapors or divert vapor cloud drift. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Keep away from open flames, hot surfaces and sources of ignition. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep out of the reach of children. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	PEL	240 mg/m3 50 ppm
NAPHTHALENE (CAS 91-20-3)	PEL	50 mg/m3 10 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Petroleum naphtha (CAS 64742-94-5)	PEL	400 mg/m3
		100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2,3-trimethylbenzene (CAS 526-73-8)	TWA	25 ppm	
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm	
2-Butoxyethanol (CAS 111-76-2)	TWA	20 ppm	
DIETHANOLAMINE (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
NAPHTHALENE (CAS 91-20-3)	TWA	10 ppm	
Petroleum naphtha (CAS 64742-94-5)	TWA	200 mg/m3	Non-aerosol.
Triéthanolamine (CAS 102-71-6)	TWA	5 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,2,3-trimethylbenzene (CAS 526-73-8)	TWA	125 mg/m3
		25 ppm
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3
		25 ppm
2-Butoxyethanol (CAS 111-76-2)	TWA	24 mg/m3
		5 ppm
DIETHANOLAMINE (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm
NAPHTHALENE (CAS 91-20-3)	STEL	75 mg/m3
		15 ppm
	TWA	50 mg/m3
		10 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1,4-diethylbenzene (CAS 105-05-5)	TWA	5 ppm
Benzene, 1,3-diethyl- (CAS 141-93-5)	TWA	5 ppm
Diethylbenzene (CAS 25340-17-4)	TWA	5 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-Butoxyethanol (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.
DIETHANOLAMINE (CAS 111-42-2)	Can be absorbed through the skin.
NAPHTHALENE (CAS 91-20-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Butoxyethanol (CAS 111-76-2)	Skin designation applies.

US - Tennessee OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

DIETHANOLAMINE (CAS 111-42-2)	Can be absorbed through the skin.
NAPHTHALENE (CAS 91-20-3)	Can be absorbed through the skin.
Petroleum naphtha (CAS 64742-94-5)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Not available.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece. Chemical respirator with organic vapor cartridge and full facepiece if threshold limits are exceeded.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Clear. Liquid

Physical state Liquid.

Form Liquid.

Color Pale yellow

Odor Aromatic.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -102.64 °F (-74.8 °C) estimated

Initial boiling point and boiling range 335.12 °F (168.4 °C) estimated

Flash point 143.0 °F (61.7 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 0.7 % estimated

Flammability limit - upper (%) 5 % estimated

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 0.36 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	460.4 °F (238 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Density	7.87 lbs/gal estimated
Explosive properties	Not explosive.
Flammability class	Combustible IIIA estimated
Oxidizing properties	Not oxidizing.
Percent volatile	43 % estimated
Refractive index	1.445
Specific gravity	0.94 estimated
VOC	41 % w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Harmful if inhaled.

Components	Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg

Components	Species	Test Results
2-Butoxyethanol (CAS 111-76-2)		
Acute		
Oral		
LD50	Rat	560 mg/kg
DIETHANOLAMINE (CAS 111-42-2)		
Acute		
Oral		
LD50	Rat	710 mg/kg
NAPHTHALENE (CAS 91-20-3)		
Acute		
Dermal		
LD50	Rabbit	> 2 g/kg
Oral		
LD50	Rat	490 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Butoxyethanol (CAS 111-76-2)	3 Not classifiable as to carcinogenicity to humans.
DIETHANOLAMINE (CAS 111-42-2)	2B Possibly carcinogenic to humans.
NAPHTHALENE (CAS 91-20-3)	2B Possibly carcinogenic to humans.
Triéthanolamine (CAS 102-71-6)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

NAPHTHALENE (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation. May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects May cause damage to organs through prolonged or repeated exposure. May be harmful if absorbed through skin. Prolonged inhalation may be harmful.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Prolonged exposure may cause chronic effects.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
2-Butoxyethanol (CAS 111-76-2)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours
Benzene, 1,3-diethyl- (CAS 141-93-5)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	4.05 - 4.25 mg/l, 96 hours
DIETHANOLAMINE (CAS 111-42-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/l, 96 hours
NAPHTHALENE (CAS 91-20-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	1.11 - 1.68 mg/l, 96 hours
Petroleum naphtha (CAS 64742-94-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 5.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours
Triéthanolamine (CAS 102-71-6)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10610 - 13010 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

1,4-diethylbenzene	4.45
2-Butoxyethanol	0.83
Benzene, 1,3-diethyl-	4.44
DIETHANOLAMINE	-1.43
NAPHTHALENE	3.3
Tert-butylbenzene	4.11
Triéthanolamine	-1

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	Not available.
UN proper shipping name	Consumer commodity
Transport hazard class(es)	
Class	ORM-D
Subsidiary risk	-
Label(s)	None
Packing group	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	156, 306
Packaging non bulk	156, 306
Packaging bulk	None

IATA

UN number	ID8000
UN proper shipping name	Consumer commodity
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	No.
ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1223
UN proper shipping name	KEROSENE SOLUTION (Petroleum naphtha)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

IATA

IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Butoxyethanol (CAS 111-76-2)	Listed.
DIETHANOLAMINE (CAS 111-42-2)	Listed.
NAPHTHALENE (CAS 91-20-3)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2,4-Trimethylbenzene	95-63-6	< 1
2-Butoxyethanol	111-76-2	20 - < 30
DIETHANOLAMINE	111-42-2	< 1
NAPHTHALENE	91-20-3	< 1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

DIETHANOLAMINE (CAS 111-42-2)
NAPHTHALENE (CAS 91-20-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

DIETHANOLAMINE (CAS 111-42-2)	Listed: June 22, 2012
NAPHTHALENE (CAS 91-20-3)	Listed: April 19, 2002

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2,4-Trimethylbenzene (CAS 95-63-6)
2-Butoxyethanol (CAS 111-76-2)
DIETHANOLAMINE (CAS 111-42-2)
NAPHTHALENE (CAS 91-20-3)
Tert-butylbenzene (CAS 98-06-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-01-2015

Revision date 10-04-2017

Version # 03

HMIS® ratings Health: 3*
Flammability: 2
Physical hazard: 0

NFPA ratings Health: 3
Flammability: 2
Instability: 0

NFPA ratings

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

MATERIAL SAFETY DATA SHEET

H_2Blu – Diesel Exhaust Fluid

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: H_2Blu
SYNONYMS: Diesel Exhaust Fluid
PRODUCT CODES:

MANUFACTURER:
ADDRESS:

EMERGENCY PHONE:

CHEMICAL NAME: Urea, Aqueous Solution
CHEMICAL FAMILY: Amide/Organic Salt Solution
CHEMICAL FORMULA: $(NH_2)_2CO$

PRODUCT USE: Used for NOx reduction in diesel engine exhaust systems.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:

Component	CAS NO.	% WT
Urea	57-13-6	32-33 %
Water	7732-18-5	67-68%
Free Ammonia	7664-41-7	0.1-0.3%
Biuret	108-19-0	0.1-0.3%

SECTION 3: HAZARDS IDENTIFICATION

OSHA/HCS Status: This material is considered an eye and skin irritant under the OSHA Hazard Communication Standard (29 CFR 1910.1200). This MSDS contains valuable information critical to the safe handling and proper use of the product and should be retained and available for employees and other uses of this product.

EMERGENCY OVERVIEW: Clear colourless liquid with slight ammonia odour. May be harmful if swallowed. May be mildly irritating to eyes and skin.

When heated, urea releases ammonia, which when heated to decomposition may emit toxic fumes of nitrogen oxides, ammonia and cyanic acid.

POTENTIAL ACUTE HEALTH EFFECTS

EYES: May cause temporary irritation, including stinging, watering and redness.
SKIN: May cause mild skin irritation including redness and burning. No harmful effects from skin absorption reported.
INGESTION: May be harmful if swallowed. May cause irritation of mouth, throat and stomach.
INHALATION: This product may be harmful by inhalation. Under normal conditions of use, harmful effects are not expected.

CHRONIC HEALTH HAZARDS: None known.

MEDICAL CONDITIONS AGGRAVATED BY OVER-EXPOSURE: Repeated or prolonged exposure is not known to aggravate medical conditions.

SECTION 4: FIRST AID MEASURES

EYES: Flush eyes with clean water. If irritation persists, seek medical attention.
SKIN: Remove contaminated clothing and clean area with mild soap and water. If irritation persists, seek medical attention. Launder clothing before reuse.
INGESTION: First aid is not normally required. See medical attention if symptoms arise.
INHALATION: Immediately remove person to fresh air. If breathing has stopped, give artificial respiration and seek medical attention.
NOTES TO PHYSICIAN: Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY: Non flammable.

EXTINGUISHING MEDIA: Use media suitable to the surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Stop spill/release if it can be done with minimal risk.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None other than what is listed in this section.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, nitrogen oxides, ammonia, biuret, cyanuric acid and other irritating fumes and smoke.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Restrict access to area until completion of clean-up. Wear suitable protective equipment as outlined in Section 8.

Environment Precautions: Ensure that spill product does not enter drains, sewers, waterways or confined spaces.

Spill Response/Cleanup: Ventilate area of release. Stop spill or leak at source if safely possible. Contain and absorbed spilled material with inert, non-combustible absorbent material, such as sand, clay or soil. Shovel into suitable containers for disposal. See Section 13 for Disposal.

SECTION 7: HANDLING AND STORAGE

HANDLING: Use in areas that are well ventilated. Avoid contact with eyes, skin and clothing. For prolonged use of product refer to PPE section of MSDS. Wash with soap and water after handling. Practice good personal hygiene practices after use. Keep product from extreme heat and out of prolonged direct sunlight. See Storage and Incompatible material section below. Keep containers tightly closed when not in use. Keep out of the reach of children. Protect containers against physical damage.

STORAGE: Store in cool, dry, well ventilated area, out of direct sunlight. Keep away from incompatibilities. Recommended storage between 0 - 30 $^{\circ}$C. If stored as per MSDS, product should have a one year storage life from the date of manufacturing.

INCOMPATIBLE MATERIALS: Strong oxidizing agents and strong acids.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:	ACGIH/TLV	ACGIH/STEL
Ammonia	25 ppm	35 ppm
Urea	not listed	not listed

ENGINEERING CONTROLS: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

RESPIRATORY PROTECTION: Respiratory protection is not usually required. If significant spray or mist occurs, wear a respiratory approved by CSA Z94.4-02 or OSHA - Respiratory Protection Standard 29 CFR 1910.134.

EYE PROTECTION: Approved eye protection to safeguard against potential eye contact, irritation or injury. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or

dusts. If splashing might occur, wear eye protection such as safety glasses with side shields. Depending on the condition(s) of use, a face shield may be necessary.

SKIN PROTECTION: None required under normal conditions for short term use. For prolonged skin exposure, gloves impervious to the material are recommended. See glove manufacturer for information on permeability.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

FLASH POINT:	N/A
APPEARANCE:	Colourless
ODOUR:	Slight Ammonia Odour
PHYSICAL STATE:	Liquid
pH:	7.5 - 9.5
BOILING POINT:	100 $^{\circ}$ C
FREEZING POINT:	-11 $^{\circ}$ C
VAPOR PRESSURE (mmHg):	N/A
VAPOR DENSITY (AIR = 1):	0.6 H_2O, >1
SPECIFIC GRAVITY (H2O = 1)	1.09 @ 25 $^{\circ}$ C
SOLUBILITY IN WATER:	100%
VISCOSITY:	1.4 mPa.s (centistokes) @ 25 $^{\circ}$ C

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under the recommended storage and handling conditions.

CONDITIONS TO AVOID (STABILITY): Prolonged direct sunlight. Temperatures over 30 $^{\circ}$C

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents such as chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen and permanganates. Contact can generate heat, fire, explosions and release toxic fumes. Incompatible with strong acids.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: If involved in a fire, oxides of carbon and nitrogen may be generated: exposure to heat may generate ammonia fumes.

HAZARDOUS POLYMERIZATION: Under normal conditions of storage and use, hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: There is no available data for the product itself, only for the ingredients.

Carcinogenic status: No components are listed as carcinogens by ACGIH or IARC.
Reproductive effects: None known.
Teratogenicity: None known.
Mutagenicity: None known.
Epidemiology: None known.
Sensitization to material: Not expected to be a skin or respiratory sensitizer.
Synergistic materials: None known
Irritancy: May be mildly irritating to eyes and skin.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Ecotoxicity: No data is available on the product itself. The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
Mobility: No information available.
Persistence: No information available.
Bioaccumulation potential: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any byproducts should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

TDG: Not Regulated under Transportation of Dangerous Goods
DOT: Not Regulated

SECTION 15: REGULATORY INFORMATION

WHMIS Information: Class D, Division 2, Subdivision B - Toxic Material Causing Other Toxic Effects for Skin and Eye Irritation

Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Domestic Substance List (DSL) – All ingredients appear on the Domestic Substances List (DSL).

NPRI – CAS 7664-41-7 (NH_3) is found in National Pollutant Release Inventory (NPRI) Substance Lists (1A)

USA: Classification according to OSHA Hazard Communication Standard (29 CFR 1910.1200): This material is considered to be an eye and skin irritant under the OSHA Hazard Communication Standard.

TSCA: Urea is listed on the TSCA chemical substance inventory

SECTION 16: OTHER INFORMATION

PREPARATION INFORMATION:

DISCLAIMER: The information in this MSDS was obtained from sources, which we believe are reliable. All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

Date of issue: August 14, 2015.
Date of previous issue: JSeptember 19, 2012
Version: 3

SAFETY DATA SHEET

Issuing Date 18-Feb-2016 **Revision Date** 18-Feb-2016 **Revision Number** 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Hagerty Chandelier Cleaner**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Glass Cleaner - Non-Aerosol

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name W. J. Hagerty & Sons, Ltd., Inc.

Supplier Address 3801 West Linden Ave
South Bend
Indiana
46619
US

Supplier Phone Number Phone:574.288.4991
Fax:574.288.4994

Supplier Email babu.tree@hagertyusa.com

Emergency telephone number

Company Emergency Phone Number 574.288.4991

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 3

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Warning**

Hazard Statements
Causes serious eye irritation
May cause drowsiness or dizziness
Flammable liquid and vapor

Appearance Clear **Physical state** Liquid **Odor** Alcohol

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool
Wear eye/face protection

Precautionary Statements - Response

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
2E-06 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical name	CAS No	Weight-%	Trade Secret
Isopropyl alcohol	67-63-0	10 - 30	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Uniform Fire Code Irritant: Liquid

Explosion Data
Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Yes.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. See section 8 for more information. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other Information Refer to protective measures listed in Sections 7 and 8. Ventilate the area.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

Incompatible Products Strong oxidizing agents. Acids. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m^3 (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m^3 (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m^3	IDLH: 2000 ppm 10% LEL TWA: 980 mg/m^3 TWA: 400 ppm STEL: 500 ppm STEL: 1225 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves. Antistatic boots.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Liquid		
Appearance	Clear	**Odor**	Alcohol
Color	No information available	**Odor Threshold**	No information available

Property	Values	Remarks Method
pH	9.3	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	29 C / 85 F	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	

Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	0.96	None known
Water Solubility	Very soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.
Possibility of Hazardous Reactions
None under normal processing.
Conditions to avoid
Heat, flames and sparks.
Incompatible materials
Strong oxidizing agents. Acids. Chlorinated compounds.
Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Isopropyl alcohol 67-63-0	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m³ (Rat) 4 h

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Isopropyl alcohol 67-63-0		Group 3		X

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.

STOT - single exposure Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). If this product is a mixture, the classification is not based on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. Detailed substance and/or ingredient information may be provided in other sections of this SDS. Target organs effects listed in this document may result from a single overexposure to this product.

STOT - repeated exposure No information available.

Chronic Toxicity No known effect based on information supplied.

Target Organ Effects Eyes.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
8,936.00 mg/kg
ATEmix (dermal)
19,396.00 mg/kg (ATE)
ATEmix (inhalation-dust/mist)
346.90 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Isopropyl alcohol 67-63-0	96h EC50: > 1000 mg/L (Desmodesmus subspicatus) 72h EC50: > 1000 mg/L (Desmodesmus subspicatus)	96h LC50: > 1400000 µg/L (Lepomis macrochirus) 96h LC50: = 11130 mg/L (Pimephales promelas) 96h LC50: = 9640 mg/L (Pimephales promelas)		48h EC50: = 13299 mg/L

Persistence and Degradability
No information available.

Bioaccumulation

Chemical name	Log Pow
Isopropyl alcohol 67-63-0	0.05

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes 561

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Isopropyl alcohol 67-63-0	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT NOT REGULATED
Proper Shipping Name NON REGULATED
Hazard Class N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated
Proper Shipping Name NON REGULATED
Hazard Class N/A

IMDG/IMO Not regulated
Hazard Class N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Isopropyl alcohol - 67-63-0	67-63-0	10 - 30	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65

1,4-Dioxane - 123-91-1	Carcinogen

U.S. State Right-to-Know Regulations

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Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Isopropyl alcohol 67-63-0	X	X	X	X	
1,4-Dioxane 123-91-1	X	X	X	X	X

International Regulations

Mexico

National occupational exposure limits

Component	Carcinogen Status	Exposure Limits
Isopropyl alcohol 67-63-0 (10 - 30)		Mexico: TWA 400 ppm Mexico: TWA 980 mg/m^3 Mexico: STEL 500 ppm Mexico: STEL 1225 mg/m^3

Mexico - Occupational Exposure Limits - Carcinogens

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

NFPA	**Health Hazards** 2	**Flammability** 3	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards** 2	**Flammability** 3	**Physical Hazard** 0	**Personal Protection** X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 18-Feb-2016

Revision Date 18-Feb-2016

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

SAFETY DATA SHEET

This Safety Data Sheet (SDS) is for welding consumables and related products and may be used to comply with OSHA's Hazard Communication standard, 29 CFR 1910.1200, and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499 and Canadian Workplace Hazardous Materials Information System (WHMIS) per Health Canada administrative policy. The OSHA standard must be consulted for specific requirements. This Safety Data Sheet complies with ISO 11014-1 and ANSI Z400.1. This document is translated in several languages and is available on our website at www.hobartbrothers.com, from your sales representative or by calling customer service at 1 (937) 332-4000.

SECTION 1 – IDENTIFICATION

Manufacturer/Supplier
Name: HOBART BROTHERS COMPANY
Address: 101 TRADE SQUARE EAST, TROY, OH 45373
Website: www.hobartbrothers.com

Telephone No: +1 (937) 332-4000
Emergency No: +1 (800) 424-9300

Product Type: HARDSURFACING ELECTRODES

Trade Name: FROGALLOY, HARDALLOY, SMOOTHARC, CHROME-MANG AND GP HARDSURFACING ELECTRODES

AWS Specification: None

Recommended Use: HARDSURFACING ELECTRODES
Restrictions on Use: Use only as indicated for welding operations

SECTION 2 – IDENTIFICATION OF HAZARDS

HAZARD CLASSIFICATION – The products described in Section 1 are not classified as hazardous according to applicable GHS hazard classification criteria as required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200).

LABEL ELEMENTS: **Hazard Symbol** – No symbol required
Hazard Statement – Not applicable
Signal Word – No signal word required
Precautionary Statement – Not Applicable

HAZARDS NOT OTHERWISE CLASSIFIED

WARNING! - Avoid breathing welding fumes and gases, they may be dangerous to your health. Always use adequate ventilation. Always use appropriate personal protective equipment.
PRIMARY ROUTES OF ENTRY: Respiratory System, Eyes and/or Skin.
ELECTRIC SHOCK: Arc welding and associated processes can kill. See Section 8.
ARC RAYS: The welding arc can injure eyes and burn skin.
FUMES AND GASES: Can be dangerous to your health.

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures and electrodes used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation, plus those from the base metal and coating, etc., of the materials shown in Section 3 of this Safety Data Sheet. Monitor for the component materials identified in the list in Section 3.

Fumes from the use of this product may contain complex oxides or compounds of the following elements and molecules: amorphous silica fume, calcium oxide, chromium, fluorspar or fluorides, manganese, nickel and silica. Other reasonably expected constituents of the fume would also include complex oxides of iron, titanium, silicon and molybdenum. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 and F1.3, available from the "American Welding Society", 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

IMPORTANT - This section covers the hazardous materials from which this product is manufactured. This data has been classified according to the criteria of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) as required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200). The fumes and gases produced during welding with normal use of this product are addressed in Section 8.

INGREDIENT	CAS NO.	EINECS[r]	% WEIGHT	GHS Classification(s)	GHS HAZARD STATEMENTS (See Section 16 for Complete Phrases)
ALUMINUM	7429-90-5	231-072-3	0-3	**Powder (pyrophoric):** **- Pyr. Sol. 1[(1)]** **- Water-react. 2[(2)]** **Powder (Stabilized):** **- Flam. Sol. 1[(3)]** **- Water-react. 2[(2)]**	**H250** **H261** **H228** **H261**
CALCIUM CARBONATE	1317-65-3	215-279-6	0-10	**NONE**	
CHROMIUM (metal)	7440-47-3	231-157-5	3-35	**NONE**	

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INGREDIENT	CAS NO.	EINECS[r]	% WEIGHT	GHS Classification(s)	GHS HAZARD STATEMENTS (See Section 16 for Complete Phrases)
FLUORSPAR	7789-75-5	232-188-7	0-10	**NONE**	
IRON	7439-89-6	231-096-4	40-80	**NONE**	
MAGNESIUM CARBONATE	546-93-0	208-915-9	0-5	**NONE**	
MANGANESE	7439-96-5	231-105-1	0-15	**- Acute Tox. 4 (Inhalation)[4]** **- Acute Tox. 4 (Oral) [4]** **- STOT RE 1[5]**	**H332** **H302** **H372**
MOLYBDENUM	7439-98-7	231-107-2	0-6	**- STOT RE 2[5]** **- Eye Irrit. 2[6]** **- STOT SE 3[7]**	**H373** **H319** **H335**
NICKEL	7440-02-0	231-111-4	0-10	**Powder/Element:** **- Carc. 2[8]** **- Skin Sens. 1[9]** **- STOT RE 1[5]** **- Aquatic Chronic 3**	 **H351** **H317** **H372** **H412**
NIOBIUM	7440-03-1	231-113-5	0-4	**NONE**	
POTASSIUM SILICATE	1312-76-1	215-199-1	0-2	**NONE**	
SILICA	14808-60-7	238-878-4	1-10	**- STOT RE 2[5]** **- Carc. 2[8]** **- Acute Tox. 4 (Inhalation)[4]**	**H373** **H351** **H332**
(Amorphous Silica Fume)	69012-64-2	273-761-1	---	**NONE**	
SILICON	7440-21-3	231-130-8	0-8	**NONE**	
SODIUM SILICATE	1344-09-8	215-687-4	0-2	**NONE**	
TITANIUM	7440-32-6	231-142-3	0-5	**NONE**	
TITANIUM DIOXIDE	13463-67-7	236-675-5	0-17	**- Carc. 2[8]**	**H351**
TUNGSTEN	7440-33-7	231-143-9	0-1	**NONE**	
HEXAVALENT CHROMIUM [CHROMIUM (VI) TRIOXIDE] (Fume constituent)	1333-82-0	215-607-8	Varies	**- Ox. Sol. 1[10]** **- Carc. 1A[8]** **- Muta. 1B[11]** **- Repr. Tox 2[12]** **- Acute Tox. 2 (Inhalation)[4]** **- Acute Tox. 3 (Skin & Oral)[4]** **- STOT RE 1[5]** **- Skin Corr. 1A[13]** **- Skin Sens. 1[9]** **- Resp. Sens. 1[14]** **- Aquatic Acute 1** **- Aquatic Chronic 1**	**H271** **H350** **H340** **H361f** **H330** **H311, H301** **H372** **H314** **H317** **H334, H317** **H400** **H410**

--- Dashes indicate the ingredient is not present within the group of products **r** – European Inventory of Existing Commercial Chemical Substances Number **(1)** Pyrophoric solid (Cat. 1) **(2)** Substance or mixture which in contact with water emits flammable gases (Cat. 1, 2 and 3) **(3)** Flammable solid (Cat. 1 and 2) **(4)** Acute toxicity (Cat. 1, 2, 3 and 4) **(5)** Specific target organ toxicity (STOT) – repeated exposure (Cat. 1 and 2) **(6)** Serious eye damage/eye irritation (Cat. 1 and 2) **(7)** Specific target organ toxicity (STOT) – single exposure ((Cat. 1, 2) and Cat. 3 for narcotic effects and respiratory tract irritation, only) **(8)** Carcinogenicity (Cat. 1A, 1B and 2) **(9)** Skin sensitization (Cat. 1, Sub-cat. 1A and 1B) **(10)** Oxidizing solid (Cat. 1, 2 and 3) **(11)** Germ cell mutagenicity (Cat. 1A, 1B and 2) **(12)** Reproductive toxicity (Cat. 1A, 1B and 2) **(13)** Skin corrosion/irritation (Cat. 1, 1A, 1B, 1C and 2) **(14)** Respiratory sensitization (Cat. 1, Sub-cat. 1A and 1B)

SECTION 4 – FIRST AID MEASURES

INGESTION: Not an expected route of exposure. Do not eat, drink, or smoke while welding; wash hands thoroughly before performing these activities. If symptoms develop, seek medical attention at once.
INHALATION during welding: If breathing is difficult, provide fresh air and contact physician. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.
SKIN CONTACT during welding: Remove contaminated clothing and wash the skin thoroughly with soap and water. If symptoms develop, seek medical attention at once.
EYE CONTACT during welding: Dust or fume from this product should be flushed from the eyes with copious amounts of clean, tepid water until victim is transported to an emergency medical facility. Do not allow victim to rub or keep eyes tightly closed. Obtain medical assistance at once.
Arc rays can injure eyes. If exposed to arc rays, move victim to dark room, remove contact lenses as necessary for treatment, cover eyes with a padded dressing and rest. Obtain medical assistance if symptoms persist.

Section 11 of this SDS covers the acute effects of overexposure to the various ingredients within the welding consumable. Section 8 of this SDS lists the exposure limits and covers methods for protecting yourself and your co-workers.

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SECTION 5 – FIRE-FIGHTING MEASURES

Fire Hazards: Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded.

Welding arcs and sparks can ignite combustibles and flammable products. If there are flammable materials, including fuel or hydraulic lines, in the work area and the worker cannot move the work or the flammable material, a fire-resistant shield such as a piece of sheet metal or fire resistant blanket should be placed over the flammable material. If welding work is conducted within 35 feet or so of flammable materials, station a responsible person in the work zone to act as fire watcher to observe where sparks are flying and to grab an extinguisher or sound the alarm if needed.
Unused welding consumables may remain hot for a period of time after completion of a welding process. See American National Standard Institute (ANSI) Z49.1 for further general safety information on the use and handling of welding consumables and associated procedures.
Suitable Extinguishing Media: This product is essentially nonflammable until welded; therefore, use a suitable extinguishing agent for a surrounding fire.
Unsuitable Extinguishing Media: None known.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

In the case of a release of solid welding consumable products, solid objects can be picked up and placed into a disposal container. If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Refer to recommendations in Section 8. Wear proper personal protective equipment while handling. Do not discard as general trash.

SECTION 7 - HANDLING AND STORAGE

HANDLING: No specific requirements in the form supplied. Handle with care to avoid cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and product labels.
STORAGE: Keep separate from acids and strong bases to prevent possible chemical reactions.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Read and understand the instructions and the labels on the packaging. Welding fumes do not have a specific OSHA PEL (Permissible Exposure Limit) or ACGIH TLV (Threshold Limit Value). The OSHA PEL for Particulates – Not Otherwise Regulated (PNOR) is 5 mg/m^3 – Respirable Fraction, 15 mg/m^3 – Total Dust. The ACGIH TLV for Particles – Not Otherwise Specified (PNOS) is 3 mg/m^3 – Respirable Particles, 10 mg/m^3 – Inhalable Particles. The individual complex compounds within the fume may have a lower OSHA PEL or ACGIH TLV than the PNOR and ACGIH PNOS. An Industrial Hygienist, the OSHA PELs for Air Contaminants (29 CFR 1910.1000), and the ACGIH TLVs should be consulted to determine the specific fume constituents present and their respective exposure limits. All exposure limits are in milligrams per cubic meter (mg/m^3).

INGREDIENT	CAS	EINECS	OSHA PEL	ACGIH TLV
ALUMINUM###	7429-90-5	231-072-3	5 R*, 15 (Dust)	1 R* {A4} 5 (Welding fumes, as Al)
CALCIUM CARBONATE	1317-65-3	215-279-6	5 R*, 5 (as CaO)	3 R*, 2 (as CaO)
CHROMIUM#	7440-47-3	231-157-5	1 (Metal) 0.5 (Cr II & Cr III Cpnds) 0.005 (Cr VI Cpnds (Calif. OSHA PEL)	0.5 (Metal) {A4} 0.5 (Cr III Cpnds) {A4} 0.05 (Cr VI Sol Cpnds) {A1} 0.01 (Cr VI Insol Cpnds) {A1}
COLUMBIUM+	7440-03-1	231-113-5	5 R*	3 R*
FLUORSPAR	7789-75-5	232-188-7	2.5 (as F)	2.5 (as F) {A4}
IRON+	7439-89-6	231-096-4	5 R*	5 R* (Fe_2O_3) {A4}
IRON OXIDE	1309-37-1	215-168-2	10 (Oxide Fume)	5 R* (Fe_2O_3) {A4}
MAGNESIUM CARBONATE+	546-93-0	208-915-9	5 R*	3 R*
MANGANESE#	7439-96-5	231-105-1	5 CL ** (Fume) 1, 3 STEL*** ■	0.1 I* {A4} ♦ 0.02 R* ♦♦
MOLYBDENUM	7439-98-7	231-107-2	5 R*	3 R*; 10 I* (Ele and Insol) 0.5 R* (Sol Cpnds) {A3}
NICKEL#	7440-02-0	231-111-4	1 (Metal) 1 (Sol Cpnds) 1 (Insol Cpnds)	1.5 I* (Ele) {A5} 0.1 I* (Sol Cpnds) {A4} 0.2 I* (Insol Cpnds) {A1}
POTASSIUM SILICATE	1312-76-1	215-199-1	Not established	Not established
SILICA++	14808-60-7	238-878-4	0.1 R*	0.025 R* {A2}
(Amorphous Silica Fume)	69012-64-2	273-761-1	0.8	2 R*
SILICON+	7440-21-3	231-130-8	5 R*	3 R*
SODIUM SILICATE	1344-09-8	215-687-4	Not established	Not established
TITANIUM+	7440-32-6	231-142-3	5 R*	3 R*
TITANIUM DIOXIDE	13463-67-7	236-675-5	15 (Dust)	10 {A4}
TUNGSTEN	7440-33-7	231-143-9	1 (Sol Cpnds) 1, 3 STEL***■(Sol Cpds) 5 (Insol Cpnds) 5, 10 STEL***■(Insol Cpnds)	1, 3 STEL*** (Sol Cpnds) 5, 10 STEL*** (Insol Cpnds)

R* - Respirable Fraction I* - Inhalable Fraction ** - Ceiling Limit *** - Short Term Exposure Limit + - As a nuisance particulate covered under "Particulates Not Otherwise Regulated" by OSHA or "Particulates Not Otherwise Specified" by ACGIH ++ - Crystalline silica is bound within the product as it exists in the package. However, research indicates silica is present in welding fume in the amorphous (noncrystalline) form #- Reportable material under Section 313 of SARA ### - Reportable material under Section 313 of SARA as dust or fume ■ - NIOSH REL TWA and STEL ♦ - Limit of 0.1 mg/m3 is for Inhalable Mn in 2015 by ACGIH ♦♦ - Limit of 0.02 mg/m3 is for Respirable Mn in 2015 by ACGIH Ele – Element Sol – Soluble Insol – Insoluble Inorg – Inorganic Cpnds – Compounds NOS – Not Otherwise Specified {A1} - Confirmed Human Carcinogen per ACGIH {A2} - Suspected Human Carcinogen per ACGIH {A3} - Confirmed Animal Carcinogen with Unknown Relevance to Humans per ACGIH {A4} - Not Classifiable as a Human Carcinogen per ACGIH {A5} - Not Suspected as a Human Carcinogen per ACGIH (noncrystalline form) EINECS – European Inventory of Existing Commercial Chemical Substances OSHA – U.S. Occupational Safety and Health Administration ACGIH – American Conference of Governmental Industrial Hygienists

VENTILATION: Use enough ventilation or local exhaust at the arc or both to keep the fumes and gases below the PEL/TLV in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.
RESPIRATORY PROTECTION: Use NIOSH-approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below the regulatory limits.
EYE PROTECTION: Wear helmet or use face shield with filter lens for open arc welding processes. As a rule of thumb begin with Shade Number 14. Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to shield others from the weld arc flash.
PROTECTIVE CLOTHING: Wear hand, head and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark non-synthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.
PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: Not applicable

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SPECIAL PRECAUTIONS (IMPORTANT): When welding with electrodes that require special ventilation (such as stainless or hard facing, or other products which require special ventilation, or on lead- or cadmium-plated steel and other metals or coatings like galvanized steel, which produce hazardous fumes) maintain exposure below the PEL/TLV. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV. Always use exhaust ventilation. Refer to the following sources for important additional information: American National Standard Institute (ANSI) Z49.1; Safety in Welding and Cutting published by the American Welding Society, 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353; and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, DC 20402.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded.
PHYSICAL STATE: Solid
APPEARANCE: Cored/Round Wire
COLOR: Gray
ODOR: Not Applicable
ODOR THRESHOLD: Not Applicable
pH: Not Applicable
MELTING POINT/FREEZING POINT: Not Available
INITIAL BOILING POINT AND BOILING RANGE: Not Available
FLASH POINT: Not Available
EVAPORATION RATE: Not Applicable
FLAMMABILITY (SOLID, GAS): Not Available
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Not Available
VAPOR PRESSURE: Not Applicable
VAPOR DENSITY: Not Applicable
RELATIVE DENSITY: Not Available
SOLUBILITY(IES): Not Available
PARTITION COEFFICIENT: N-OCTANOL/WATER: Not Applicable
AUTO-IGNITION TEMPERATURE: Not Available
DECOMPOSITION TEMPERATURE: Not Available
VISCOSITY: Not Applicable

SECTION 10 – STABILITY AND REACTIVITY

GENERAL: Welding consumables applicable to this sheet are solid and nonvolatile as shipped. This product is only intended for use per the welding parameters it was designed for. When this product is used for welding, hazardous fumes may be created. Other factors to consider include the base metal, base metal preparation and base metal coatings. All of these factors can contribute to the fume and gases generated during welding. The amount of fume varies with the welding parameters.
STABILITY: This product is stable under normal conditions.
REACTIVITY: Contact with acids or strong bases may cause generation of gas.

SECTION 11 – TOXICOLOGICAL INFORMATION

SHORT-TERM (ACUTE) OVEREXPOSURE EFFECTS: **Welding Fumes** - May result in discomfort such as dizziness, nausea or dryness or irritation of nose, throat or eyes. **Aluminum Oxide** - Irritation of the respiratory system. **Calcium Oxide** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Chromium** - Inhalation of fume with chromium (VI) compounds can cause irritation of the respiratory tract, lung damage and asthma-like symptoms. Swallowing chromium (VI) salts can cause severe injury or death. Dust on skin can form ulcers. Eyes may be burned by chromium (VI) compounds. Allergic reactions may occur in some people. **Columbium** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Fluorides** - Fluoride compounds evolved may cause skin and eye burns, pulmonary edema and bronchitis. **Iron, Iron Oxide** - None are known. Treat as nuisance dust or fume. **Magnesium Oxide** - Overexposure to the oxide may cause metal fume fever characterized by metallic taste, tightness of chest and fever. Symptoms may last 24 to 48 hours following overexposure. **Manganese** - Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of the throat and aching of body. Recovery is generally complete within 48 hours of the overexposure. **Molybdenum** - Irritation of the eyes, nose and throat. **Nickel, Nickel Compounds** - Metallic taste, nausea, tightness in chest, metal fume fever, allergic reaction. **Potassium Silicate** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Silica (Amorphous)** - Dust and fumes may cause irritation of the respiratory system, skin and eyes. **Sodium Silicate** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Titanium Dioxide** - Irritation of respiratory system. **Tungsten** - Dust may cause irritation of the skin and eyes. Inhalation of dust may cause acute airways obstructive asthma which is reversible following overexposure. Symptoms are tightening chest and productive cough.

LONG-TERM (CHRONIC) OVEREXPOSURE EFFECTS: **Welding Fumes** - Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis or "siderosis." Studies have concluded that there is sufficient evidence for ocular melanoma in welders. **Aluminum Oxide** - Pulmonary fibrosis and emphysema. **Calcium Oxide** - Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia. **Chromium** - Ulceration and perforation of nasal septum. Respiratory irritation may occur with symptoms resembling asthma. Studies have shown that chromate production workers exposed to hexavalent chromium compounds have an excess of lung cancers. Chromium (VI) compounds are more readily absorbed through the skin than chromium (III) compounds. Good practice requires the reduction of employee exposure to chromium (III) and (VI) compounds. **Columbium** - No adverse long term health effects have been reported in the literature. **Fluorides** - Serious bone erosion (Osteoporosis) and mottling of teeth. **Iron, Iron Oxide Fumes** - Can cause siderosis (deposits of iron in lungs) which some researchers believe may affect pulmonary function. Lungs will clear in time when exposure to iron and its compounds ceases. Iron and magnetite (Fe_3O_4) are not regarded as fibrogenic materials. **Magnesium Oxide** - No adverse long term health effects have been reported in the literature. **Manganese** - Long-term overexposure to manganese compounds may affect the central nervous system. Symptoms may be similar to Parkinson's disease and can include slowness, changes in handwriting, gait impairment, muscle spasms and cramps and less commonly, tremor and behavioral changes. Employees who are overexposed to manganese compounds should be seen by a physician for early detection of neurologic problems. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. **Molybdenum** - Prolonged overexposure may result in loss of appetite, weight loss, loss of muscle coordination, difficulty in breathing and anemia. **Nickel, Nickel Compounds** - Lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated a higher incidence of lung and nasal cancers. **Potassium Silicate** - Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia. **Silica (Amorphous)** - Research indicates that silica is present in welding fume in the amorphous form. Long term overexposure may cause pneumoconiosis. Non crystalline forms of silica (amorphous silica) are considered to have little fibrotic potential. **Sodium Silicate** - Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia. **Titanium Dioxide** - Pulmonary irritation and slight fibrosis. **Tungsten** - Long term overexposure may cause pulmonary fibrosis characterized by a rapid onset of cough, sputum and dyspnea on exertion.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing impaired lung functions (asthma-like conditions). Persons with a pacemaker should not go near welding and cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. Respirators are to be worn only after being medically cleared by your company-designated physician.

EMERGENCY AND FIRST AID PROCEDURES: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. If irritation or flash burns develop after exposure, consult a physician.

CARCINOGENICITY: Chromium VI compounds, nickel compounds and silica (crystalline quartz) are classified as IARC Group 1 and NTP Group K carcinogens. Titanium dioxide, nickel metal/alloys and welding fumes are classified as IARC Group 2B carcinogens.

CALIFORNIA PROPOSITION 65: WARNING: These products contain or produce a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.)

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INGREDIENT	CAS	IARC[E]	NTP[Z]	OSHA[H]	65[Θ]
ALUMINUM	7429-90-5	---	---	---	---
CALCIUM CARBONATE	1317-65-3	---	---	---	---
CHROMIUM	7440-47-3	3[Σ], 1[ΣΣ]	K[ΣΣ]	X[ΣΣ]	X[ΣΣ]
COLUMBIUM	7440-03-1	---	---	---	---
FLUORSPAR	7789-75-5	---	---	---	---
IRON	7439-89-6	---	---	---	---
IRON OXIDE	1309-37-1	3	---	---	---
MAGNESIUM CARBONATE	546-93-0	---	---	---	---
MANGANESE	7439-96-5	---	---	---	---
MOLYBDENUM	7439-98-7	---	---	---	---
NICKEL	7440-02-0	2B[β], 1[ββ]	S[β], K[ββ]	---	X[β], X[ββ]
POTASSIUM SILICATE	1312-76-1	---	---	---	---
SILICA	14808-60-7	1[Ψ]	K	---	X
(Amorphous Silica fume)	69012-64-2	3	---	---	---
SILICON	7440-21-3	---	---	---	---
SODIUM SILICATE	1344-09-8	---	---	---	---
TITANIUM	7440-32-6	---	---	---	---
TITANIUM DIOXIDE	13463-67-7	2B	---	---	X
TUNGSTEN	7440-33-7	---	---	---	---
Welding Fumes	---	2B	---	---	---

E – International Agency for Research on Cancer (1 – Carcinogenic to Humans, 2A – Probably Carcinogenic to Humans, 2B – Possibly Carcinogenic to Humans, 3 – Not Classifiable as to its Carcinogenicity to Humans, 4 --- Probably Not Carcinogenic to Humans) Z – US National Toxicology Program (K – Known Carcinogen, S – Suspected Carcinogen) H – OSHA Designated Carcinogen List Θ – California Proposition 65 (X – On Proposition 65 list) Σ – Chromium Metal and Chromium III Compounds ΣΣ – Chromium VI β – Nickel metal and alloys ββ -- Nickel compounds Ψ – Silica Crystalline α-Quartz --- Dashes indicate the ingredient is not listed with the IARC, NTP, OSHA or Proposition 65

SECTION 12 – ECOLOGICAL INFORMATION

Welding processes can release fumes directly to the environment. Welding wire can degrade if left outside and unprotected. Residues from welding consumables and processes could degrade and accumulate in the soil and groundwater.

SECTION 13 – DISPOSAL CONSIDERATIONS

Use recycling procedures if available. Discard any product, residue, packaging, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

SECTION 14 – TRANSPORT INFORMATION

No international regulations or restrictions are applicable. No special precautions are necessary.

SECTION 15 – REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label and the safety data sheet. Observe all local and federal rules and regulations. Take all necessary precautions to protect yourself and others.

United States EPA Toxic Substance Control Act: All constituents of these products are on the TSCA inventory list or are excluded from listing.

CERCLA/SARA TITLE III: Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs):

Ingredient name	**RQ(lb)**	**TPQ (lb)**
Products on this SDS are a solid solution in the form of a solid article.	--	--

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class
As shipped: Immediate In use: Immediate delayed

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potentially subject to annual SARA 312 reporting: Aluminum, Chromium, Manganese and Nickel. See Section 3 for weight percentage.

CANADIAN WHMIS CLASSIFICATION: Class D; Division 2, Subdivision A

CANADIAN CONTROLLED PRODUCTS REGULATION: This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

SECTION 16 – OTHER INFORMATION

The following Hazard Statements, provided in the OSHA Hazard Communication Standard (29 CFR Part 1910.1200) correspond to the columns labeled 'GHS Hazard Statements' within Section 3 of this safety data sheet. Take appropriate precautions and protective measures to eliminate or limit the associated hazard.

H228: Flammable solid
H250: Catches fire spontaneously if exposed to air
H261: In contact with water releases flammable gases
H271: May cause fire or explosion; strong oxidizer
H301: Toxic if swallowed
H302: Harmful if swallowed
H311: Toxic in contact with skin
H314: Causes severe skin burns and eye damage
H317: May cause an allergic skin reaction
H319: Causes serious eye irritation
H330: Fatal if inhaled

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H332: Harmful if inhaled
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
H340: May cause genetic defects
H350: May cause cancer
H351: Suspected of causing cancer
H361f: Suspected of damaging fertility or the unborn child
H372: Causes damage to organs through prolonged or repeated exposure
H373: May cause damage to organs through prolonged or repeated exposure
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects
H412: Harmful to aquatic life with long lasting effects.

For additional information please refer to the following sources:

USA: **American National Standards Institute (ANSI) Z49.1** "Safety in Welding and Cutting", **ANSI/American Welding Society (AWS) F1.5** "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", **ANSI/AWS F1.1** "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", **AWSF3.2M/F3.2** "Ventilation Guide for Weld Fume", American Welding Society, 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353. Safety and Health Fact Sheets available from AWS at www.aws.org.
OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.
Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.
NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

Canada: **CSA Standard CAN/CSA-W117.2-01** "Safety in Welding, Cutting and Allied Processes".

Hobart Brothers Company strongly recommends the users of this product study this SDS, the product label information and become aware of all hazards associated with welding. Hobart Brothers Company believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Hobart Brothers Company cannot make any expressed or implied warranty as to this information.

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	**HDH (All)**
Other means of identification	Not available
Recommended use	Lubricant
Recommended restrictions	None known.
Manufacturer information	Irving Blending & Packaging PO Box 1169 Saint John, NB E2L 4E6 CA Phone: 1.800.574.5823 Emergency Phone: 1.506.648.3060
Supplier	See above.

2. Hazards Identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	

Label elements

Signal word	Warning
Hazard statement	May cause an allergic skin reaction. Causes serious eye irritation.
Precautionary statement	
Prevention	Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Wear eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see information on this label). Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)	None known
WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy		64742-70-7	60-100
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based		72623-86-0	10-30

Chemical name	Common name and synonyms	CAS number	%
Methacrylate copolymer - HMIRA 9363		Trade Secret	12-14

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments ** The base oil may be a mixture of the above-mentioned CAS numbers

4. First Aid Measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact IF ON SKIN: Wash with plenty of water. Specific treatment (see information on this label). If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire Fighting Measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Not available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk.

Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water .

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)	TWA	5 mg/m3	Inhalable fraction.
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	TWA	5 mg/m3	Inhalable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)	TWA	5 mg/m3	Inhalable fraction.
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Ethyl acrylate (CAS 140-88-5) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety goggles or glasses.

Skin protection	
Hand protection	Wear protective gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and Chemical Properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Brown
Odor	Pungent
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	0.89 - 0.9
Partition coefficient (n-octanol/water)	Not available.
Flash point	381.2 - 474.8 °F (194.0 - 246.0 °C) Cleveland Open Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.1 mm Hg @ 20°C
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Negligible
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	77.9 - 340.5 cSt @ 40°C

10. Stability and Reactivity

Reactivity	This product may react with strong oxidizing agents.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulfur. Oxides of phosphorus.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling of the eyes, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity May cause an allergic skin reaction.

Components	Species	Test Results
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 5.2 mg/l/4h
Oral		
LD50	Rat	> 5000 mg/kg
Methacrylate copolymer - HMIRA 9363 (CAS Trade Secret)		
Acute		
Inhalation		
LC50	Not available	
Oral		
LD50	Not available	
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)		
Acute		
Inhalation		
LC50	Not available	
Oral		
LD50	Not available	

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Exposure minutes	Not available.
Erythema value	Not available.
Oedema value	Not available.
Serious eye damage/eye irritation	Causes serious eye irritation.
Corneal opacity value	Not available.
Iris lesion value	Not available.
Conjunctival reddening value	Not available.
Conjunctival oedema value	Not available.
Recover days	Not available.

Respiratory or skin sensitization

Canada - British Columbia OELs: Respiratory or skin sensitiser

Ethyl acrylate (CAS 140-88-5)	Capable of causing respiratory, dermal or conjunctival sensitization.

Respiratory sensitization	Not available.
Skin sensitization	May cause an allergic skin reaction.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Risk of cancer cannot be excluded with prolonged exposure. Contains < 3% (w/w) DMSO-extract

ACGIH Carcinogens

Ethyl acrylate (CAS 140-88-5)	A4 Not classifiable as a human carcinogen.

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)	A2 Suspected human carcinogen.
	A4 Not classifiable as a human carcinogen.
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	A2 Suspected human carcinogen.
	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

ETHYL ACRYLATE (CAS 140-88-5)	Not classifiable as a human carcinogen.
MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, POORLY AND MILDLY REFINED (CAS 64742-70-7)	Suspected human carcinogen.
MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, POORLY AND MILDLY REFINED (CAS 72623-86-0)	Suspected human carcinogen.
MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION (CAS 64742-70-7)	Not classifiable as a human carcinogen.
MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION (CAS 72623-86-0)	Not classifiable as a human carcinogen.

Canada - Quebec OELs: Carcinogen category

Ethyl acrylate (CAS 140-88-5)	Detected carcinogenic effect in animals.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethyl acrylate (CAS 140-88-5)	Volume 39, Supplement 7, Volume 71 - 2B Possibly carcinogenic to humans.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethyl acrylate (CAS 140-88-5)

US NTP Report on Carcinogens: Known carcinogen

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)	Known To Be Human Carcinogen.
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Teratogenicity	Not available.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological Information

Ecotoxicity See below

Ecotoxicological data

Components		Species	Test Results
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)			
Crustacea	EC50	Daphnia	1000 mg/L, 48 Hours

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	Not available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue.

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (SOR/2015-17) and the SDS contains all the information required by the HPR.

Canada DSL Challenge Substances: Listed substance

Ethyl acrylate (CAS 140-88-5)	Listed.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions Not applicable

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethyl acrylate (CAS 140-88-5)	Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Ethyl acrylate (CAS 140-88-5)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations

US - California Hazardous Substances (Director's): Listed substance

Ethyl acrylate (CAS 140-88-5)	Listed.
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	Listed.

US - Illinois Chemical Safety Act: Listed substance

Ethyl acrylate (CAS 140-88-5)

US - Louisiana Spill Reporting: Listed substance

Ethyl acrylate (CAS 140-88-5)	Listed.

US - Minnesota Haz Subs: Listed substance

Ethyl acrylate (CAS 140-88-5)	Listed.

Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7) Listed.

US - New Jersey RTK - Substances: Listed substance

Ethyl acrylate (CAS 140-88-5)

US - Pennsylvania RTK - Hazardous Substances: Special hazard

Ethyl acrylate (CAS 140-88-5)

US - Texas Effects Screening Levels: Listed substance

9-Octadecen-1-amine,- (CAS 112-90-3)	Listed.
Amines, C12-14-tert-alkyl (CAS 68955-53-3)	Listed.
Ethyl acrylate (CAS 140-88-5)	Listed.
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)	Listed.

US. Massachusetts RTK - Substance List

Ethyl acrylate (CAS 140-88-5)
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)

US. New Jersey Worker and Community Right-to-Know Act

Ethyl acrylate (CAS 140-88-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethyl acrylate (CAS 140-88-5)
Paraffin Oils (petroleum), Catalytic Dewaxed Heavy (CAS 64742-70-7)

US. Rhode Island RTK

Ethyl acrylate (CAS 140-88-5)

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethyl acrylate (CAS 140-88-5) Listed: July 1, 1989

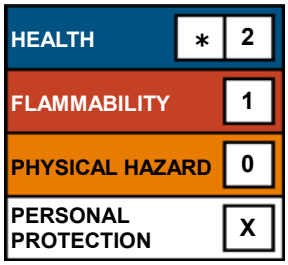
Inventory status

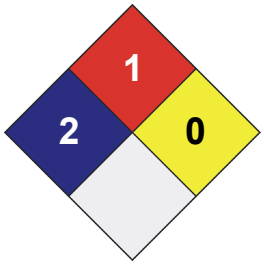
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0





Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by Dell Tech Laboratories Ltd. Phone: (519) 858-5021

Other information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Safety Data Sheet

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Issue Date:	05/11/18	**Supercedes Date:**	04/25/17

SECTION 1: Identification

1.1. Product identifier
3M™ Heavy Duty 20 Spray Adhesive

Product Identification Numbers
62-4915-4920-0, 62-4915-4921-8, 62-4915-4925-9

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, Industrial Use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2B.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Causes damage to organs through prolonged or repeated exposure:
nervous system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Keep container tightly closed.
Store locked up in a well-ventilated place.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

Supplemental Information:
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Methyl acetate	79-20-9	25 - 35 Trade Secret *
Non-hazardous components (N.J.T.S. Reg No. 4499600-6761)	Trade Secret*	20 - 30 Trade Secret *
Dimethyl ether	115-10-6	15 - 25 Trade Secret *
Hexane	110-54-3	10 - 20 Trade Secret *
Isobutane	75-28-5	5 - 10 Trade Secret *
Propane	74-98-6	5 - 10 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	ACGIH	TWA:50 ppm	SKIN
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Dimethyl ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	

Propane	74-98-6	ACGIH	Limit value not established:	simple asphyxiant
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
Isobutane	75-28-5	ACGIH	STEL:1000 ppm	
Methyl acetate	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	
Methyl acetate	79-20-9	OSHA	TWA:610 mg/m3(200 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator
Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear, Mild Solvent Odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*

Boiling Point	[*Details:*Aerosol]*Not Applicable*
Flash Point	-137 ºF [*Details:*Propellant]
Evaporation rate	1.9 [*Ref Std:*ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Vapor Density	2.97 [*Ref Std:*AIR=1]
Density	0.75 g/ml
Specific Gravity	0.73 - 0.77 [*Ref Std:*WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*Not Applicable*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	<=16.8 % weight [*Test Method:*Calculated]
Molecular weight	*No Data Available*
Volatile Organic Compounds	<=378 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*Material VOC]
Volatile Organic Compounds	<=51.8 % [*Test Method:*calculated per CARB title 2]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause target organ effects:
Peripheral Neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Methyl acetate	Dermal	Rat	LD50 > 2,000 mg/kg

Methyl acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 49 mg/l
Methyl acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg
Dimethyl ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Isobutane	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Non-hazardous components (N.J.T.S. Reg No. 4499600-6761)	Dermal	Not available	LD50 > 2,000 mg/kg
Non-hazardous components (N.J.T.S. Reg No. 4499600-6761)	Ingestion	Not available	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Methyl acetate	Rabbit	No significant irritation
Hexane	Human and animal	Mild irritant
Isobutane	Professional judgement	No significant irritation
Propane	Rabbit	Minimal irritation
Non-hazardous components (N.J.T.S. Reg No. 4499600-6761)	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Methyl acetate	Rabbit	Moderate irritant
Hexane	Rabbit	Mild irritant
Isobutane	Professional judgement	No significant irritation
Propane	Rabbit	Mild irritant
Non-hazardous components (N.J.T.S. Reg No. 4499600-6761)	Professional judgement	No significant irritation

Skin Sensitization

Name	Species	Value
Methyl acetate	Human	Not classified
Hexane	Human	Not classified
Non-hazardous components (N.J.T.S. Reg No. 4499600-6761)		Not classified

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Methyl acetate	In Vitro	Not mutagenic
Methyl acetate	In vivo	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic
Dimethyl ether	In Vitro	Not mutagenic
Dimethyl ether	In vivo	Not mutagenic
Isobutane	In Vitro	Not mutagenic
Propane	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Dimethyl ether	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Hexane	Ingestion	Not classified for development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Not classified for development	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days
Dimethyl ether	Inhalation	Not classified for development	Rat	NOAEL 40,000 ppm	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Methyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Methyl acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Methyl acetate	Inhalation	blindness	Not classified		NOAEL Not available	
Methyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Not classified	Rat	NOAEL 24.6 mg/l	8 hours
Dimethyl ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl ether	Inhalation	cardiac sensitization	Some positive data exist, but the	Dog	NOAEL	5 minutes

			data are not sufficient for classification		100,000 ppm	
Isobutane	Inhalation	cardiac sensitization	Causes damage to organs	Multiple animal species	NOAEL Not available	
Isobutane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Isobutane	Inhalation	respiratory irritation	Not classified	Mouse	NOAEL Not available	
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Methyl acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
Methyl acetate	Inhalation	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Not classified	Rat	NOAEL 6.1 mg/l	28 days
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Not classified	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Not classified	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	Not classified	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Not classified	Rat	NOAEL Not available	13 weeks
Dimethyl ether	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25,000 ppm	2 years
Dimethyl ether	Inhalation	liver	Not classified	Rat	NOAEL 20,000 ppm	30 weeks
Isobutane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4,500 ppm	13 weeks

Aspiration Hazard

Name	Value
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information

on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Flammable (gases, aerosols, liquids, or solids)
Gas under pressure

Health Hazards
Reproductive toxicity
Serious eye damage or eye irritation
Simple Asphyxiant
Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Hexane	110-54-3	Trade Secret 10 - 20

Hexane (Hexane)	110-54-3	10 - 20

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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3M USA SDSs are available at www.3M.com

Material Safety Data Sheet

Revision Date *02-May-2012*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code 91911
Product name Heavy Duty Chain Lubricant
Recommended Use Lubricant

Supplier Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Flammable. Contents under pressure. May cause skin irritation. Harmful by inhalation. Harmful or fatal if swallowed.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Eyes. Ingestion. Inhalation. Skin contact.

Potential health effects

Eyes No hazard under normal industrial and institutional use.

Skin Prolonged skin contact may defat the skin and produce dermatitis. Skin Irritation.

Inhalation May cause the following effects:. Narcosis. Loss of coordination. Weakness. Fatigue. Confusion. Blurred vision. Central nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Not likely to occur. Absorption is possible.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Chlorinated Paraffin	63449-39-8	30-40
Petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	20-30
Light Aliphatic Naptha Solvent	64742-89-8	15-20
Propane	74-98-6	5-8
Butane	106-97-8	5-8

4. FIRST AID MEASURES

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If easy to do, remove contact lenses . Continue rinsing. Seek medical attention if irritation persists.

Skin contact Wash off immediately with plenty of water. Seek medical attention if irritation persists.

Ingestion Call a physician immediately.

Inhalation Remove to fresh air. Get medical attention if cough or respiratory symptoms develop.

5. FIRE FIGHTING MEASURES

Flash point °C 138.9
Flash point °F 282.2
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 9.5%
Lower 1.8%

Flashback None

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical powder. Foam. Alcohol foam. Water fog.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards
Material is highly volatile and readily gives off vapors. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat .

Sensitivity to shock
No information available.

Sensitivity to static discharge
Yes. Take precautionary measures against static discharges.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Stop leak if you can without risk . Eliminate all sources of ignition. Evacuate area of unprotected and unnecessary personnel. Move the cylinder to a safe and open area if the leak is irreparable. Shut off source of leak if safe to do so. This material is classified as a water pollutant under the Clean Water Act. Dispose of absorbent in accordance with local, state and federal regulations. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling
Keep away from open flames, hot surfaces and sources of ignition. Do not smoke while using. Do not puncture or incinerate. Do not use if spray button is missing or defective. Observe all precautions even after container is emptied. Keep container closed when not in use. Do not reuse containers. Avoid breathing vapors or mists. Avoid contact with skin and eyes.

Storage
Do not puncture or incinerate. Keep away from open flames, hot surfaces and sources of ignition. Store in temperatures below 120 degrees F. Keep away from direct sunlight. Keep container tightly closed. Store in a well ventilated area. Keep away from food, beverages, and feed.

NFPA Storage Code
Store as Level 3 Aerosol (NFPA 30B)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Chlorinated Paraffin	-	-	-	-
Petroleum distillates, hydrotreated heavy naphthenic	-	-	-	-
Butane	800 ppm	-	-	-
Propane	1000 ppm 1800 mg/m^3	-	-	-
Light Aliphatic Naptha Solvent	-	-	-	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area. Use with adequate explosion-proof ventilation to meet the limits in Section 8 .

Hygiene measures
General industrial hygiene practice. Remove and wash contaminated clothing before re-use.

Other precautions
Use personal protective equipment.

Respiratory protection
Wear a NIOSH approved respirator with chemical/mechanical filters for chemicals listed in Section 3 when ventilation is restricted. Wear a NIOSH approved organic vapor respirator. Wear a NIOSH approved air supplied respirator. if there is any potential for an uncontrolled release:. Wear a positive-pressure supplied-air respirator.

Hand Protection
Gloves are recommended to prevent prolonged or repeated contact. Chemical resistant gloves.

Eye protection
Tightly fitting safety goggles.

Skin and body protection
Chemical resistant apron. Wear suitable protective clothing.

Other Protective Equipment
A safety shower and eye wash station should be available for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Aerosol / Compressed liquefied gas
Color	No information available
Odor	Solvent
Odor Threshold	No information available
pH	Not Applicable
Specific Gravity	No data available
Vapor pressure	No data available
Density	0.9057 g/cm3 estimated
Vapor density	No data available
Evaporation Rate	<1 (ether = 1)
Water solubility	No data available
VOC Content	33.59%
Partition Coefficient (n-octanol/water)	Not Applicable
Boiling point/range °C	193.9
Boiling point/range °F	381.2
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	138.9
Flash point °F	282.2

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to avoid
Heat, flames and sparks.

Incompatability
Strong oxidizing agents.

Hazardous Decomposition Products
Irritating organic vapors. Toxic vapors.

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Chlorinated Paraffin 63449-39-8	26100 mg/kg	10 mL/kg	-
Petroleum distillates, hydrotreated heavy naphthenic 64742-52-5	5000 mg/kg	5000 mg/kg	5 mg/L
Butane 106-97-8	-	-	658 mg/L
Propane 74-98-6	-	-	658 mg/L
Light Aliphatic Naptha Solvent 64742-89-8	-	3000 mg/kg	-

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects Kidney. Liver. Cardiovascular system.

Carcinogenic effects See Table Below.

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Chlorinated Paraffin	Not Listed	Group 2B	Not Listed	Not Listed	Listed
Petroleum distillates, hydrotreated heavy naphthenic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Butane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Propane	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Light Aliphatic Naptha Solvent	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Chlorinated Paraffin
Water Flea Data
Daphnia magna EC50=102 mg/L (24 h)
Petroleum distillates, hydrotreated heavy naphthenic
Water Flea Data
Daphnia magna EC50>1000 mg/L (48 h)

Ecotoxicity effects Environmental hazard

13. DISPOSAL CONSIDERATIONS

Disposal Information
Do not puncture or incinerate. Do not crush. Dispose in accordance with federal, state, and local regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4(b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D

TDG
Consumer commodity, ORM-D.

15. REGULATORY INFORMATION

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Chlorinated Paraffin	Not Listed	Not Listed	Not Listed
Petroleum distillates, hydrotreated heavy naphthenic	Not Listed	Not Listed	Not Listed
Butane	Listed	Listed	Not Listed
Propane	Listed	Listed	Not Listed
Light Aliphatic Naptha Solvent	Not Listed	Not Listed	Not Listed

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Chlorinated Paraffin	X	X	-	X
Petroleum distillates, hydrotreated heavy naphthenic	X	X	-	X
Butane	X	X	-	X
Propane	X	X	-	X
Light Aliphatic Naptha Solvent	X	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations.

16. OTHER INFORMATION

NFPA

Health - 2
Flammability - 4
Reactivity - 0

HMIS

Health - 1
Flammability - 4
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

SAFETY DATA SHEET

1. Identification

Product identifier **Heavy Duty Degreaser**

Other means of identification

Product Code No. 03095 (Item# 1003364)

Recommended use General purpose degreaser

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency 800-424-9300 (US)

(CHEMTREC) 703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Sensitization, skin	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated. Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. May cause drowsiness or dizziness. May cause cancer. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Avoid release to the environment.

Response	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Collect spillage.
Storage	Store locked up. Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride, and possibly phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
tetrachloroethylene	perchloroethylene	127-18-4	80 - 90
trans-1,2-dichloroethylene		156-60-5	5 - 10
carbon dioxide		124-38-9	1 - 3
decafluoropentane	HFC 43-10mee	138495-42-8	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride, and possibly phosgene.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch or walk through spilled material. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Put material in suitable, covered, labeled containers.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label.
Conditions for safe storage, including any incompatibilities	Level 1 Aerosol. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	PEL	790 mg/m3
		200 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
tetrachloroethylene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
tetrachloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	790 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
tetrachloroethylene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*

* - For sampling details, please see the source document.

Exposure guidelines

US - Minnesota Haz Subs: Skin designation applies

tetrachloroethylene (CAS 127-18-4) Skin designation applies.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Polyvinyl alcohol (PVA). Viton/butyl.

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -119.2 °F (-84 °C) estimated

Initial boiling point and boiling range 119.7 °F (48.7 °C) estimated

Flash point None (Tag Closed Cup)

Evaporation rate Fast.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	6.7 % estimated
Flammability limit - upper (%)	18 % estimated
Vapor pressure	1429.7 hPa estimated
Vapor density	> 4 (air = 1)
Relative density	1.58
Solubility(ies)	
Solubility (water)	Slight.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	860 °F (460 °C) estimated
Decomposition temperature	Not available.
Percent volatile	97.6 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride, and possibly phosgene.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hydrogen chloride. Hydrogen fluoride. Phosgene. Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
decafluoropentane (CAS 138495-42-8)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Inhalation		
LC50	Rat	11058 mg/kg, 4 hours calculated
Oral		
LD50	Rat	> 5000 mg/kg
tetrachloroethylene (CAS 127-18-4)		
Acute		
Dermal		
LD50	Rabbit	> 3228 mg/kg

Components	Species	Test Results
Oral		
LD50	Rat	2629 mg/kg
trans-1,2-dichloroethylene (CAS 156-60-5)		
Acute		
Oral		
LD50	Rat	1235 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

tetrachloroethylene (CAS 127-18-4) 2A Probably carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

tetrachloroethylene (CAS 127-18-4) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. May be an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
decafluoropentane (CAS 138495-42-8)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	11.7 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio)	13 mg/l, 96 hours
tetrachloroethylene (CAS 127-18-4)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.73 - 5.27 mg/l, 96 hours
trans-1,2-dichloroethylene (CAS 156-60-5)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	120 - 160 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	220 mg/l, 48 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

decafluoropentane	2.7, Pow at 20 °C
tetrachloroethylene	2.88
trans-1,2-dichloroethylene	2.06

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions This material and its container must be disposed of as hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D039: Waste Tetrachloroethylene
F001: Waste Halogenated Solvent - Spent Halogenated Solvent Used in Degreasing
F002: Waste Halogenated Solvent - Spent Halogenated Solvent

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

- **UN number** UN1950
- **UN proper shipping name** Aerosols, poison, Limited Quantity
- **Transport hazard class(es)**
  - **Class** 2.2
  - **Subsidiary risk** 6.1(PGIII)
  - **Label(s)** 2.2, 6.1
- **Packing group** Not applicable.
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
- **Packaging exceptions** 306
- **Packaging non bulk** None
- **Packaging bulk** None

IATA

- **UN number** UN1950
- **UN proper shipping name** Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III
- **Transport hazard class(es)**
  - **Class** 2.2
  - **Subsidiary risk** 6.1
- **Packing group** Not applicable.
- **ERG Code** 2P
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
- **Other information**
  - **Passenger and cargo aircraft** Allowed with restrictions.
  - **Cargo aircraft only** Allowed with restrictions.

IMDG

- **UN number** UN1950
- **UN proper shipping name** AEROSOLS
- **Transport hazard class(es)**
  - **Class** 2
  - **Subsidiary risk** 6.1
- **Packing group** Not applicable.
- **Environmental hazards**
  - **Marine pollutant** No.
- **EmS** Not available.
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List.
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

decafluoropentane (CAS 138495-42-8)	1.0 % One-Time Export Notification only.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

tetrachloroethylene (CAS 127-18-4)

CERCLA Hazardous Substance List (40 CFR 302.4)

tetrachloroethylene (CAS 127-18-4)	Listed.
trans-1,2-dichloroethylene (CAS 156-60-5)	Listed.

CERCLA Hazardous Substances: Reportable quantity

tetrachloroethylene (CAS 127-18-4)	100 LBS
trans-1,2-dichloroethylene (CAS 156-60-5)	1000 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

tetrachloroethylene (CAS 127-18-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories

Gas under pressure
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
tetrachloroethylene	127-18-4	80 - 90

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)
trans-1,2-dichloroethylene (CAS 156-60-5)

US. Massachusetts RTK - Substance List

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)
trans-1,2-dichloroethylene (CAS 156-60-5)

US. Pennsylvania Worker and Community Right-to-Know Law

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)
trans-1,2-dichloroethylene (CAS 156-60-5)

US. Rhode Island RTK

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)
trans-1,2-dichloroethylene (CAS 156-60-5)

California Proposition 65

WARNING: This product can expose you to tetrachloroethylene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

tetrachloroethylene (CAS 127-18-4) Listed: April 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

tetrachloroethylene (CAS 127-18-4)
trans-1,2-dichloroethylene (CAS 156-60-5)

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	7.8 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as a General Purpose Degreaser (aerosol). This product is not compliant to be sold for use in California, Connecticut, Delaware, The District of Columbia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, and Rhode Island. This product is compliant in all other states.
VOC content (CA)	9.8 %
VOC content (OTC)	7.8 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Toxic Chemical Substances (TCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-19-2014
Revision date	12-19-2017
Prepared by	Allison Yoon
Version #	03
Further information	CRC # 894A/1002879

HMIS® ratings	Health: 2* Flammability: 1 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 2 Flammability: 1 Instability: 0
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..
Revision information	This document has undergone significant changes and should be reviewed in its entirety.

SAFETY DATA SHEET

Lucas Heavy Duty Oil Stabilizer

Section 1. Identification

GHS product identifier : Lucas Heavy Duty Oil Stabilizer

Other means of identification : Not available.

Product number : 10001, 10002, 10015, 10085, 10091

Relevant identified uses of the substance or mixture and uses advised against

Oil additives.

Supplier's details : Lucas Oil Products, Inc
302 North Sheridan Street
Corona, California 92880-2067
Toll Free: (800) 342-2512
Tel: (951) 270-0154
Fax: (951) 270-1902
Website: www.LucasOil.com

Emergency telephone number (with hours of operation) : (951) 493-1149
(951) 847-5949
Markn@lucasoil.com

7:00A.M. to 5:00P.M. Monday thru Friday

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Lubricating oils, petroleum, c>25, hydrotreated bright stock-based	60 - 100	72623-83-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	None known.
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	No specific data.
Special protective actions for fire-fighters	:	No special precaution is required.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Lubricating oils, petroleum, c>25, hydrotreated bright stock-based	ACGIH TLV (United States, 3/2012). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 6/2009). TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hours.

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid. [Clear.]
Color	:	Amber.
Odor	:	Petroleum.
Odor threshold	:	Not available.
pH	:	Not available.
Melting point	:	Not available.
Boiling point	:	>260°C (>500°F)
Flash point	:	Closed cup: 218.33°C (425°F)
Burning time	:	Not applicable.
Burning rate	:	Not applicable.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	0.8958
Solubility	:	Negligible at 25°C
Solubility in water	:	Not available.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Kinematic (100°C (212°F)): 1.1 cm^2/s (110 cSt)

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

Skin	:	There is no data available.

Section 11. Toxicological information

Eyes : There is no data available.

Respiratory : There is no data available.

Sensitization

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available. Specific target organ toxicity (repeated exposure) There is no data available.

Aspiration hazard

Name	Result
Lubricating oils, petroleum, c>25, hydrotreated bright stock-based	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Section 14. Transport information

Additional information	-	-	-

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: Lubricating oils, petroleum, c>25, hydrotreated bright stock-based

Pennsylvania : None of the components are listed.

California Prop. 65

No products were found.

International regulations

Section 15. Regulatory information

International lists	:	Australia inventory (AICS): All components are listed or exempted. China inventory (IECSC): All components are listed or exempted. Japan inventory: Not determined. Korea inventory: All components are listed or exempted. Malaysia Inventory (EHS Register): Not determined. New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted. Philippines inventory (PICCS): All components are listed or exempted. Taiwan inventory (CSNN): Not determined.
Chemical Weapons Convention List Schedule I Chemicals	:	Not listed
Chemical Weapons Convention List Schedule II Chemicals	:	Not listed
Chemical Weapons Convention List Schedule III Chemicals	:	Not listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 0 * Flammability : 1 Physical hazards : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 0 Flammability : 1 Instability : 0

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History

Date of issue mm/dd/yyyy	:	12/30/2012
Version	:	1
Revised Section(s)	:	Not applicable.
Prepared by	:	KMK Regulatory Services Inc.
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

1. Identification

Product identifier **HONEY GOO**

Other means of identification

Product code 800

Recommended use LUBRICANT

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Kleen-Flo Tumbler Ind Limited

Address 75 Advance Blvd
Brampton, Ontario L6T 4N1
Canada

Telephone General Assistance 1-905-793-4311

E-mail Not available.

Emergency phone number CANUTEC: 613-996-6666

2. Hazard(s) identification

Physical hazards

Flammable aerosols	Category 1

Health hazards

Reproductive toxicity (fertility, the unborn child)	Category 2
Specific target organ toxicity, repeated exposure	Category 1
Aspiration hazard	Category 1

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. May be fatal if swallowed and enters airways. Suspected of damaging the unborn child. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe gas. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF exposed or concerned: Get medical advice/attention. Collect spillage.

Storage Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates, Petroleum, Solvent-dewaxed Heavy Paraffinic		64742-65-0	15-40
Isobutane		75-28-5	10-30
Propane		74-98-6	10-30
n-Hexane		110-54-3	5-10
Petroleum Hydrocarbon		8002-74-2	1-5
n-Heptane		142-82-5	1-5
Solvent Naphtha (Petroleum), Medium Aliphatic		64742-88-7	1-5
Distillates (petroleum), Hydrotreated Heavy Naphthenic		64742-52-5	0.5-1.5
Acetone		67-64-1	0.5-1.5
Cyclohexane		110-82-7	0.1-1
Toluene		108-88-3	0.1-1
Other components below reportable levels			10-30

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation If symptoms develop move victim to fresh air. Get medical attention if symptoms persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Aspiration may cause pulmonary edema and pneumonitis. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Powder. Carbon dioxide (CO_2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. In the event of fire and/or explosion do not breathe fumes.

General fire hazards Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe gas. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 2 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Petroleum Hydrocarbon (CAS 8002-74-2)	TWA	2 mg/m3	Fume.
Toluene (CAS 108-88-3)	TWA	20 ppm	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	1800 mg/m3 750 ppm	
	TWA	1200 mg/m3 500 ppm	
Cyclohexane (CAS 110-82-7)	TWA	344 mg/m3 100 ppm	
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm	
	TWA	1640 mg/m3 400 ppm	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3 50 ppm	
Petroleum Hydrocarbon (CAS 8002-74-2)	TWA	2 mg/m3	Fume.
Propane (CAS 74-98-6)	TWA	1000 ppm	
Toluene (CAS 108-88-3)	TWA	188 mg/m3 50 ppm	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	20 ppm	
Petroleum Hydrocarbon (CAS 8002-74-2)	TWA	2 mg/m3	Fume.
Toluene (CAS 108-88-3)	TWA	20 ppm	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Petroleum Hydrocarbon (CAS 8002-74-2)	TWA	2 mg/m3	Fume.
Toluene (CAS 108-88-3)	TWA	20 ppm	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Isobutane (CAS 75-28-5)	TWA	800 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Petroleum Hydrocarbon (CAS 8002-74-2)	TWA	2 mg/m3	Fume.
Toluene (CAS 108-88-3)	TWA	20 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	2380 mg/m3 1000 ppm	
	TWA	1190 mg/m3 500 ppm	
Cyclohexane (CAS 110-82-7)	TWA	1030 mg/m3 300 ppm	
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm	
	TWA	1640 mg/m3 400 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3 50 ppm	
Petroleum Hydrocarbon (CAS 8002-74-2)	TWA	2 mg/m3	Fume.
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm	
Toluene (CAS 108-88-3)	TWA	188 mg/m3 50 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Use of an impervious apron is recommended.

Respiratory protection

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Aerosol.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	395.52 °F (201.95 °C) estimated
Flash point	-156.0 °F (-104.4 °C) PROPELLANT estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.3 % estimated
Flammability limit - upper (%)	7.8 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Nitrates. Fluorine. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics Aspiration may cause pulmonary edema and pneumonitis.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Guinea pig	> 7426 mg/kg, 24 Hours
		> 9.4 ml/kg, 24 Hours
	Rabbit	> 7426 mg/kg, 24 Hours
		> 9.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	55700 ppm, 3 Hours
		132 mg/l, 3 Hours
		50.1 mg/l
Oral		
LD50	Rat	5800 mg/kg
		2.2 ml/kg
Cyclohexane (CAS 110-82-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 32880 mg/m3, 4 Hours
		> 5540 ppm, 4 Hours
Oral		
LD50	Rabbit	> 5000 mg/kg
	Rat	> 5000 mg/kg
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
		> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	2.18 mg/l, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg
Distillates, Petroleum, Solvent-dewaxed Heavy Paraffinic (CAS 64742-65-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
		> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	2.18 mg/l, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg

Components	Species	Test Results
Isobutane (CAS 75-28-5)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
n-Heptane (CAS 142-82-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 29.29 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
n-Hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 4 Hours
		> 5 ml/kg, 4 Hours
Inhalation		
LC50	Rat	> 5000 ppm, 24 Hours
		> 31.86 mg/l
		73860 ppm, 4 Hours
Oral		
LD50	Rat	24 ml/kg
		24 g/kg
	Wistar rat	49 g/kg
Petroleum Hydrocarbon (CAS 8002-74-2)		
Acute		
Dermal		
LD50	Rabbit	> 3600 mg/kg, 24 Hours
		> 4 ml/kg, 24 Hours
	Rat	> 2000 mg/kg, 24 Hours
		3600 mg/kg
Oral		
LD50	Dog	> 25 ml/kg
	Rat	> 5000 mg/kg
		> 5 ml/kg
		3750 mg/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
		658 mg/l/4h

Components	Species	Test Results
Solvent Naphtha (Petroleum), Medium Aliphatic (CAS 64742-88-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		> 2000 mg/kg, 24 Hours
LC50	Cat	> 6.4 mg/l, 6 Hours
	Rat	> 7.5 mg/l, 6 Hours
		> 4.3 mg/l, 4 Hours
		> 0.1 mg/l, 8 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, 24 Hours
Inhalation		
LC50	Mouse	6405 - 7436 ppm, 6 Hours 5320 ppm, 8 Hours
	Rat	5879 - 6281 ppm, 6 Hours
		25.7 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

ACGIH Carcinogens

Acetone (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

ACETONE (CAS 67-64-1)	Not classifiable as a human carcinogen.
TOLUENE (CAS 108-88-3)	Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Suspected of damaging fertility. Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	23.03 - 42.07 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
Aquatic			
Fish	LC50	Mozambique tilapia (Tilapia mossambica)	375 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Solvent Naphtha (Petroleum), Medium Aliphatic (CAS 64742-88-7)			
Aquatic			
Crustacea	EC50	Daphnia	100.0001 mg/L, 48 Hours
Toluene (CAS 108-88-3)			
Aquatic			
Algae	IC50	Algae	433.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	7.645 mg/L, 48 Hours
		Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
Acetone	-0.24
Cyclohexane	3.44
Isobutane	2.76
n-Heptane	4.66
n-Hexane	3.9
Propane	2.36
Toluene	2.73

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

This product is exempted under TDG section 1.17 as a limited quantity and may be shipped as a limited quantity.

15. Regulatory information

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Acetone (CAS 67-64-1)	Class B
Toluene (CAS 108-88-3)	Class B

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Issue date 01-25-2017

Version # 01

Guidelines for SDS use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal, foreseeable conditions. This SDS is designed to provide additional valuable safety and handling information.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

FICHE SIGNALÉTIQUE

1. Identification

Identificateur de produit	**HONEY GOO**
Autres moyens d'identification	
Code du produit	800
Usage recommandé	Lubrifiant
Restrictions d'utilisation	Aucuns connus.

Renseignements sur le fabricant/importateur/fournisseur/distributeur

Fabricant

Nom de la société	Les Entreprises Kleen-Flo Tumbler limitée	
Adresse	75 Advance Blvd Brampton, Ontario L6T 4N1 Canada	
Téléphone	Assistance générale	1-905-793-4311
Courriel	Non disponible.	
Numéro de téléphone d'urgence	CANUTEC: 613-996-6666	

2. Identification des dangers

Dangers physiques	Aérosols inflammables	Catégorie 1
Dangers pour la santé	Toxicité pour la reproduction (fertilité, le fœtus)	Catégorie 2
	Toxicité pour certains organes cibles - expositions répétées	Catégorie 1
	Danger par aspiration	Catégorie 1

Éléments d'étiquetage

Mention d'avertissement	Danger
Mention de danger	Aérosol extrêmement inflammable. Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires. Susceptible de nuire au fœtus. Susceptible de nuire à la fertilité. Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Conseil de prudence

Prévention	Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les mesures de sécurité. Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer. Ne pas vaporiser sur une flamme nue ou sur toute autre source d'inflammabilité. Ne pas perforer ni brûler, même après usage. Ne pas respirer les gaz. Lavez vigoureusement après manipulation. Ne pas manger, boire ou fumer en manipulant ce produit. Éviter le rejet dans l'environnement. Porter des gants/vêtements de protection/ équipement de protection des yeux/du visage.
Intervention	EN CAS D'INGESTION : Appeler immédiatement un CENTRE ANTIPOISON/médecin. NE PAS faire vomir. Si exposé(e) ou préoccupé(e) : Obtenir une consultation médicale ou des soins médicaux. Recueillir le produit répandu.
Stockage	Garder sous clef. Protéger du rayonnement solaire. Ne pas exposer à une température supérieure à 50 °C/122 °F.
Élimination	Éliminer le contenu/les conteneurs selon la loi internationale/nationale/régionale/locale.

Dangers environnementaux	Dangereux pour le milieu aquatique, danger aigu	Catégorie 2
	Dangereux pour le milieu aquatique, danger à long terme	Catégorie 2
Autres dangers	Aucuns connus.	
Renseignements supplémentaires	**Aucune.**	

3. Composition/information sur les ingrédients

Mélanges

Dénomination chimique	Nom commun et synonymes	Numéro d'enregistrement CAS	%
Distillates, Pétrole , Solvent-dewaxed Heavy Paraffinic		64742-65-0	15-40
Isobutane		75-28-5	10-30
Propane		74-98-6	10-30
n-Hexane		110-54-3	5-10
Hydrocarbure de pétrole		8002-74-2	1-5
n-Heptane		142-82-5	1-5
Solvant naphta aliphatique moyen (pétrole)		64742-88-7	1-5
Distillats naphténiques lourds (pétrole), hydrotraités		64742-52-5	0.5-1.5
Acétone		67-64-1	0.5-1.5
Cyclohexane		110-82-7	0.1-1
Toluène		108-88-3	0.1-1
Autres composés sous les niveaux déclarables			10-30

Toutes les concentrations sont en pourcentage en poids, sauf si l'ingrédient est un gaz. Les concentrations des gaz sont en pourcentage en volume.

4. Premiers soins

Inhalation	Si des symptômes se développent, mettre la victime à l'air frais. Obtenir des soins médicaux si les symptômes persistent.
Contact avec la peau	Laver avec de l'eau et du savon. Consulter un médecin si une irritation se développe et persiste.
Contact avec les yeux	Rincer avec de l'eau. Consulter un médecin si une irritation se développe et persiste.
Ingestion	Rincer la bouche. Faire appel à une assistance médicale si des symptômes apparaissent.
Symptômes et effets les plus importants, qu'ils soient aigus ou retardés	L'aspiration peut provoquer un oedème pulmonaire et une pneumonite. Une exposition prolongée peut causer des effets chroniques.
Mention de la nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire	Donner des soins généraux et traiter en fonction des symptômes. Garder la victime en observation. Les symptômes peuvent se manifester à retardement.
Informations générales	Si exposé(e) ou préoccupé(e) : Obtenir une consultation médicale ou des soins médicaux. En cas de malaise, consulter un médecin (si possible lui montrer l'étiquette). S'assurer que le personnel médical est averti des substances impliquées et prend les précautions pour se protéger. Montrer cette fiche technique signalétique au médecin en consultation.

5. Mesures à prendre en cas d'incendie

Agents extincteurs appropriés	Poudre. Dioxyde de carbone (CO2).
Agents extincteurs inappropriés	Ne pas utiliser un jet d'eau comme agent extincteur, car cela propagera l'incendie.
Dangers spécifiques du produit dangereux	Contenu sous pression. Le récipient pressurisé peut exploser lorsqu'il est exposé à la chaleur ou à une flamme. Des gaz dangereux pour la santé peuvent se former pendant l'incendie.
Équipements de protection spéciaux et précautions spéciales pour les pompiers	Les pompiers doivent porter un équipement de protection standard, notamment vêtement ignifuge, casque à masque facial, gants, bottes en caoutchouc et, dans les espaces clos, un appareil respiratoire autonome.

Équipement/directives de lutte contre les incendies	Éloigner les récipients de l'incendie si cela peut se faire sans risque. Les conteneurs doivent être refroidis à l'eau pour prévenir la création de pression de vapeur. En cas d'incendie majeur dans la zone de chargement : utiliser des supports de tuyaux autonomes et des lances à eau autonomes; sinon, se retirer et laisser brûler.
Méthodes particulières d'intervention	Employer des méthodes normales de lutte contre l'incendie et tenir compte des dangers associés aux autres substances présentes. Éloigner les récipients de l'incendie si cela peut se faire sans risque. Les récipients fermés peuvent être refroidis par eau pulvérisée. En cas d'incendie et/ou d'explosion, ne pas respirer les émanations.
Risques d'incendie généraux	Aérosol extrêmement inflammable.

6. Mesures à prendre en cas de déversement accidentel

Précautions individuelles, équipements de protection et mesures d'urgence	Tenir à l'écart le personnel dont la présence sur les lieux n'est pas indispensable. Garder les personnes à l'écart de l'endroit du déversement/de la fuite et en amont du vent. Porter un équipement et des vêtements de protection appropriés durant le nettoyage. Ne pas respirer les gaz. Ne pas toucher les récipients endommagés ou le produit déversé à moins de porter des vêtements de protection appropriés. Aérer les espaces fermés avant d'y entrer. Prévenir les autorités locales si des fuites significatives ne peuvent pas être contenues. Pour s'informer sur la protection individuelle, voir la rubrique 8.
Méthodes et matériaux pour le confinement et le nettoyage	Se reporter aux fiches signalétiques et/ou aux modes d'emploi joints. Arrêter la fuite si cela peut se faire sans risque. Déplacer le cylindre vers une zone sûre et ouverte si la fuite est irréparable. Isoler la zone jusqu'à dispersion du gaz. Éliminer toutes les sources d'inflammation (interdiction de fumer, d'avoir des torches, étincelles ou flammes dans la zone immédiate). Tenir les matériaux combustibles (bois, papier, huile, etc.) à l'écart du produit déversé. Empêcher l'entrée dans les cours d'eau, les égouts, les sous-sols ou les zones confinées. Pour se renseigner sur l'élimination, voir la rubrique 13.
Précautions relatives à l'environnement	Éviter le rejet dans l'environnement. Informer le personnel de direction et de supervision de tous les rejets dans l'environnement. Éviter un déversement ou une fuite supplémentaire, si cela est possible sans danger. Éviter le rejet dans les égouts, les cours d'eau ou sur le sol.

7. Manutention et stockage

Précautions relatives à la sûreté en matière de manutention	Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les mesures de sécurité. Récipient sous pression: ne pas perforer, ni brûler, même après usage. Ne pas utiliser si le bouton de vaporisation est manquant ou défectueux. Ne pas pulvériser contre une flamme nue ou tout autre objet incandescent. Ne pas fumer pendant l'utilisation ou jusqu'à ce que la surface vaporisée soit sèche. Ne pas couper, souder, braser, percer, broyer ou exposer les récipients à de la chaleur, à une flamme, à des étincelles ou à d'autres sources d'ignition. Tout matériel utilisé pour la manutention de ce produit doit être mis à la terre. Ne pas réutiliser des récipients vides. Ne pas respirer les gaz. Lors de l'utilisation, ne pas manger, boire ou fumer. Les femmes enceintes ou allaitantes ne doivent pas manipuler ce produit. Si possible, manipuler dans un système clos. Utiliser seulement dans les zones bien ventilées. Porter un équipement de protection individuelle approprié. Se laver les mains soigneusement après manipulation. Éviter le rejet dans l'environnement. Observer de bonnes pratiques d'hygiène industrielle.
Conditions de sûreté en matière de stockage, y compris les incompatibilités	Aérosol niveau 2. Garder sous clef. Récipient sous pression. À protéger contre les rayons solaires et à une température supérieure à 50 °C. Ne pas perforer, incinérer ou écraser. Ne pas manier ou stocker à proximité d'une flamme nue, d'une source de chaleur ou d'autres sources d'ignition. Ce matériau peut accumuler des charges statiques pouvant causer des étincelles et devenir une source d'ignition. Conserver à l'écart de matières incompatibles (voir rubrique 10).

8. Contrôle de l'exposition/protection individuelle

Limites d'exposition professionnelle

ÉTATS-UNIS. Valeurs limites d'exposition de l'ACGIH

Composants	Type	Valeur	Forme
Acétone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Hydrocarbure de pétrole (CAS 8002-74-2)	TWA	2 mg/m3	Fumées.
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Toluène (CAS 108-88-3)	TWA	20 ppm	

Canada. LEMT pour l’Alberta (Code de l’hygiène et de la sécurité au travail, Annexe 1, Tableau 2)

Composants	Type	Valeur	Forme
Acétone (CAS 67-64-1)	STEL	1800 mg/m3 750 ppm	
	TWA	1200 mg/m3 500 ppm	
Cyclohexane (CAS 110-82-7)	TWA	344 mg/m3 100 ppm	
Hydrocarbure de pétrole (CAS 8002-74-2)	TWA	2 mg/m3	Fumées.
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm	
	TWA	1640 mg/m3 400 ppm	
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3 50 ppm	
Propane (CAS 74-98-6)	TWA	1000 ppm	
Toluène (CAS 108-88-3)	TWA	188 mg/m3 50 ppm	

Canada. LEMT pour la Colombie-Britannique. (Valeurs limites d'exposition en milieu de travail pour les substances chimiques, Réglementation sur la santé et sécurité au travail 296/97, ainsi modifiée

Composants	Type	Valeur	Forme
Acétone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Hydrocarbure de pétrole (CAS 8002-74-2)	TWA	2 mg/m3	Fumées.
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	20 ppm	
Toluène (CAS 108-88-3)	TWA	20 ppm	

Canada. LEMT de Manitoba (Règlement 217/2006, Loi sur la sécurité et l'hygiène du travail)

Composants	Type	Valeur	Forme
Acétone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Hydrocarbure de pétrole (CAS 8002-74-2)	TWA	2 mg/m3	Fumées.
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Toluène (CAS 108-88-3)	TWA	20 ppm	

Canada. LEMT pour l’Ontario. (Contrôle de l’exposition à des agents biologiques et chimiques)

Composants	Type	Valeur	Forme
Acétone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	
Hydrocarbure de pétrole (CAS 8002-74-2)	TWA	2 mg/m3	Fumées.
Isobutane (CAS 75-28-5)	TWA	800 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Toluène (CAS 108-88-3)	TWA	20 ppm	

Canada. LEMT du Québec, (Ministère du Travail. Règlement sur la qualité du milieu de travail)

Composants	Type	Valeur	Forme
Acétone (CAS 67-64-1)	STEL	2380 mg/m3 1000 ppm	
	TWA	1190 mg/m3 500 ppm	
Cyclohexane (CAS 110-82-7)	TWA	1030 mg/m3 300 ppm	
Hydrocarbure de pétrole (CAS 8002-74-2)	TWA	2 mg/m3	Fumées.
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm	
	TWA	1640 mg/m3 400 ppm	
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3 50 ppm	
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm	
Toluène (CAS 108-88-3)	TWA	188 mg/m3 50 ppm	

Valeurs biologiques limites

Indices d’exposition biologique de l’ACGIH

Composants	Valeur	Déterminant	Échantillon	Temps d'échantillonnage
Acétone (CAS 67-64-1)	25 mg/l	Acétone	Urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-hexanedione, sans hydrolyse	Urine	*
Toluène (CAS 108-88-3)	0.3 mg/g	o-crésol, avec hydrolyse	Créatinine dans l’urine	*
	0.03 mg/l	Toluène	Urine	*
	0.02 mg/l	Toluène	Sang	*

* - Pour des détails sur l’échantillonnage, veuiller consulter le document source.

Directives au sujet de l'exposition

Canada - LEMT pour l’Alberta : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Toluène (CAS 108-88-3)	Peut être absorbé par la peau.

Canada - LEMT pour la Colombie-Britannique : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.

Canada - LEMT pour le Manitoba : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.

Canada - LEMT pour l’Ontario : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.

Canada - LEMT pour le Québec : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Toluène (CAS 108-88-3)	Peut être absorbé par la peau.

Canada - LEMT pour la Saskatchewan : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Toluène (CAS 108-88-3)	Peut être absorbé par la peau.

États-Unis - Valeurs limites d’exposition de l’ACGIH : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.

Contrôles d'ingénierie appropriés

Il faut utiliser une bonne ventilation générale (habituellement dix changements d’air l’heure). Les débits de ventilation doivent être adaptés aux conditions. S'il y a lieu, utiliser des enceintes d'isolement, une ventilation locale ou d'autres mesures d'ingénierie pour maintenir les concentrations atmosphériques sous les limites d'exposition recommandées. Si des limites d'exposition n'ont pas été établies, maintenir les concentrations atmosphériques à un niveau acceptable.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection du visage/des yeux	En cas de risque de contact, le port de lunettes de sécurité à écrans latéraux est conseillé.
Protection de la peau	
Protection des mains	Porter des gants appropriés et résistant aux produits chimiques. Les gants appropriés peuvent être indiqués par le fournisseur de gants.
Autre	L'emploi d'un tablier imperméable est recommandé.
Protection respiratoire	Si les niveaux admissibles sont dépassés, utiliser un filtre mécanique / une cartouche contre les vapeurs organiques NIOSH ou un respirateur avec alimentation d'air.
Dangers thermiques	Porter des vêtements de protection thermique appropriés, lorsque nécessaire.
Considérations d'hygiène générale	Suivre toutes les exigences de surveillance médicale. Ne pas fumer pendant l'utilisation. Toujours adopter de bonnes pratiques d'hygiène personnelle, telles que se laver après avoir manipulé la substance et avant de manger, de boire ou de fumer. Nettoyer régulièrement la tenue de travail et l'équipement de protection pour éliminer les contaminants.

9. Propriétés physiques et chimiques

Apparence	
État physique	Liquide.
Forme	Aérosol
Couleur	Non disponible.
Odeur	Non disponible.
Seuil olfactif	Non disponible.
pH	Non disponible.
Point de fusion et point de congélation	Non disponible.
Point initial d'ébullition et domaine d'ébullition	201.95 °C (395.52 °F) estimation
Point d'éclair	-104.4 °C (-156.0 °F) Propulseur estimation
Taux d'évaporation	Non disponible.
Inflammabilité (solides et gaz)	Non disponible.
Limites supérieures et inférieures d'inflammabilité ou d'explosibilité	
Limites d'inflammabilité - inférieure (%)	1.3 % estimation
Limites d'inflammabilité - supérieure (%)	7.8 % estimation
Limite d'explosibilité - inférieure (%)	Non disponible.
Limite d'explosibilité - supérieure (%)	Non disponible.
Tension de vapeur	Non disponible.
Densité de vapeur	Non disponible.
Densité relative	Non disponible.
Solubilité	
Solubilité (eau)	Non disponible.
Coefficient de partage n-octanol/eau	Non disponible.
Température d'auto-inflammation	Non disponible.
Température de décomposition	Non disponible.
Viscosité	Non disponible.
Autres informations	
Propriétés explosives	Non explosif.

Propriétés comburantes	Non oxydant.

10. Stabilité et réactivité

Réactivité	Le produit est stable et non réactif dans des conditions normales d'utilisation, d'entreposage et de transport.
Stabilité chimique	La substance est stable dans des conditions normales.
Risque de réactions dangereuses	Une polymérisation dangereuse ne se produit pas.
Conditions à éviter	Éviter les températures supérieures au point d'éclair. Contact avec des matériaux incompatibles.
Matériaux incompatibles	Les agents oxydants forts. Nitrates. Fluor Chlore
Produits de décomposition dangereux	Aucun produit dangereux de décomposition n'est connu.

11. Données toxicologiques

Renseignements sur les voies d'exposition probables

Inhalation	Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée par inhalation.
Contact avec la peau	Aucun effet indésirable par contact avec la peau n'est attendu.
Contact avec les yeux	Le contact direct avec les yeux peut causer une irritation temporaire.
Ingestion	La pénétration des gouttelettes du produit dans les poumons par inhalation, par ingestion ou par vomissement peut causer une pneumonie chimique.
Les symptômes correspondant aux caractéristiques physiques, chimiques et toxicologiques	L'aspiration peut provoquer un oedème pulmonaire et une pneumonite.

Renseignements sur les effets toxicologiques

Toxicité aiguë	Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

Composants	**Espèces**	**Résultats d'épreuves**
Acétone (CAS 67-64-1)		
Aiguë		
Cutané		
DL50	Cobaye	> 7426 mg/kg, 24 heures
		> 9.4 ml/kg, 24 heures
	Lapin	> 7426 mg/kg, 24 heures
		> 9.4 ml/kg, 24 heures
Inhalation		
CL50	Rat	55700 ppm, 3 heures
		132 mg/l, 3 heures
		50.1 mg/l
Orale		
DL50	Rat	5800 mg/kg
		2.2 ml/kg
Cyclohexane (CAS 110-82-7)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg
Inhalation		
CL50	Rat	> 32880 mg/m3, 4 heures
		> 5540 ppm, 4 heures
Orale		
DL50	Lapin	> 5000 mg/kg

Composants	Espèces	Résultats d'épreuves
	Rat	> 5000 mg/kg
Distillates, Pétrole , Solvent-dewaxed Heavy Paraffinic (CAS 64742-65-0)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg
		> 2000 mg/kg, 24 heures
Inhalation		
CL50	Rat	2.18 mg/l, 4 heures
Orale		
DL50	Rat	> 2000 mg/kg
Distillats naphténiques lourds (pétrole), hydrotraités (CAS 64742-52-5)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg
		> 2000 mg/kg, 24 heures
Inhalation		
CL50	Rat	2.18 mg/l, 4 heures
Orale		
DL50	Rat	> 2000 mg/kg
Hydrocarbure de pétrole (CAS 8002-74-2)		
Aiguë		
Cutané		
DL50	Lapin	> 3600 mg/kg, 24 heures
		> 4 ml/kg, 24 heures
	Rat	> 2000 mg/kg, 24 heures
		3600 mg/kg
Orale		
DL50	Chien	> 25 ml/kg
	Rat	> 5000 mg/kg
		> 5 ml/kg
		3750 mg/kg
Isobutane (CAS 75-28-5)		
Aiguë		
Inhalation		
CL50	Rat	1355 mg/l
	Souris	1237 mg/l, 120 minutes
		52 %, 120 minutes
n-Heptane (CAS 142-82-5)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg, 24 heures
Inhalation		
CL50	Rat	> 29.29 mg/l, 4 heures
Orale		
DL50	Rat	> 5000 mg/kg
n-Hexane (CAS 110-54-3)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg, 4 heures

Composants	Espèces	Résultats d'épreuves
		> 5 ml/kg, 4 heures
Inhalation		
CL50	Rat	> 5000 ppm, 24 heures
		> 31.86 mg/l
		73860 ppm, 4 heures
Orale		
DL50	Rat	24 ml/kg
		24 g/kg
	Rat Wistar	49 g/kg
Propane (CAS 74-98-6)		
Aiguë		
Inhalation		
CL50	Rat	1355 mg/l
		658 mg/l/4h
	Souris	1237 mg/l, 120 minutes
		52 %, 120 minutes
Solvant naphta aliphatique moyen (pétrole) (CAS 64742-88-7)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg
		> 2000 mg/kg, 24 heures
Inhalation		
CL50	Chat	> 6.4 mg/l, 6 heures
	Rat	> 7.5 mg/l, 6 heures
		> 4.3 mg/l, 4 heures
		> 0.1 mg/l, 8 heures
Orale		
DL50	Rat	> 5000 mg/kg
Toluène (CAS 108-88-3)		
Aiguë		
Cutané		
DL50	Lapin	> 5000 mg/kg, 24 heures
Inhalation		
CL50	Rat	5879 - 6281 ppm, 6 heures
		25.7 mg/l, 4 heures
	Souris	6405 - 7436 ppm, 6 heures
		5320 ppm, 8 heures
Orale		
DL50	Rat	> 5000 mg/kg

* Les estimations pour le produit peuvent être basées sur d’autres données de composants non montrées.

Corrosion cutanée/irritation cutanée Un contact prolongé avec la peau peut entraîner une irritation temporaire.

Lésions oculaires graves/irritation oculaire Le contact direct avec les yeux peut causer une irritation temporaire.

Sensibilisation respiratoire ou cutanée

Sensibilisation respiratoire N’est pas un sensibilisant respiratoire.

Sensibilisation cutanée Ce produit ne devrait pas causer une sensibilisation de la peau.

Mutagénicité sur les cellules germinales Il n'existe pas de données indiquant que ce produit, ou tout composant présent à des taux de plus de 0,1 %, soit mutagène ou génétoxique.

Cancérogénicité Le risque d'un cancer ne peut pas être exclu suite à une exposition prolongée.

Carcinogènes selon l'ACGIH

Acétone (CAS 67-64-1)	A4 Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
Toluène (CAS 108-88-3)	A4 Ne peut pas être classé quant à sa cancérogénicité pour l'homme.

Canada - LEMT pour le Manitoba : cancérogénicité

ACÉTONE (CAS 67-64-1)	Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
TOLUÈNE (CAS 108-88-3)	Ne peut pas être classé quant à sa cancérogénicité pour l'homme.

Monographies du CIRC. Évaluation globale de la cancérogénicité

Toluène (CAS 108-88-3)	3 Ne peut pas être classé quant à la cancérogénicité pour l'homme.

Toxicité pour la reproduction Susceptible de nuire à la fertilité. Susceptible de nuire au fœtus.

Toxicité pour certains organes cibles - exposition unique Non classé.

Toxicité pour certains organes cibles - expositions répétées Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Danger par aspiration Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

Effets chroniques Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée. Une exposition prolongée peut causer des effets chroniques.

12. Données écologiques

Écotoxicité Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme

Composants		Espèces	Résultats d'épreuves
Acétone (CAS 67-64-1)			
Aquatique			
Crustacés	CE50	Puce d'eau (daphnia magna)	21.6 - 23.9 mg/l, 48 heures
Poisson	CL50	Truite arc-en-ciel (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 heures
Cyclohexane (CAS 110-82-7)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	23.03 - 42.07 mg/l, 96 heures
n-Heptane (CAS 142-82-5)			
Aquatique			
Poisson	CL50	Tilapia Mozambique (Tilapia mossambica)	375 mg/l, 96 heures
n-Hexane (CAS 110-54-3)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	2.101 - 2.981 mg/l, 96 heures
Solvant naphta aliphatique moyen (pétrole) (CAS 64742-88-7)			
Aquatique			
Crustacés	CE50	Daphnia	100.0001 mg/L, 48 heures
Toluène (CAS 108-88-3)			
Aquatique			
Algues	IC50	Algues	433.0001 mg/L, 72 heures
Crustacés	CE50	Daphnia	7.645 mg/L, 48 heures
		Puce d'eau (daphnia magna)	5.46 - 9.83 mg/l, 48 heures
Poisson	CL50	Saumon coho, (Oncorhynchus kisutch)	8.11 mg/l, 96 heures

* Les estimations pour le produit peuvent être basées sur d'autres données de composants non montrées.

Persistance et dégradation Aucune donnée n'est disponible sur la biodégradabilité du produit.

Potentiel de bioaccumulation

Potentiel de bioaccumulation

Log Koe du coefficient de répartition octanol/eau

Acétone	-0.24
Cyclohexane	3.44
Isobutane	2.76
n-Heptane	4.66
n-Hexane	3.9
Propane	2.36
Toluène	2.73

Mobilité dans le sol Aucune donnée disponible.

Autres effets nocifs On ne prévoit aucun autre effet environnemental négatif (par ex., appauvrissement de la couche d'ozone, potentiel de formation photochimique d'ozone, perturbation endocrinienne, potentiel de réchauffement de la planète) causé par ce composant.

13. Données sur l'élimination

Instructions pour l'élimination Recueillir et réutiliser ou éliminer dans des récipients scellés dans un site d'élimination des déchets autorisé. Contenu sous pression. Ne pas perforer, incinérer ou écraser. Ne pas laisser la substance
s'infiltrer dans les égoûts/les conduits d'alimentation en eau. Ne pas contaminer les étangs, les voies navigables ou les fossés avec le produit ou le récipient utilisés. Éliminer le contenu/les conteneurs selon la loi internationale/nationale/régionale/locale.

Règlements locaux d'élimination Détruire conformément à
toutes les réglementations applicables.

Code des déchets dangereux Les codes de déchets doivent être attribués dans le cadre d'une consultation entre l'utilisateur, le fabricant et l'entreprise de décharge.

Déchets des résidus / produits non utilisés Éliminer le produit conformément avec la réglementation locale en vigueur. Des résidus de produit peuvent demeurer dans les contenants vides et sur les toiles d'emballage. Ce produit et son contenant doivent être éliminés de façon sécuritaire (voir les instructions d'élimination).

Emballages contaminés Comme les récipients vides peuvent contenir des résidus de produit, respecter les avertissements sur l'étiquette même après avoir vidé le récipient. Les contenants vides doivent être acheminés vers une installation certifiée de traitement des déchets en vue de leur élimination ou recyclage. Ne pas réutiliser des récipients vides.

14. Informations relatives au transport

TMD

Numéro ONU UN1950

Désignation officielle de transport de l'ONU AÉROSOLS, inflammables

Classe de danger relative au transport

Classe 2.1

Danger subsidiaire **-**

Groupe d'emballage Sans objet.

Dangers environnementaux Oui

Précautions spéciales pour l'utilisateur

Lire les instruction s de sécurité, la FS et les procédures d'urgence avant de manipuler.

15. Informations sur la réglementation

Réglementation canadienne

Loi réglementant certaines drogues et autres substances

Non réglementé.

Liste des marchandises d'exportation contrôlée (LCPE 1999, Annexe 3)

Non inscrit.

Gaz à effet de serre

Non inscrit.

Règlements sur les précurseurs

Acétone (CAS 67-64-1)	Classe B
Toluène (CAS 108-88-3)	Classe B

Règlements internationaux

Convention de Stockholm

Sans objet.

Convention de Rotterdam

Sans objet.

Protocole de Kyoto

Sans objet.

Montreal Protocol

Sans objet.

Convention de Bâle

Sans objet.

Inventaires Internationaux

Pays ou région	Nom de l'inventaire	En stock (Oui/Non)*
Australie	Inventaire australien des substances chimiques (AICS)	Non
Canada	Liste intérieure des substances (LIS)	Oui
Canada	Liste extérieure des substances (LES)	Non
Chine	Inventaire des substances chimiques existantes en Chine (IECSC)	Non
Europe	Inventaire européen des substances chimiques commerciales existantes (EINECS)	Non
Europe	Liste européenne des substances chimiques notifiées (ELINCS)	Non
Japon	Inventaire des substances chimiques existantes et nouvelles (ENCS)	Non
Corée	Liste des produits chimiques existants (ECL)	Non
Nouvelle-Zélande	Inventaire de la Nouvelle-Zélande	Non
Philippines	Inventaire philippin des produits et substances chimiques (PICCS)	Non
États-Unis et Porto Rico	Inventaire du TSCA (Toxic Substances Controls Act - Loi réglementant les substances toxiques)	Oui

*La réponse « Oui » indique que tous les composants du produit sont conformes aux exigences d'entreposage du pays ayant compétence
Un « Non » indique qu'un ou plusieurs composant(s) du produit n'est/ne sont pas inscrit(s) ou exempt(s) d'une inscription sur l'inventaire administré par le(s) pays ayant compétence.

16. Renseignements divers

Date de publication	25-Janvier-2017
Version n°	01

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

Avis de non-responsabilité	À notre connaissance et selon nos renseignements et notre opinion à la date de publication de cette fiche signalétique, les renseignements fournis dans cette dernière sont exacts. Les renseignements donnés sont conçus uniquement comme un guide pour la manipulation, l'utilisation, le traitement, l'entreposage, le transport, l'élimination et le rejet sécuritaires du produit et ne doivent pas être considérés comme une garantie ou une norme de qualité. Les renseignements sont liés uniquement au produit particulier indiqué et peuvent ne pas être valides pour un tel produit utilisé en association avec toute autre substance ou dans tout autre procédé, sauf si indiqué dans le texte.

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product identity: Humidifier Bacteriostatic Treatment

Use: Humidifier bacteriostat for home use

Supplier: Essick Air Products, Inc.
5800 Murray Street
Little Rock, AR 72209-2543
(501) 562-1094

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ready-to-use solution containing the following active ingredients:

n-Alkyl (60%C_{14}, 30%C_{16}, 5%C_{12}, 5%C_{18}) dimethyl benzyl ammonium chlorides (CAS No. 53516-76-0)	1.125%
n-Alkyl (68%C_{12}, 32%C_{14}) dimethyl ethylbenzyl ammonium chlorides (CAS No. 85409-23-0)	1.125%

3. HAZARDS IDENTIFICATION

Appearance: clear, colorless liquid. Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Wear protective eyewear, protective clothing, and rubber gloves. Harmful if swallowed. After high vapor exposure, remove to fresh air.

This product contains no carcinogens listed by IARC, NTP, NIOSH, OSHA, or ACGIH as of this date, greater or equal to 0.1%.

4. FIRST AID MEASURES

EYE CONTACT: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

SKIN CONTACT: Take off contaminated clothing as necessary. Rinse skin immediately with plenty of water for 15 ï 20 minutes. Call a poison control center or doctor for treatment advice, if irritation develops.

INHALATION: Remove person to fresh air. If breathing has stopped, resuscitate. Call a poison control center or doctor for treatment advice.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

FLASH POINT: N/A METHOD USED: N/A

National Fire Protection Association (NFPA) ï Hazard Information
Health ï 0 Flammability ï 0 Reactivity ï 0
(This product meets the requirements of L A Rule 66 and similar regulations.)

EXTINGUISHING MEDIA: N/A

SPECIAL EXPOSURE HAZARDS: N/A

PRODUCTS OF COMBUSTION AND DECOMPOSITION: See Section 10 ï Stability and Reactivity

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: See Section 8 ï Exposure Controls/Personal Protection

Environmental Precautions: Not known

Spill or leak procedures: Stop spill source at once, dike area and contain. If possible, pump liquid into salvage tank. Remaining residue may be taken up with absorbent material and shoveled into containers. Evaporate

until all vapors are gone. Dispose of in accordance with all State and Federal regulations.

7. HANDLING AND STORAGE

Use only with adequate ventilation. Do not store above 49°C (120°F).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use local exhaust to capture excessive vapor, mists, or fumes. Use only with adequate ventilation. Keep container tightly closed and upright when not in use to prevent leakage.

Respiratory Protection: Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

Skin Protection: When prolonged or repeated skin contact is anticipated, use chemical-resistant gloves.

Eye Protection: Use goggles or face shield when eye contact may occur.

Personal Hygiene: Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid
Odor: Mild
pH: 5.46
Boiling Point: 101°C (214°F)
Vapor Pressure (mm of Hg at 20°C): 17.0
Vapor Density: 0.6
Specific Gravity: 0.996 g/mL
Water Solubility: Complete

10. STABILITY AND REACTIVITY

Stable in original container at ambient temperatures.

Conditions to avoid: N/A

Materials to avoid: Isolate from strong oxidizers, such as permanganate.

Hazardous and/or decomposition products: Hydrogen chloride, phosgene, nitrogen oxide vapors from heating

11. TOXICOLOGICAL INFORMATION

Acute oral: > 500 mg/kg
Acute dermal: > 2000 mg/kg

Primary eye irritation: corrosive
Primary skin irritation: corrosive

12. ECOLOGICAL INFORMATION

There is no ecotoxicity data available for this product.

13. DISPOSAL CONSIDERATIONS

If the material as supplied becomes a waste, discard in trash. Do not reuse container.

14. TRANSPORT INFORMATION

SHIPPING NAME: N/A
HAZARD CLASS: N/A
PACKING GROUP: N/A
DOT IDENTIFICATION NO.: None assigned (UN0000)

For further information relative to spills resulting from transportation incidents, refer to the latest Department of Transportation (DOT) Emergency Response Guidebook for Hazardous Materials Incidents.

15. REGULATORY INFORMATION

This product is registered with the US Environmental Protection Agency (EPA Reg. No. 81371-1).

16. OTHER INFORMATION

MSDS Status: New
MSDS Prepared by: Merritt Grissinger
Regulatory Specialist
SciReg, Inc.

Abbreviations: N/A ï Not applicable

CHARLOTTE™ PRODUCTS LTD.

MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrogen Peroxide Multi-Purpose Cleaner
Product Code: ES72C
Product Use: General Purpose Cleaner

Manufacturer/Supplier: Enviro-Solutions™
Address: 2060 Fisher Drive
Peterborough, ON K9J 8N4
Telephone: (705) 745-3070

HMIS Hazard Rating

HEALTH	1	0 – Insignificant
FLAMMABILITY	0	1 – Slight
REACTIVITY	0	2 – Moderate
PERSONAL PROTECTION	B	3 – High
		4 – Extreme

Emergency Phone: Infotrac 1-800-535-5053 (North America, 011-1-352-323-3500 (International)

SECTION II – INFORMATION ON INGREDIENTS

Ingredients	CAS#	WT%	ACGIH-TLV	LD_{50}	LC_{50}
Water	7732-18-5	60-100	Not applicable	90,000 mg/kg (Oral, Rat)	NA
Alcohol ethoxylate	68991-48-0	5-10	Not applicable	>2,000 mg/kg (Oral, Rat)	NA
Hydrogen peroxide	7722-84-1	1-5	1 ppm TWA	1,232 mg/kg (Oral, Rat)	NA
Tetrasodium glutamate diacetate	51981-21-6	0.1-1	Not applicable	>2,000 mg/kg (Oral, Rat)	NA
Gluconic Acid	526-95-4	0.1-1	Not applicable	>9,100 mg/kg (Oral, Rat)	NA
Fragrance	Mixture	0-0.1	Not applicable	NA	NA
Dye	Mixture	0-0.1	Not applicable	NA	NA

SECTION III – HAZARDS IDENTIFICATION

Route of Entry: Eye, skin contact, inhalation, ingestion.
Effects of Acute Exposure:
Eye Contact: May cause irritation.
Skin Contact: May cause irritation.
Inhalation: No hazards under normal conditions of use. Prolonged exposure may cause nose, throat and respiratory tract irritation.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Effects of Chronic Exposure: See Section 11.

SECTION IV – FIRST AID MEASURES

Eye Contact: Flush with water for 15 minutes. Seek medical attention if irritation persists.
Skin Contact: Flush with water for 15 minutes. Seek medical attention if irritation develops.
Inhalation: Remove to fresh air and take deep, slow breaths. Seek medical attention if irritation persists.
Ingestion: Do not induce vomiting. Rinse mouth with water, then drink one glass of water. Seek medical attention if symptoms persist. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness, or is convulsing.

SECTION V – FIRE FIGHTING MEASURES

Flammability: Not flammable. **Flash Point:** (deg C, TCC): None
LEL: None **UEL:** None
Auto-Ignition Temperature: None
Hazardous Combustion Products: Oxides of carbon and nitrogen.
Means of Extinction: Water mist (fog), dry chemical, carbon dioxide, or foam.
Special Fire Hazards: Firefighters should wear self-contained breathing apparatus.
Explosion Data – Sensitivity to Mechanical Impact: None.
Explosion Data – Sensitivity to Static Discharge: None.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures: Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labeled containers. Wash surface with plenty of water. For large quantities, dispose of in accordance with local, state/provincial and federal laws.

SECTION VII – HANDLING AND STORAGE

Storage Requirements: KEEP OUT OF REACH OF CHILDREN. Store in a closed container. Store in a cool, dry, well-ventilated area away from incompatible materials. Store away from heat.

SECTION VIII – EXPOSURE CONTROL/PERSONAL PROTECTION

Gloves: Rubber gloves may be advisable if repeated/prolonged contact may occur or for those with sensitive skin.
Eye protection: Use safety glasses when direct contact may occur.
Respiratory protection: Not normally required under normal operating conditions, if good ventilation is maintained.
Other protective equipment: As required by employer code.
Engineering Controls: General ventilation normally adequate.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor: Clear, blue; Fresh.		**Physical State:** Liquid
Boiling Point (°C): 100	**Freezing Point (°C):** NE	**% Volatile (Wt%):** >80
Specific Gravity (H_2O=1): 1.02	**VOC (g/L):** < 1	**pH (as supplied):** 4.75
Evaporation Rate (Water=1): Similar		**Viscosity:** Water thin.
Coefficient of Water/Oil Distribution: NE		**Solubility in Water:** Soluble
Vapor Pressure: NA	**Vapor Density:** NA	**Odor Threshold:** NE

SECTION X – STABILITY AND REACTIVITY

Conditions for Chemical Instability: Stable.
Incompatibility Materials: Aluminum, aluminum alloys, strong alkali and strong reducing agents.
Conditions of reactivity: NE
Hazardous Decomposition Products: Oxides of carbon and nitrogen.

SECTION XI – TOXICOLOGICAL INFORMATION

LD_{50} (Calculated): > mg/kg 8,000 (Oral, Rat). **LC_{50}:** Not applicable.
This product may cause irritation to the eyes or skin upon prolonged contact.
Conditions Aggravated by Exposure: None known.
Sensitization to Product: None known.
Carcinogenicity: No ingredients listed by IARC or NTP. Non-hazardous by WHMIS standards.
Teratogenicity, Mutagenicity, Reproductive Effects: None known.
Toxicologically Synergistic Products: None known.

SECTION XII – ECOLOGICAL INFORMATION

Biodegradability: All organic ingredients of this formula have been tested by an independent laboratory and all are readily biodegradable as measured by OECD Test Method 301D.
Aquatic Acute Toxicity: LC_{50} >100 mg/L (Calculated, 96 hr, Fish)
(**of concentrate**)

SECTION XIII – DISPOSAL CONSIDERATIONS

Dispose of in accordance with local state/provincial and federal regulations.

SECTION XIV - TRANSPORTATION

Special Shipping Information: Keep from freezing.
T.D.G. Classification: Not regulated under T.D.G.
D.O.T. Classification: Not regulated under D.O.T.

SECTION XV – REGULATORY INFORMATION

Occupational Health and Safety Regulations:
WHMIS Class: D2B.
OSHA & WHMIS: MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) and Canadian WHMIS regulations (Controlled Products Regulations under the Hazardous Product Act).
Environmental Regulatory Lists:
SARA – Section 313 (Toxic Chemical Release Reporting) 40 CFR 372 – None of these ingredients are listed.
CERCLA – Section 102 (Reportable Quantity) 40 CFR 302 – None of these ingredients are listed.
RCRA 40CFR 261 (SUBPART D) – None of these ingredients are listed.
CLEAN WATER ACT – Section 311 (Reportable Quantity) 40 CFR 116 - None of these ingredients are listed.
CLEAN AIR ACT – Section 312 (List of Hazardous Air Pollutants) 40 CFR 63 (Subpart C) – None of these ingredients are listed.
National Pollutant Release Inventory – None of the ingredients are listed.
Toxic Substances Control Act (TSCA) – All the ingredients are registered on the Chemical Substance Inventory.
Canadian Domestic Substance List (DSL) – All the ingredients are registered on the DSL.

SECTION XVI – OTHER INFORMATION

Date: December 1, 2014
Prepared by: Technical Services Group **Telephone:** (705) 745-3070

NA: Not Available NE: Not Established

Section 1 - Identification of The Material and Supplier

AVT Paints Pty Ltd
Level 1, 59 The Esplanade
Maroochydore, Qld 4558
Phone: 07 3391 8122 (office hours)
Fax: 07 3391 8133

Chemical nature: Blend of pigment and resin in a suitable solution. Presented as an aerosol.
Trade Name: **Ironlak STANDARD COLOURS**
Product Use: Paint.
Creation Date: **October, 2016**
This version issued: **October, 2016** and is valid for 5 years from this date.
Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Xi, Irritating. Hazardous according to the criteria of SWA.
Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

SUSMP Classification: None allocated.
ADG Classification: Class 2.1: Flammable gases.
UN Number: 1950, AEROSOLS



GHS Signal word: DANGER

Flammable aerosols Category 1
Gases under pressure - Compressed gas
Serious eye damage/eye irritation Category 2B
Specific Target Organ Toxicity - Single Exposure Category 3

HAZARD STATEMENT:

H222: Extremely flammable aerosol
H280: Contains gas under pressure; may explode if heated.
AUH066: Repeated exposure may cause skin dryness or cracking.
H320: Causes eye irritation.
H336: May cause drowsiness or dizziness.

PREVENTION

P102: Keep out of reach of children.
P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P211: Do not spray on an open flame or other ignition source.
P251: Pressurized container: Do not pierce or burn, even after use.
P261: Avoid breathing fumes, mists, vapours or spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash contacted areas thoroughly after handling.
P271: Use only outdoors or in a well ventilated area.
P281: Use personal protective equipment as required.

RESPONSE

P312: Call a POISON CENTRE or doctor if you feel unwell.
P352: Wash with plenty of soap and water.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice.
P372: Explosion risk in case of fire.
P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires.

STORAGE

P402: Store in a dry place.
P403: Store in a well-ventilated place.
P405: Store locked up.
P410+P412: Store below 30°C, protect from direct sunlight and do not expose to temperatures exceeding 50°C.

DISPOSAL

P501: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

Emergency Overview

Physical Description & Colour: Coloured liquid presented as an aerosol.
Odour: Characteristic solvent odour.
Major Health Hazards: eye irritant, repeated exposure may cause skin dryness or cracking, vapours may cause drowsiness and dizziness.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m^3)	STEL (mg/m^3)
dimethyl ether	115-10-6	30-40	760	950
n-Butyl acetate	123-86-4	5-15	713	950
Acetone	67-64-1	8-15	1185	2375
Ethyl acetate	141-78-6	8-15	720	1440
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
Skin Contact: Quickly and gently blot away excess liquid. Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 10 minutes or until chemical is removed. If irritation persists, repeat flushing and obtain medical advice.
Eye Contact: Quickly and gently blot material from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.
Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions.
Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.
Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.
Flash point: About -40°C, (propellant)
Upper Flammability Limit: Not available

Lower Flammability Limit: Not available
Autoignition temperature: No data.
Flammability Class: Flammable Category 2 (GHS); Highly Flammable (AS1940).

Section 6 - Accidental Release Measures

Accidental release: This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.
Storage: Store in a cool (below 30°C), well ventilated area. Protect from direct sunlight. Make sure that surrounding electrical devices and switches are suitable. Check containers and valves periodically for leaks. If you keep more than 25kg of flammable gases, you are probably required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m^3)	STEL (mg/m^3)
dimethyl ether	760	950
n-Butyl acetate	713	950
Acetone	1185	2375
Ethyl acetate	720	1440

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.
Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.
Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.
Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.
Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC.
Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.
Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour: Coloured liquid presented as an aerosol.
Odour: Characteristic solvent odour.
Boiling Point: Not available.
Freezing/Melting Point: No specific data. Liquid at normal temperatures.
Volatiles: No data.
Vapour Pressure: No data.
Vapour Density: No data.
Specific Gravity: No data.

Water Solubility:	Insoluble.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	No data.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.
Conditions to Avoid: Store below 30°C, protect from direct sunlight and do not expose to temperatures exceeding 50°C. Containers should be kept dry. Keep containers and surrounding areas well ventilated. Keep away from sources of sparks or ignition. Any electrical equipment in the area of this product should be flame proofed.
Incompatibilities: strong acids, strong bases, oxidising agents.
Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.
Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:
Target Organs: There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Dimethyl Ether	No risk phrases at concentrations found in this product
• Flammable gas - category 1 • Gas under pressure	
N-butyl Acetate	No risk phrases at concentrations found in this product
• Flammable liquid - category 3 • Specific target organ toxicity (single exposure) - category 3	
Acetone	No risk phrases at concentrations found in this product
• Flammable liquid - category 2 • Eye irritation - category 2A • Specific target organ toxicity (single exposure) - category 3	
Ethyl Acetate	No risk phrases at concentrations found in this product
• Flammable liquid - category 2 • Specific target organ toxicity (single exposure) - category 3 • Eye irritation - category 2A	

Potential Health Effects

Inhalation:
Short Term Exposure: High vapour pressures may cause drowsiness and dizziness. In addition product is unlikely to cause any discomfort or irritation. Intentional misuse by deliberately concentrating and inhaling contents of aerosol containers can be harmful or fatal.
Long Term Exposure: Vapours may cause drowsiness and dizziness.

Skin Contact:
Short Term Exposure: Major health effect from this product is misuse of the aerosol function. If sprayed continuously on skin or in eyes, it can cause frostbite.
Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:
Short Term Exposure: If sprayed directly in the eye, this product will irritate. If spraying is prolonged, it may cause damage through frostbite.
Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.
Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.
NTP: No significant ingredient is classified as carcinogenic by NTP.
IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12 - Ecological Information

Insufficient data to be sure of status.

Section 13 - Disposal Considerations

Disposal: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service. Do not puncture or incinerate aerosol cans, even when empty.

Section 14 - Transport Information

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

UN Number: 1950, AEROSOLS
Hazchem Code: 2YE
Special Provisions: 63, 190, 277
Limited quantities: ADG 7 specifies a Limited Quantity value of 1000mL for this class of product.
Dangerous Goods Class: Class 2.1: Flammable gases.
Packing Group: Not set
Packing Instruction: P003

Class 2.1 Flammable gases shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids) (where both flammable liquids and flammable gases are in bulk), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.2 (Non-flammable Non-Toxic gases), 3 (Flammable liquids except where both flammable liquids and flammable gases are in bulk), 6 (Toxic Substances), 8 (Corrosive Substances) 9 (Miscellaneous dangerous goods), Foodstuffs and foodstuff empties.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document “Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice” (Feb 2016)

http://www.kilford.com.au/ Phone (02)9251 4532

Safety Data Sheet
Isopropyl Rubbing Alcohol USP 70%

SDS Revision Date: 01/09/2018

1. Identification

1.1. Product identifier

Product Identity	Isopropyl Rubbing Alcohol USP 70%
Alternate Names	Product Code: 002

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	First aid to help prevent the risk of infection in: minor cuts, scrapes, burns. For external use only.
Application Method	Clean the affected area. Apply 1 to 3 times daily.

1.3. Details of the supplier of the safety data sheet

Company Name	Hydrox Laboratories 825 Tollgate Rd. Elgin, IL 60123
Emergency	
24 hour Emergency Telephone No.	800-255-3924
Customer Service: Hydrox Laboratories	847-468-9400

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Flam. Liq. 3;H226	Flammable liquid and vapor.
Eye Irrit. 2;H319	Causes serious eye irritation.
STOT SE 3;H336	May cause drowsiness or dizziness.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

(Not required on OTC product or case labels per Occupational Safety and Health Standards 29 CFR 1910.1200(b)(5))

Warning

H226 Flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness and dizziness.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P235 Keep cool.

P240 Ground / bond container and receiving equipment.

P241 Use explosion-proof electrical / ventilating / light / equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P337+313 If eye irritation persists: Get medical advice / attention.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Isopropyl Alcohol **CAS Number: 0000067-63-0**	**50 - 75**	**Flam. Liq. 2;H225** **Eye Irrit. 2;H319** **STOT SE 3;H336**	**[1][2]**

[1] Substance classified with a health or environmental hazard.
[2] Substance with a workplace exposure limit.
[3] PBT-substance or vPvB-substance.
*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention.
Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview Signs and Symptoms of Exposure: Giddiness, headache, dizziness and nausea.

Medical Conditions Generally Aggravated by Exposure: Pre-existing and respiratory disorders, may be aggravated by exposure.

Health Hazards (Acute and Chronic): Generally used as a rubdown. Vapor irritates eyes. High concentration of vapor can irritate respiratory tract, is anesthetic and may cause CNS depression.

Not a carcinogen.

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.

Inhalation	May cause drowsiness or dizziness.
Eyes	Causes serious eye irritation.

5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO_2, water fog.
Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Burning may produce carbon monoxide and carbon dioxide contamination.

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

Dilution of burning liquid with water will affect extinguishment.

None

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Eliminate all sources of ignition. Small spills should be flushed with large quantities of water, larger spills should be collected for disposal.

Atomize into an incinerator where permitted under appropriate federal, state, and local regulations.

7. Handling and storage

7.1. Precautions for safe handling

Do NOT take internally. Flammable liquid. Keep away from heat, sparks and open flames. Keep container closed.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Naked flames and smoking should not be permitted in storage areas. It is recommended that fork lift trucks and electrical equipment are protected to the appropriate standard.

Incompatible materials: Anyhydride, isocyanate, monomer and organo-metallic.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0000067-63-0	Isopropyl Alcohol	OSHA	TWA 400 ppm (980 mg/m3)STEL 500 ppm
		ACGIH	TWA: 200 ppm STEL: 400 ppm Revised 2003,
		NIOSH	TWA 400 ppm (980 mg/m3) ST 500 ppm (1225 mg/m3)
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000067-63-0	Isopropyl Alcohol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;

8.2. Exposure controls

Respiratory If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes Protective goggles if desired.

Skin Rubber or vinyl gloves if desired.

Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices Ensure showers and eyewash stations are available. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Colorless Liquid
Odor	Characteristic
Odor threshold	Not Measured
pH	Not Measured
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	87C
Flash Point	77F (TCC)
Evaporation rate (Ether = 1)	2.3 (Butyl Acetate=1)
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** 2 **Upper Explosive Limit:** 12
Vapor pressure (Pa)	33 mmHg
Vapor Density	2.07 (Air=1)
Specific Gravity	0.88 (H2O=1) @ 25 C
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
% Volatile	100

Isopropyl Alcohol Assay by Volume 68%-72%

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Avoid heat, sparks and open flame.

10.5. Incompatible materials

Anyhydride, isocyanate, monomer and organo-metallic.

10.6. Hazardous decomposition products

Burning may produce carbon monoxide and carbon dioxide contamination.

11. Toxicological information

Acute toxicity

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Isopropyl Alcohol - (67-63-0)	4,710.00, Rat - Category: 5	12,800.00, Rat - Category: NA	72.60, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable

Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	3	May cause drowsiness or dizziness.
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and GHS and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Isopropyl Alcohol - (67-63-0)	1,400.00, Lepomis macrochirus	100.00, Daphnia magna	100.00 (72 hr), Scenedesmus subspicatus

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

UN Number	1219
UN Proper Shipping Name	Isopropanol, 3
DOT Classification	Hazmat at all levels depending on size of packaging, Excepted or Limited Quantity or Fully Regulated

Packaging Group	PGII
Additional Information	IATA OR IMDG – UN1219, Isopropanol, 3, PG II

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.
WHMIS Classification	B2 D2B

US EPA Tier II Hazards

Fire: Yes
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
No chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:
No chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Isopropyl Alcohol

Proposition 65 - Carcinogens (>0.0%):
No chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):
No chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):
No chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):
No chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Isopropyl Alcohol

Pennsylvania RTK Substances (>1%):

Isopropyl Alcohol

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness and dizziness.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

Disclaimer: The contents of this MSDS are believed to be correct but do not purport to be all-inclusive and should only be used as a guide. Hydrox Laboratories, Inc. disclaims any express or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental or consequential damages resulting from the reliance on the above information.

End of Document

JOHNSEN'S 50% STARTING FLUID 10.7 OZ.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 08/27/2014 : Version:

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : JOHNSEN'S 50% STARTING FLUID 10.7 OZ.

Product code : 6752

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Starting Fluid

1.3. Details of the supplier of the safety data sheet

Technical Chemical Company
P.O. BOX 139
Cleburne, Texas 76033
T 817-645-6088

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Aerosol 1	H222
Compressed gas	H280
Skin Irrit. 2	H315
Muta. 1B	H340
Carc. 1A	H350
Repr. 2	H361
STOT SE 3	H336
STOT RE 2	H373

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02 GHS04 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H222 - Extremely flammable aerosol
H280 - Contains gas under pressure; may explode if heated
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H340 - May cause genetic defects
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :
P201 - Obtain special instructions
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat,sparks,open flames,hot surfaces. - No smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P260 - Do not breathe dust,fumes,gas,mist,vapor spray
P261 - Avoid breathing dust,fume,gas,mist,vapor spray
P264 - Wash affected areas thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves,protective clothing,eye protection,face protection
P302+P352 - If on skin: Wash with plenty of soap and water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention
P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment: See section 4.1 on SDS
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up
P410+P403 - Protect from sunlight. Store in a well-ventilated place
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may explode if heated.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Diethyl Ether	(CAS No) 60-29-7	50 - 70	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302
Petroleum Gases, Liquefied, Sweetened	(CAS No) 68476-86-8	10 - 30	Flam. Gas 1, H220 Flam. Liq. 1, H224 Muta. 1B, H340 Carc. 1A, H350
Heptane, Branched Cyclic	(CAS No) 426260-76-6	15.264 - 15.9	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Heptane	(CAS No) 142-82-5	3.975 - 7.155	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Carbon Dioxide, Liquefied, Under Pressure	(CAS No) 124-38-9	5 - 10	Compressed gas, H280
Distillates (Petroleum), Hydrotreated Heavy Naphthenic	(CAS No) 64742-52-5	< 1	Not classified
Toluene	(CAS No) 108-88-3	0.159 - 0.636	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Cough. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Direct contact with the eyes is likely to be irritating. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs.

Symptoms/injuries after inhalation : Shortness of breath. May cause cancer by inhalation. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation. Itching. Red skin. Skin rash/inflammation.

Symptoms/injuries after eye contact : May cause slight eye irritation . May cause severe irritation. Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable aerosol.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. DO NOT fight fire when fire reaches explosives. Evacuate area.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Aerosol level 3.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : No naked lights. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust,fume,gas,mist,vapor spray.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up : Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Hazardous waste due to potential risk of explosion. Pressurized container: Do not pierce or burn, even after use.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not spray on an open flame or other ignition source. Obtain special instructions . Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so. Avoid breathing dust,fume,gas,mist,vapor spray. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash affected areas thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Storage area : Store in a well-ventilated place.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethyl Ether (60-29-7)		
USA ACGIH	ACGIH TWA (mg/m³)	1200

Diethyl Ether (60-29-7)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (mg/m³)	1500 mg/m³
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	1200 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm

Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (mg/m³)	75 mg/m³
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

Heptane (142-82-5)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm

Heptane, Branched Cyclic (426260-76-6)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)		
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³ MIST 8 HOURS
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³ MIST 8 HOURS

Petroleum Gases, Liquefied, Sweetened (68476-86-8)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm Listed under Aliphatic hydrocarbon gases alkane C1-C4
USA OSHA	OSHA PEL (TWA) (mg/m³)	1800 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)		
USA ACGIH	ACGIH TWA (mg/m³)	9000 mg/m³
USA ACGIH	ACGIH TWA (ppm)	5000 ppm
USA ACGIH	ACGIH STEL (mg/m³)	54000
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	9000 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm

8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, vent hoods.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Liquid.
Color	:	Colourless to light yellow.
Odor	:	Ether-like odour.
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	-31.1 °C (Lowest Component)
Flash point	:	-96.23 °C (Lowest Component)
Auto-ignition temperature	:	180 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	Poorly soluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	Heating may cause a fire or explosion.
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

VOC content : 93.3 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Diethyl Ether (60-29-7)	
LD50 oral rat	1215 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 1600 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 14200 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	99 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	32000 ppm/4h (Rat)

Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 5000 mg/kg body weight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 inhalation rat (mg/l)	> 28.1 mg/l/4h (Rat; Air, Literature study)

Heptane (142-82-5)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)

Heptane, Branched Cyclic (426260-76-6)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
LD50 oral rat	> 5000 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg body weight
LC50 inhalation rat (mg/l)	> 5.2 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.

Toluene (108-88-3)	
IARC group	3

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
IARC group	3

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : Shortness of breath. May cause cancer by inhalation. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation. Itching. Red skin. Skin rash/inflammation.

Symptoms/injuries after eye contact : May cause slight eye irritation . May cause severe irritation. Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Diethyl Ether (60-29-7)	
LC50 fish 1	> 10000 ppm (96 h; Lepomis macrochirus)
EC50 Daphnia 1	165 mg/l (24 h; Daphnia magna)
LC50 fish 2	2560 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	1380 mg/l (48 h; Daphnia magna)
TLM fish 1	> 1000 mg/l (96 h; Pisces)
TLM other aquatic organisms 1	> 1000 mg/l (96 h)

Toluene (108-88-3)	
LC50 fish 1	24 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	84 mg/l (24 h; Daphnia magna; Locomotor effect)

Toluene (108-88-3)	
LC50 fish 2	13 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	11.5 - 19.6 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 400 mg/l (168 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa)

Heptane (142-82-5)	
LC50 fish 1	375 mg/l (96 h; Tilapia mosambica; Nominal concentration)
LC50 other aquatic organisms 1	> 1000 mg/l (96 h)
EC50 Daphnia 1	1.5 mg/l (48 h; Daphnia magna)
LC50 fish 2	> 100 mg/l (96 h; Oncorhynchus kisutch)
TLM fish 1	4924 mg/l (48 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	> 1000 mg/l (96 h)
Threshold limit algae 1	> 200 mg/l (Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	1.5 mg/l (8 h; Algae; Photosynthesis)

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
LC50 fish 1	35 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Lethal)
LC50 fish 2	60 - 240 mg/l (12 h; Salmo gairdneri (Oncorhynchus mykiss); Lethal)

12.2. Persistence and degradability

JOHNSEN'S 50% STARTING FLUID 10.7 OZ.	
Persistence and degradability	Not established.

Diethyl Ether (60-29-7)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available. Reacts with air.
Biochemical oxygen demand (BOD)	0.03 g O_2 /g substance
Chemical oxygen demand (COD)	0.026 g O_2 /g substance (KMnO4)
ThOD	2.60 g O_2 /g substance
BOD (% of ThOD)	0.012 % ThOD

Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	2.15 g O_2 /g substance
Chemical oxygen demand (COD)	2.52 g O_2 /g substance
ThOD	3.13 g O_2 /g substance
BOD (% of ThOD)	0.69 % ThOD

Heptane (142-82-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	1.92 g O_2 /g substance
Chemical oxygen demand (COD)	0.06 g O_2 /g substance
ThOD	3.52 g O_2 /g substance
BOD (% of ThOD)	> % ThOD (5 day(s)) > 0.5

Heptane, Branched Cyclic (426260-76-6)	
Persistence and degradability	May cause long-term adverse effects in the environment.

Petroleum Gases, Liquefied, Sweetened (68476-86-8)	
Persistence and degradability	Not established.

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

JOHNSEN'S 50% STARTING FLUID 10.7 OZ.	
Bioaccumulative potential	Not established.

Diethyl Ether (60-29-7)	
BCF fish 1	0.9 - 9.1 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	0.82 - 0.89 (Experimental value)

Diethyl Ether (60-29-7)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Toluene (108-88-3)	
BCF fish 1	13.2 (Anguilla japonica)
BCF fish 2	90 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	380 (24 h; Chlorella sp.; Fresh weight)
BCF other aquatic organisms 2	4.2 (Mytilus edulis; Fresh weight)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Heptane (142-82-5)	
BCF other aquatic organisms 1	552
Log Pow	4.66 (Experimental value; 4.5; Literature)
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

Heptane, Branched Cyclic (426260-76-6)	
Bioaccumulative potential	Not established.

Petroleum Gases, Liquefied, Sweetened (68476-86-8)	
Bioaccumulative potential	Not established.

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
Log Pow	0.83 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Diethyl Ether (60-29-7)	
Surface tension	0.017 N/m (20 °C)

Toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)

Heptane (142-82-5)	
Surface tension	0.020 N/m (20 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do not drill or burn even after use. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Additional information : Flammable vapors may accumulate in the container.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): UN1950, Aerosols, 2.1, Limited Quantity

ICAO/IATA (air): UN1950, Aerosols, 2.1 , Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.1 , Limited Quantity

Special Provisions: N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Aerosols
flammable, n.o.s. (engine starting fluid) (each not exceeding 1 L capacity)

Department of Transportation (DOT) Hazard Classes : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115

Hazard labels (DOT) : 2.1 - Flammable gas

DOT Special Provisions (49 CFR 172.102) : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.

DOT Packaging Exceptions (49 CFR 173.xxx) : 306

DOT Packaging Non Bulk (49 CFR 173.xxx) : 304

DOT Packaging Bulk (49 CFR 173.xxx) : None

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 48 - Stow ‘‘away from’’ sources of heat,87 - Stow ‘‘separated from’’ Class 1 (explosives) except Division 14,126 - Segregation same as for Class 9, miscellaneous hazardous materials

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

JOHNSEN'S 50% STARTING FLUID 10.7 OZ.	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard

Diethyl Ether (60-29-7)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard

Toluene (108-88-3)	
Listed on United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard

Heptane, Branched Cyclic (426260-76-6)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

Petroleum Gases, Liquefied, Sweetened (68476-86-8)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Sudden release of pressure hazard

15.2. International regulations

CANADA

JOHNSEN'S 50% STARTING FLUID 10.7 OZ.	
WHMIS Classification	Class B Division 5 - Flammable Aerosol

Toluene (108-88-3)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Heptane, Branched Cyclic (426260-76-6)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45
Muta.Cat.2; R46
F+; R12
Xn; R22
Xi; R38
R19

Full text of R-phrases: see section 16

15.2.2. National regulations

No additional information available

15.3. US State regulations

JOHNSEN'S 50% STARTING FLUID 10.7 OZ.	
State or local regulations	U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

Toluene (108-88-3)
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

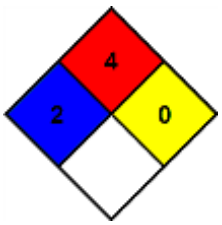
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Compressed gas	Gases under pressure Compressed gas
Flam. Aerosol 1	Flammable aerosol Category 1
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Muta. 1B	Germ cell mutagenicity Category 1B
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness

H340	May cause genetic defects
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 4 Severe Hazard

Physical : 1 Slight Hazard

Personal Protection : B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

Johnsen's Glass Cleaner

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 04/21/2014 : Version:

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : Johnsen's Glass Cleaner

Product code : 4646

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Follow Label Directions

Use of the substance/mixture : Cleansing product

1.3. Details of the supplier of the safety data sheet

Technical Chemical Company
P.O. BOX 139
Cleburne, Texas 76033

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Acute Tox. 2 (Oral)	H300
Eye Dam. 1	H318
Carc. 1A	H350
Repr. 1B	H360
STOT SE 1	H370

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS06 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H300 - Fatal if swallowed
H318 - Causes serious eye damage
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash ... thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment (see ... on this label)
P330 - If swallowed, rinse mouth
P405 - Store locked up
P501 - Dispose of contents/container to ...
P251 - Pressurized container: Do not pierce or burn, even after use
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C

2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may explode if heated.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
DI - Water		85 - 95	Not classified
methanol	(CAS No) 67-56-1	1 - 5	Flam. Liq. 2, H225 Acute Tox. 1 (Oral), H300 Eye Dam. 1, H318 Repr. 1B, H360 STOT SE 1, H370
Petroleum gases, liquefied, sweetened	(CAS No) 68476-86-8	1 - 5	Flam. Liq. 1, H224
2-butoxyethanol	(CAS No) 111-76-2	< 1	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
ethanol	(CAS No) 64-17-5	0.7785 - 0.865	Flam. Liq. 2, H225 Carc. 1A, H350
ammonium hydroxide, aqueous solution, conc=25%	(CAS No) 1336-21-6	< 1	Skin Corr. 1B, H314 Aquatic Acute 1, H400
2-aminoethanol	(CAS No) 141-43-5	<= 0.05593	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314
methyl isobutyl ketone	(CAS No) 108-10-1	0.00865 - 0.04325	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation:gas), H331 Eye Irrit. 2A, H319 STOT SE 3, H335
PROPRIETARY INHIBITOR PACKAGE	(CAS No) Proprietary	<= 0.01974	Not classified
polyethylene glycol 200-600	(CAS No) 25322-68-3	<= 0.00144	Not classified
NONYL NONOXYNOL-5	(CAS No) 9014-93-1	<= 0.00096	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician. Specific treatment (see ... on this label).

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Fatal if swallowed. Immediately call a POISON CENTER or doctor/physician. Specific treatment (see ... on this label).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : May damage fertility or the unborn child. Causes damage to organs.

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Fatal if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : NFPA Aerosol Level 1.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Pressurized container: Do not pierce or burn, even after use.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methanol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	200 ppm

methyl isobutyl ketone (108-10-1)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH STEL (ppm)	20 ppm

2-butoxyethanol (111-76-2)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH STEL (ppm)	20 ppm

ammonium hydroxide, aqueous solution, conc=25% (1336-21-6)		
USA ACGIH	ACGIH TWA (ppm)	25 ppm
USA ACGIH	ACGIH STEL (ppm)	25 ppm

2-aminoethanol (141-43-5)		
USA ACGIH	ACGIH TWA (ppm)	3 ppm
USA ACGIH	ACGIH STEL (ppm)	3 ppm

8.2. Exposure controls

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless to pale yellow liquid.
Color	: Colourless to light yellow.
Odor	: slight. Alcohol odour.
Odor threshold	: No data available
pH	: 9
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: -96.23 °C (Propellant)
Self ignition temperature	: 363 °C (Ethanol)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 0.98 @ 60F
Solubility	: Soluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : 9.76 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Fatal if swallowed.

methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (1187-2769 mg/kg bodyweight; Rat; Rat)
LD50 dermal rabbit	15800 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat)

methyl isobutyl ketone (108-10-1)	
LD50 oral rat	2080 mg/kg (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rat	>= 2000 mg/kg body weight (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	8.2- 16.4,Rat; Experimental value,Rat; Experimental value
LC50 inhalation rat (ppm)	2000 ppm/4h (Rat; Experimental value,Rat; Experimental value)

ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg body weight (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)

polyethylene glycol 200-600 (25322-68-3)	
LD50 oral rat	> 15000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)

2-butoxyethanol (111-76-2)	
LD50 oral rat	530 mg/kg (1746 mg/kg bodyweight; Rat; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	435 mg/kg (435 mg/kg bodyweight; Rabbit; Rabbit; Experimental value,435 mg/kg bodyweight; Rabbit; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	2.17 mg/l/4h (2.35 mg/l/4h; Rat; Rat; Experimental value; Experimental value,2.35 mg/l/4h; Rat; Rat; Experimental value; Experimental value)
LC50 inhalation rat (ppm)	450-486,Rat

2-aminoethanol (141-43-5)	
LD50 oral rat	1720 mg/kg (Rat)
LD50 dermal rabbit	1018 mg/kg (Rabbit)

Skin corrosion/irritation : Not classified
pH: 9

Serious eye damage/irritation : Causes serious eye damage.
pH: 9

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classifiedBased on available data, the classification criteria are not met

Carcinogenicity : May cause cancer.

ethanol (64-17-5)	
IARC group	1

2-butoxyethanol (111-76-2)	
IARC group	3

Reproductive toxicity : May damage fertility or the unborn child.Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Causes damage to organs.

Specific target organ toxicity (repeated exposure) : Not classifiedBased on available data, the classification criteria are not met

Aspiration hazard : Not classifiedBased on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Fatal if swallowed.

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Fatal if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

methanol (67-56-1)	
LC50 fish 1	15400 mg/l (96 h; Lepomis macrochirus; Lethal)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna; Lethal)
LC50 fish 2	10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	24500 mg/l (48 h; Daphnia magna)
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; Pseudomonas putida)
Threshold limit algae 1	530 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	8000 mg/l (168 h; Scenedesmus quadricauda)

methyl isobutyl ketone (108-10-1)	
LC50 fish 1	505 mg/l (96 h; Pimephales promelas; GLP)
EC50 Daphnia 1	170 mg/l (48 h; Daphnia magna; Static system)
EC50 other aquatic organisms 1	400 mg/l (96 h; Selenastrum capricornutum; Growth rate)
LC50 fish 2	600 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	> 1000 mg/l (48 h; Daphnia magna; GLP)
Threshold limit algae 1	136 mg/l (Microcystis aeruginosa)
Threshold limit algae 2	725 mg/l (8 days; Scenedesmus quadricauda; Nominal concentration)

ethanol (64-17-5)	
LC50 fish 1	14200 mg/l (96 h; Pimephales promelas; Nominal concentration)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)

polyethylene glycol 200-600 (25322-68-3)	
LC50 fish 1	> 1000 mg/l (96 h; Pisces)
LC50 other aquatic organisms 1	> 1000 mg/l (96 h)
LC50 fish 2	> 5000 mg/l (24 h; Carassius auratus)
Threshold limit other aquatic organisms 1	<= 100 mg/l (96 h; Plankton)
Threshold limit other aquatic organisms 2	> 1000 mg/l
Threshold limit algae 2	500 mg/l (720 h; Algae; No effect)

2-butoxyethanol (111-76-2)	
LC50 fish 1	116 ppm (96 h; Cyprinodon variegatus; Nominal concentration)
EC50 Daphnia 1	1700 mg/l (48 h; Daphnia sp.; Nominal concentration)
LC50 fish 2	1341 ppm (96 h; Lepomis macrochirus)
EC50 Daphnia 2	1720 mg/l (24 h; Daphnia magna)
TLM fish 1	100 - 1000,96 h; Pisces
TLM other aquatic organisms 1	100 - 1000,96 h
Threshold limit algae 1	900 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	35 mg/l (192 h; Microcystis aeruginosa)

ammonium hydroxide, aqueous solution, conc=25% (1336-21-6)	
LC50 fish 1	0.16 - 1.1 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Solution >=50%)
LC50 other aquatic organisms 1	1 - 10 mg/l (96 h; Solution >=50%)
LC50 fish 2	0.75 - 3.4 mg/l (96 h; Pimephales promelas; Solution >=50%)
TLM fish 1	15 - 18.5,48 h; Leuciscus idus
TLM fish 2	34 ppm 48 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit other aquatic organisms 1	1 - 10,96 h; Solution >=50%

2-aminoethanol (141-43-5)	
LC50 fish 1	150 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	140 mg/l (24 h; Daphnia magna)
LC50 fish 2	329.16 mg/l (96 h; Lepomis macrochirus)
TLM fish 1	100 - 1000,96 h; Pisces
TLM other aquatic organisms 1	100 - 1000,96 h
Threshold limit algae 1	0.97 mg/l (192 h; Scenedesmus quadricauda; Inhibitory)
Threshold limit algae 2	35 mg/l (72 h; Algae)

12.2. Persistence and degradability

Johnsen's Glass Cleaner	
Persistence and degradability	Not established.

Petroleum gases, liquefied, sweetened (68476-86-8)	
Persistence and degradability	Not established.

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O^2/g substance
Chemical oxygen demand (COD)	1.42 g O^2/g substance
ThOD	1.5 g O^2/g substance
BOD (% of ThOD)	0.8 % ThOD

methyl isobutyl ketone (108-10-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.06 g O^2/g substance
Chemical oxygen demand (COD)	2.16 g O^2/g substance
ThOD	2.72 g O^2/g substance
BOD (% of ThOD)	0.76 % ThOD

ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O^2/g substance
Chemical oxygen demand (COD)	1.70 g O^2/g substance
ThOD	2.10 g O^2/g substance
BOD (% of ThOD)	0.43 % ThOD

polyethylene glycol 200-600 (25322-68-3)	
Persistence and degradability	Biodegradability in water: no data available.

NONYL NONOXYNOL-5 (9014-93-1)	
Persistence and degradability	Not established.

2-butoxyethanol (111-76-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.71 g O^2/g substance
Chemical oxygen demand (COD)	2.20 g O^2/g substance
ThOD	2.305 g O^2/g substance
BOD (% of ThOD)	0.31 % ThOD

ammonium hydroxide, aqueous solution, conc=25% (1336-21-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the components of the mixture available. Ozonation in the air.

2-aminoethanol (141-43-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.80 g O^2/g substance
Chemical oxygen demand (COD)	1.34 g O^2/g substance
ThOD	2.49 g O^2/g substance
BOD (% of ThOD)	0.32 % ThOD

PROPRIETARY INHIBITOR PACKAGE (Proprietary)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Johnsen's Glass Cleaner	
Bioaccumulative potential	Not established.

Petroleum gases, liquefied, sweetened (68476-86-8)	
Bioaccumulative potential	Not established.

methanol (67-56-1)	
BCF fish 1	< 10 (Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other,Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

methyl isobutyl ketone (108-10-1)	
BCF fish 1	2 - 5 (Pisces)
Log Pow	1.9 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

ethanol (64-17-5)	
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

polyethylene glycol 200-600 (25322-68-3)	
Log Pow	-1.2
Bioaccumulative potential	Bioaccumulation: not applicable.

NONYL NONOXYNOL-5 (9014-93-1)	
Bioaccumulative potential	Not established.

2-butoxyethanol (111-76-2)	
Log Pow	0.81 (Experimental value; 25 °C,Experimental value; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

ammonium hydroxide, aqueous solution, conc=25% (1336-21-6)	
Log Pow	-1.3
Bioaccumulative potential	Bioaccumulation: not applicable.

2-aminoethanol (141-43-5)	
Log Pow	-1.91
Bioaccumulative potential	Bioaccumulation: not applicable.

PROPRIETARY INHIBITOR PACKAGE (Proprietary)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)

methyl isobutyl ketone (108-10-1)	
Surface tension	0.024 N/m (20 °C)

ethanol (64-17-5)	
Surface tension	0.022 N/m (20 °C)

2-butoxyethanol (111-76-2)	
Surface tension	0.027 N/m (25 °C)

2-aminoethanol (141-43-5)	
Surface tension	0.050 N/m

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ... Container under pressure. Do not drill or burn even after use.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): UN1950, Aerosols, 2.2, Limited Quantity

ICAO/IATA (air): UN1950, Aerosols, non-flammable, (each not exceeding 1 L capacity), 2.2, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, non-flammable, (each not exceeding 1 L capacity), 2.2, Limited Quantity

14.2. UN proper shipping name

DOT Proper Shipping Name : Aerosols
non-flammable, (each not exceeding 1 L capacity)

Department of Transportation (DOT) Hazard Classes	:	2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT)	:	2.2 - Non-flammable gas

DOT Packaging Exceptions (49 CFR 173.xxx)	:	306
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	None
DOT Packaging Bulk (49 CFR 173.xxx)	:	None

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	:	48 - Stow ‘‘away from’’ sources of heat,87 - Stow ‘‘separated from’’ Class 1 (explosives) except Division 14,126 - Segregation same as for Class 9, miscellaneous hazardous materials

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	150 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

Johnsen's Glass Cleaner	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

Petroleum gases, liquefied, sweetened (68476-86-8)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Sudden release of pressure hazard

methanol (67-56-1)	
Listed on SARA Section 302 (Specific toxic chemical listings)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard

2-aminoethanol (141-43-5)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

15.2. International regulations

CANADA

methanol (67-56-1)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.1; R45
Muta.Cat.2; R46
F+; R12

Xn; R20/21/22
Xn; R68/20/21/22

Full text of R-phrases: see section 16

15.2.2. National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Indication of changes : Revision - See : *.

Other information : None.

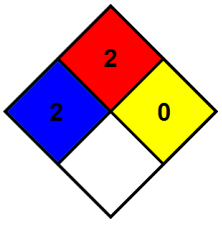
Full text of H-phrases: see section 16:

Acute Tox. 1 (Oral)	Acute toxicity (oral) Category 1
Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 4	Flammable liquids Category 4
Repr. 1B	Reproductive toxicity Category 1B
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H227	Combustible liquid
H300	Fatal if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H400	Very toxic to aquatic life

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 2 Moderate Hazard
Physical	: 2 Moderate Hazard
Personal Protection	: B

SDS US (GHS HazCom 2012) - Technical Chemical

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Non-chlorinated Brake Parts Cleaner (45% VOC)
MSDS NO. 2417
Revision Date: 12/29/2009
Date Printed 12/29/2009

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Johnsens Non-chlorinated Brake Parts Cleaner (45% VOC)
Chemical Family: Non-Chlorinated Hydrocarbon
Synonyms: None
Emergency Telephone (24 hr.): 24-Hour Emergency Information: CHEMTREC (800) 424-9300

Supplier: Technical Chemical Company, P.O. Box 139, Cleburne, Texas 76033

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	OSHA TWA	OSHA STEL	OSHA SKIN
Acetone 67-64-1	40-50	Not Listed	Not Listed	Not Listed
Toluene 108-88-3	20-30	Not Listed	Not Listed	Not Listed
Methyl Alcohol 67-56-1	15-25	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	5-15	Not Listed	Not Listed	Not Listed

Component	Weight %	OSHA Z PEL	OSHA Z TWA	OSHA Z Ceiling
Acetone 67-64-1	40-50	2400 mg/m^3 1000 ppm	1800 mg/m^3 750 ppm	Not Listed
Toluene 108-88-3	20-30	Not Listed	200 ppm 375 mg/m^3 100 ppm	300 ppm
Methyl Alcohol 67-56-1	15-25	260 mg/m^3 200 ppm	260 mg/m^3 200 ppm	Not Listed
Carbon Dioxide 124-38-9	5-15	9000 mg/m^3 5000 ppm	18000 mg/m^3 10000 ppm	Not Listed

Component	ACGIH TLV TWA	ACGIH TLV STEL	ACGIH TLV Ceiling
Acetone 67-64-1	500 ppm	750 ppm	Not Listed
Toluene 108-88-3	50 ppm	Not Listed	Not Listed
Methyl Alcohol 67-56-1	200 ppm	250 ppm	Not Listed
Carbon Dioxide 124-38-9	5000 ppm	30000 ppm	Not Listed

Other: This product does not contain Normal Hexane (N-Hexane).

3. HAZARDS IDENTIFICATION

Emergency Overview: Danger: Poison. Extremely Flammable. Content under pressure. Ingestion of even small amounts of methanol can cause blindness and death. This material is an eye and skin irritant. Harmful if absorbed through the skin. Keep away from heat, sparks and flame. Gross inhalation overexposure may cause: respiratory track irritation, kidney damage, blood, liver damage, lung damage and central nervous system depression.

HMIS Classification: Health: 2 Flammability: 4 Physical Hazard: 2
NFPA Rating: Health: 2 Flammability: 4 Reactivity: 0

Trade Name: Johnsens Non-chlorinated Brake Parts Cleaner (45% VOC)
MSDS NO. 2417
Revision Date: 12/29/2009
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4. FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
Ingestion: If swallowed, do NOT induce vomiting. Call a physician immediately. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration.
Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Skin Contact: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and shoes, and launder before reuse.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point °F(°C): -4 F (-20) (Lowest Component)
Flash Point Method: Not Determined
Flammable Limits in Air - Lower (%): 1.2% (Lowest Component)
Flammable Limits in Air - Upper (%): 7.1% (Lowest Component)
Autoignition Temperature °F(°C): 725 F (385 C) (Lowest Component)
Extinguishing Media: Water. Dry chemical. Carbon dioxide. Alcohol foam. Use water spray to keep containers cool that are exposed to heat or flames.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Wear approved positive-pressure self-contained breathing apparatus and protective clothing. Vapor may cause flash fire.
Hazardous Combustion Products: Carbon Dioxide. Carbon Monoxide. Formaldehyde. Formic Acid.
Aerosol Comments: NFPA Level 3 Aerosol

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective clothing and equipment to prevent skin and eye contact.
Spill Procedures: Contain any liquid from leaking containers. Avoid all sources of ignition; heat, sparks and open flames.
Action to be taken if material is released or spilled: Do not puncture or incinerate container. Contents under pressure. Wear proper protective equipment as specified in the protective equipment section. Remove sources of ignition. Leaking containers should be removed to an isolated, well-ventilated area and transferred to other suitable containers. Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal. Persons not trained should evacuate area.
Environmental Precautions: Do not allow to enter sanitary drains, sewer or surface and subsurface waters. Keep out of lakes, ponds or streams.

7. HANDLING AND STORAGE

Handling and Storage: Caution: Contents under pressure. Keep away from heat and open flame. Use only in a well ventilated area. Ground and bond containers when transferring material. Avoid breathing vapors, if exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Do not puncture, incinerate or store above 120 F. Exposure to high temperatures may cause bursting. DO NOT store in the passenger compartment of an automobile.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use in a well ventilated area. Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Use explosion proof equipment. Eyewash stations. Showers.
Eyes: Chemical goggles; also wear a face shield if splashing hazard exists.
Skin Protection: Avoid skin contact. Wear protective clothing and gloves.
Respiratory Protection: Do not breath mist or vapor. Use in a well ventilated area. Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear colorless liquid.
Odor: MILD
pH Value: Not Determined

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Non-chlorinated Brake Parts Cleaner (45% VOC)
MSDS NO. 2417
Revision Date: 12/29/2009
Date Printed 12/29/2009

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure: Not Determined
Vapor Density (Air=1): Approximately 2.0
Boiling Point (°F): 133 F (56 C) (Lowest Component)
Melting/Freezing Point: < -110 F.
Solubility in Water: approximately 75%
Bulk Density at 20°C: Not Determined
Molecular Weight: Mixture
Specific Gravity (H20=1): .82
Viscosity: Not Determined.
Evaporation Rate: Not Determined
VOC Content(%): 45%
Decomposition Temperature: Not Determined

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.
Conditions to Avoid: Keep away from heat,sparks and flame. Avoid any source of ignition. Do not expose to heat or store at temperatures above 120 F.
Materials to Avoid: Strong oxidizers. Chromic Anhydride. Phosphorous Trioxide. Lead Perchlorate. Perchloric Acid and Ethyl Alcohol. Iodine. Mercuric Oxide and Ethyl Alcohol. Sodium or Potassium Hydroxide and Chloroform. Nitric acid. Sulfuric Acid. Alkalies. Chlorine compounds. Potassium t-butoxide. Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diamino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode.
Hazardous Decomposition Products: Carbon monoxide. Carbon dioxide. Formaldehyde. Formic acid.
Hazardous Polymerization: WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Component	Route	Species	Dose
Acetone 67-64-1	Inhalation	Rats	LC50 50100 mg/m^3/8H
Toluene 108-88-3	Inhalation	Rats	LC50 49 gm/m^3/4H
Methyl Alcohol 67-56-1	Inhalation	Rats	LC50 64,000 ppm
Carbon Dioxide 124-38-9	NA	NA	Not known.

Carcinogenicity:

Component	IARC	NTP	OSHA
Acetone 67-64-1	Not Listed	Not Listed	Not Listed
Toluene 108-88-3	Group 3 (not classifiable)	Not Listed	Not Listed
Methyl Alcohol 67-56-1	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Remarks: Ecological testing has not been conducted on this product.

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Non-chlorinated Brake Parts Cleaner (45% VOC)
MSDS NO. 2417
Revision Date: 12/29/2009
Date Printed 12/29/2009

13. DISPOSAL CONSIDERATION

Waste Classification: Residues and spilled material are hazardous waste due to ignitability.
Waste Management: Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts.
Disposal Method: Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT:

Proper Shipping Name: CONSUMER COMMODITY
Hazard Class: ORM-D
UN/NA Number: Not Applicable
DOT Packing Group: Not Applicable

IMDG:

Proper Shipping Name: Aerosols
Hazard Class: 2
Hazard Subclass: 2.1
UN No.: UN 1950
Packing Group: Not Applicable.
Marine Pollutant: No

15. REGULATORY INFORMATION

US Federal Regulations:

Component	SARA 313	SARA 302	TPQ	RQ
Acetone 67-64-1	Not Listed	Not Listed	Not Listed	Not Listed
Toluene 108-88-3	Listed.	Not Listed	Not Listed	Not Listed
Methyl Alcohol 67-56-1	Listed.	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	Not Listed	Not Listed	Not Listed	Not Listed

US OSHA HEALTH CLASSIFICATION: Hazardous per OSHA 29 CFR 1910.1200
SARA 311/312 Hazard Catagories: Not Determined.

State Regulations:

Component	California Prop. 65 Cancer list	California - Prop 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
Acetone 67-64-1	Not Listed	Not Listed	Not Listed	Not Listed
Toluene 108-88-3	Not Listed	Listed: January 1, 1991 Developmental toxin.	Not Listed	Not Listed
Methyl Alcohol 67-56-1	Not Listed	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	Not Listed	Not Listed	Not Listed	Not Listed

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Non-chlorinated Brake Parts Cleaner (45% VOC)
MSDS NO. 2417
Revision Date: 12/29/2009
Date Printed 12/29/2009

Component	New Jersey Right-to-Know List:
Acetone 67-64-1	Substance no. 0006 Listed Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430
Toluene 108-88-3	Substance no. 1866 Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430
Methyl Alcohol 67-56-1	Substance no. 2079 Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430 Substance no. 1222
Carbon Dioxide 124-38-9	Substance no. 0343

U.S. TSCA: The components of this product are listed on the TSCA Inventory.
Canadian Inventory: The components of this product are listed on the Canadian DSL or NDSL Inventory.

Consumer Product Safety Improvement Act of 2008 General Conformity Certification

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

16. OTHER INFORMATION

General Notes: Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.
Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

JOHNSEN'S POWER STEERING FLUID 32 FL.OZ.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/31/2014 : Version:

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : JOHNSEN'S POWER STEERING FLUID 32 FL.OZ.

Product code : 4610

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Power Steering Fluid

1.3. Details of the supplier of the safety data sheet

Technical Chemical Company
P.O. BOX 139
Cleburne, Texas 76033
T 817-645-6088

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Not classified

2.2. Label elements

GHS-US labeling

Signal word (GHS-US) : Warning

2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Distillates (Petroleum), Hydrotreated Heavy Naphthenic	(CAS No) 64742-52-5	>= 95	Not classified
2-(2-Butoxyethoxy) Ethanol	(CAS No) 112-34-5	1 - 5	Eye Irrit. 2A, H319
Dipropylene Glycol Monomethyl Ether	(CAS No) 34590-94-8	< 1	Flam. Liq. 4, H227
White Mineral Oil (Petroleum)	(CAS No) 8042-47-5	0.03 - 0.06	Asp. Tox. 1, H304
Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based	(CAS No) 72623-86-0	0.03 - 0.06	Not classified
Paraffinum Liquidum	(CAS No) 8012-95-1	0.03 - 0.06	Not classified
2,6-Di-tert-butylphenol	(CAS No) 128-39-2	0.001 - 0.0049	Not classified
Tail Gas (Petroleum), Saturate Gas Plant Mixed Stream, C4-Rich	(CAS No) 68478-32-0	0.001 - 0.0049	Not classified
Dibutyl Phosphonate	(CAS No) 1809-19-4	0.001 - 0.0049	Acute Tox. 4 (Dermal), H312
Petroleum Naphtha	(CAS No) 64742-47-8	< 1	Flam. Liq. 3, H226 Asp. Tox. 1, H304
Dye-Automate Yellow	(CAS No) Mixture	< 1	Not classified
Toluene	(CAS No) 108-88-3	0.0001 - 0.0009	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/injuries after skin contact : May cause slight irritation . Itching. Red skin. Skin rash/inflammation.

Symptoms/injuries after eye contact : May cause slight eye irritation . Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Insufficient data available on direct fire hazard (flashpoint > 200°C).

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)		
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³ MIST 8 HOURS
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³ MIST 8 HOURS

2-(2-Butoxyethoxy) Ethanol (112-34-5)		
USA ACGIH	ACGIH TWA (ppm)	10 ppm
USA ACGIH	ACGIH STEL (ppm)	10 ppm

Dipropylene Glycol Monomethyl Ether (34590-94-8)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA ACGIH	ACGIH STEL (ppm)	100 ppm

Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (mg/m³)	75 mg/m³
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

White Mineral Oil (Petroleum) (8042-47-5)		
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, vent hoods . Ensure good ventilation of the work station.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid.

Color : Colourless to yellow.

Odor : Petroleum-like odour.

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : 204 °C

Flash point : > 93 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	0.88
Solubility	:	Poorly soluble in water. Water: < 4 %
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	21.6 cSt @ 40 deg C
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

VOC content : 2 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
LD50 oral rat	> 5000 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg body weight
LC50 inhalation rat (mg/l)	> 5.2 mg/l/4h

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
LD50 oral rat	5660 mg/kg (Rat)
LD50 dermal rabbit	2764 mg/kg (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)

Dipropylene Glycol Monomethyl Ether (34590-94-8)	
LD50 oral rat	5135 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg; Rat; Experimental value)
LD50 dermal rat	9500 mg/kg (Rat; Literature study; Equivalent or similar to OECD 402; >19020 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	9500 mg/kg (Rabbit; Literature study)

2,6-Di-tert-butylphenol (128-39-2)	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rat	> 1000 mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)

Dibutyl Phosphonate (1809-19-4)	
LD50 oral rat	3200 mg/kg (Rat)
LD50 dermal rabbit	1990 mg/kg (Rabbit)

Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)

Toluene (108-88-3)	
LD50 dermal rabbit	> 5000 mg/kg body weight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 inhalation rat (mg/l)	> 28.1 mg/l/4h (Rat; Air, Literature study)

White Mineral Oil (Petroleum) (8042-47-5)	
LD50 oral rat	> 5000 mg/kg (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Experimental value,Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	> 5 mg/l/4h (Rat; Experimental value)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
IARC group	3

Toluene (108-88-3)	
IARC group	3

White Mineral Oil (Petroleum) (8042-47-5)	
IARC group	3

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact : May cause slight irritation . Itching. Red skin. Skin rash/inflammation.
Symptoms/injuries after eye contact : May cause slight eye irritation . Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
LC50 fish 1	1300 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)
EC50 Daphnia 1	2850 mg/l (24 h; Daphnia magna; GLP)
LC50 fish 2	1805 mg/l (48 h; Leuciscus idus)
EC50 Daphnia 2	> 100 mg/l (48 h; Daphnia magna)
TLM fish 1	10 - 100,96 h; Pisces
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit other aquatic organisms 1	10 - 100,96 h
Threshold limit algae 1	53 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	>= 100 mg/l (96 h; Scenedesmus subspicatus)

Dipropylene Glycol Monomethyl Ether (34590-94-8)	
LC50 fish 1	> 10000 mg/l (96 h; Pimephales promelas; GLP)
LC50 other aquatic organisms 1	> 1000 mg/l (96 h; Crangon crangon)
LC50 fish 2	> 150 mg/l (72 h; Pisces)
Threshold limit other aquatic organisms 1	> 1000 mg/l (96 h; Crangon crangon)
Threshold limit algae 1	969 mg/l (72 h; Selenastrum capricornutum; GLP)
Threshold limit algae 2	> 969 mg/l (72 h; Selenastrum capricornutum; GLP)

2,6-Di-tert-butylphenol (128-39-2)	
EC50 Daphnia 1	0.45 mg/l (48 h; Daphnia magna; Flow-through system)

Toluene (108-88-3)	
LC50 fish 1	24 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	84 mg/l (24 h; Daphnia magna; Locomotor effect)

Toluene (108-88-3)	
LC50 fish 2	13 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	11.5 - 19.6 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 400 mg/l (168 h; Scenedesmus quadricauda; Toxicity test)
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa)

White Mineral Oil (Petroleum) (8042-47-5)	
LC50 fish 1	> 100 mg/l (96 h; Oncorhynchus mykiss; Nominal concentration)
Threshold limit algae 1	>= 100 mg/l (72 h; Pseudokirchneriella subcapitata; Growth rate)

12.2. Persistence and degradability

JOHNSEN'S POWER STEERING FLUID 32 FL.OZ.	
Persistence and degradability	Not established.

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.25 g O_2 /g substance
Chemical oxygen demand (COD)	2.08 g O_2 /g substance
ThOD	2.173 g O_2 /g substance
BOD (% of ThOD)	0.11 % ThOD

Dipropylene Glycol Monomethyl Ether (34590-94-8)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available. Photolysis in the air.
Biochemical oxygen demand (BOD)	0 g O_2 /g substance
ThOD	2.06 g O_2 /g substance
BOD (% of ThOD)	0 % ThOD

Petroleum Naphtha (64742-47-8)	
Persistence and degradability	Not established.

2,6-Di-tert-butylphenol (128-39-2)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water.
BOD (% of ThOD)	(5 day(s)) 0.077

Tail Gas (Petroleum), Saturate Gas Plant Mixed Stream, C4-Rich (68478-32-0)	
Persistence and degradability	Not established.

Dibutyl Phosphonate (1809-19-4)	
Persistence and degradability	Biodegradability in water: no data available. Photodegradation in the air.

Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	2.15 g O_2 /g substance
Chemical oxygen demand (COD)	2.52 g O_2 /g substance
ThOD	3.13 g O_2 /g substance
BOD (% of ThOD)	0.69 % ThOD

White Mineral Oil (Petroleum) (8042-47-5)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available.

Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based (72623-86-0)	
Persistence and degradability	Not established.

Paraffinum Liquidum (8012-95-1)	
Persistence and degradability	Not established.

Dye-Automate Yellow (Mixture)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

JOHNSEN'S POWER STEERING FLUID 32 FL.OZ.	
Bioaccumulative potential	Not established.

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
BCF fish 1	0.46 (QSAR)
Log Pow	0.56 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Dipropylene Glycol Monomethyl Ether (34590-94-8)	
Log Pow	0.0043 (Experimental value; OECD 102: Melting Point/Melting Range; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Petroleum Naphtha (64742-47-8)	
Bioaccumulative potential	Not established.

2,6-Di-tert-butylphenol (128-39-2)	
BCF fish 1	660 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	800 (24 h; Chlorella sp.)
Log Pow	4.92
Bioaccumulative potential	Not established.

Tail Gas (Petroleum), Saturate Gas Plant Mixed Stream, C4-Rich (68478-32-0)	
Bioaccumulative potential	Not established.

Dibutyl Phosphonate (1809-19-4)	
Log Pow	1.81 (Estimated value)
Bioaccumulative potential	Bioaccumable.

Toluene (108-88-3)	
BCF fish 1	13.2 (Anguilla japonica)
BCF fish 2	90 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	380 (24 h; Chlorella sp.; Fresh weight)
BCF other aquatic organisms 2	4.2 (Mytilus edulis; Fresh weight)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

White Mineral Oil (Petroleum) (8042-47-5)	
Bioaccumulative potential	No bioaccumulation data available.

Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based (72623-86-0)	
Bioaccumulative potential	Not established.

Paraffinum Liquidum (8012-95-1)	
Bioaccumulative potential	Not established.

Dye-Automate Yellow (Mixture)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Surface tension	0.034 N/m (25 °C)

Toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations. . Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): Not regulated,

ICAO/IATA (air): Not Regiulated,

IMO/IMDG (water): Not Regulated,

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not regulated

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

JOHNSEN'S POWER STEERING FLUID 32 FL.OZ.	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard

Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Reactive hazard

Petroleum Naphtha (64742-47-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard

Toluene (108-88-3)	
Listed on United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard

White Mineral Oil (Petroleum) (8042-47-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Toluene (108-88-3)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

White Mineral Oil (Petroleum) (8042-47-5)
Listed on the Canadian DSL (Domestic Sustances List)

EU-Regulations

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

White Mineral Oil (Petroleum) (8042-47-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.2; R45

Full text of R-phrases: see section 16

15.2.2. National regulations

No additional information available

15.3. US State regulations

Petroleum Naphtha (64742-47-8)
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

Toluene (108-88-3)
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

SECTION 16: Other information

Other information : None.

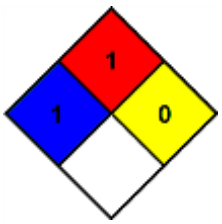
Full text of H-phrases: see section 16:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Asp. Tox. 1	Aspiration hazard Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

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JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/19/2015 : Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.

Product code : 2413

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Brake Parts Cleaner

1.3. Details of the supplier of the safety data sheet

Technical Chemical Company
P.O. BOX 139
Cleburne, Texas 76033
T 817-645-6088

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Aerosol 2	H223
Compressed gas	H280
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Repr. 2	H361
STOT SE 1	H370
STOT SE 3	H336
STOT RE 2	H373

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02 GHS04 GHS06 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H223 - Flammable aerosol
H280 - Contains gas under pressure; may explode if heated
H301+H311 - Toxic if swallowed or in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H361 - Suspected of damaging fertility or the unborn child
H370 - Causes damage to organs
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :
P201 - Obtain special instructions
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat,sparks,open flames,hot surfaces. - No smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P260 - Do not breathe dust,fumes,gas,mist,vapor spray
P261 - Avoid breathing dust,fume,gas,mist,vapor spray
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves,protective clothing,eye protection,face protection
P301+P310 - If swallowed: Immediately call a poison control center, doctor,physician,
P302+P352 - If on skin: Wash with plenty of soap and water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P307+P311 - If exposed: Call a poison center/doctor
P308+P313 - If exposed or concerned: Get medical advice/attention
P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment: See section 4.1 on SDS
P330 - Rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P361 - Take off immediately all contaminated clothing
P362 - Take off contaminated clothing and wash it before reuse
P363 - Wash contaminated clothing before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P410+P403 - Protect from sunlight. Store in a well-ventilated place
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may explode if heated.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Methanol	(CAS No) 67-56-1	20-40	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:dust,mist), H331 STOT SE 1, H370
Acetone	(CAS No) 67-64-1	10 - 30	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Toluene	(CAS No) 108-88-3	10 - 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Heptane, Branched Cyclic	(CAS No) 426260-76-6	17.4528 - 18.18	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
n-Heptane	(CAS No) 142-82-5	4.545 - 8.181	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Carbon Dioxide, Liquefied, Under Pressure	(CAS No) 124-38-9	5 - 10	Compressed gas, H280

The exact percentage is a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician.

First-aid measures after inhalation : Cough. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Immediately call a poison center or doctor/physician. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Immediately call a poison center or doctor/physician. Obtain medical attention if pain, blinking or redness persist. Direct contact with the eyes is likely to be irritating.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	:	Suspected of damaging fertility or the unborn child. Causes damage to organs.
Symptoms/injuries after inhalation	:	May cause respiratory irritation. Shortness of breath. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	:	Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	:	Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	:	Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Flammable aerosol.
Explosion hazard	:	Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Advice for firefighters

Firefighting instructions	:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. DO NOT fight fire when fire reaches explosives. Evacuate area.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	:	Aerosol Level 2.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Protective equipment	:	Safety glasses. Gloves.
Emergency procedures	:	Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	:	Equip cleanup crew with proper protection. Avoid breathing dust,fume,gas,mist,vapor spray.
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Dam up the liquid spill. Plug the leak, cut off the supply. Contain released substance, pump into suitable containers.
Methods for cleaning up	:	Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Hazardous waste due to potential risk of explosion. Pressurized container: Do not pierce or burn, even after use.
Precautions for safe handling	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not spray on an open flame or other ignition source. Obtain special instructions . Do not handle until all safety precautions have been read and understood. Avoid breathing dust,fume,gas,mist,vapor spray. Use only outdoors or in a well-ventilated area. Do not breathe dust,fumes,gas,mist,vapor spray.
Hygiene measures	:	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Proper grounding procedures to avoid static electricity should be followed.
Storage conditions	:	Keep only in the original container in a cool, well ventilated place away from : Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place. Keep container tightly closed.
Incompatible products	:	Strong bases. Strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight. Heat sources.
Storage area	:	Store in a well-ventilated place.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Benzene (71-43-2)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA ACGIH	ACGIH Ceiling (ppm)	25 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (mg/m³)	75 mg/m³
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

n-Heptane (142-82-5)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm (Heptane, all isomers; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA ACGIH	ACGIH STEL (ppm)	500 ppm (Heptane, all isomers; USA; Short time value; TLV - Adopted Value)

Heptane, Branched Cyclic (426260-76-6)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)		
USA ACGIH	ACGIH TWA (mg/m³)	9000 mg/m³
USA ACGIH	ACGIH TWA (ppm)	5000 ppm (Carbon dioxide; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA ACGIH	ACGIH STEL (mg/m³)	54000
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	9000 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm

Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (mg/m³)	262 mg/m³
USA ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA ACGIH	ACGIH STEL (mg/m³)	328 mg/m³
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

Acetone (67-64-1)		
USA ACGIH	ACGIH TWA (mg/m³)	1188 mg/m³
USA ACGIH	ACGIH TWA (ppm)	500 ppm
USA ACGIH	ACGIH STEL (mg/m³)	1782 mg/m³

Acetone (67-64-1)		
USA ACGIH	ACGIH STEL (ppm)	750 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	2400 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, vent hoods . Ensure good ventilation of the work station.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance : Liquid.

Color : Colourless to light yellow.

Odor : Solvent-like odour.

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : -95 °C (Lowest Component-Acetone)

Freezing point : No data available

Boiling point : 56 °C (Lowest Component-Acetone)

Flash point : -18 °C (Lowest Component-Acetone)

Auto-ignition temperature : 465 °C (Lowest Component-Acetone)

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : No data available

Relative vapor density at 20 °C : No data available

Relative density : 0.78

Solubility : Moderately soluble in water.

Log Pow : No data available

Log Kow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : Heating may cause a fire or explosion.

Oxidizing properties : No data available

Explosion limits : No data available

9.2. Other information

VOC content : 69.3 %

Gas group : Liquefied gas

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin.

Benzene (71-43-2)	
LD50 oral rat	> 930 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; > 2000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 8240 mg/kg (Rabbit; Experimental value; 21 CFR 191.10; > 9.4; Rabbit)
LC50 inhalation rat (mg/l)	43.767 mg/l/4h (Rat; Experimental value)
LC50 inhalation rat (ppm)	13700 ppm/4h (Rat; Experimental value)

Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 5000 mg/kg body weight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 inhalation rat (mg/l)	> 28.1 mg/l/4h (Rat; Air, Literature study)

n-Heptane (142-82-5)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)

Heptane, Branched Cyclic (426260-76-6)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)

Methanol (67-56-1)	
LD50 oral rat	>= 2528 mg/kg body weight application as 50% aqueous solution
LD50 dermal rabbit	17100 mg/kg corresponding to 20 ml/kg bw according to the authors
LC50 inhalation rat (mg/l)	128.2 mg/l/4h Air

Acetone (67-64-1)	
LD50 oral rat	5800 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rabbit	20000 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	71 mg/l/4h (Rat; Experimental value; 76 mg/l/4h; Rat; Experimental value)
LC50 inhalation rat (ppm)	30000 ppm/4h (Rat; Experimental value)

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Benzene (71-43-2)	
IARC group	1

Toluene (108-88-3)	
IARC group	3

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure)	:	Causes damage to organs. May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	:	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	:	Not classified
Potential Adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met. Toxic if swallowed. Toxic in contact with skin.
Symptoms/injuries after inhalation	:	May cause respiratory irritation. Shortness of breath. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	:	Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	:	Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	:	Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Benzene (71-43-2)	
LC50 fish 1	5.3 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 2	10 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna)
Threshold limit algae 1	100 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

Acetone (67-64-1)	
EC50 Daphnia 2	12600 mg/l (LC50; Other; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)

n-Heptane (142-82-5)	
EC50 Daphnia 1	0.2 mg/l (LC50; Other; 96 h; Chaetogammarus marinus; Semi-static system; Salt water; Experimental value)

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
LC50 fish 1	35 mg/l (LC50; 96 h; Salmo gairdneri)

Methanol (67-56-1)	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)

Acetone (67-64-1)	
LC50 fish 1	6210 mg/l (96 h; Pimephales promelas; Nominal concentration)
EC50 Daphnia 1	8800 mg/l (48 h; Daphnia pulex)
LC50 fish 2	5540 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
TLM fish 1	13000 ppm (96 h; Gambusia affinis; Turbulent water)
TLM fish 2	> 1000 ppm (96 h; Pisces)
Threshold limit other aquatic organisms 1	3000 mg/l (Plankton)
Threshold limit other aquatic organisms 2	28 mg/l (Protozoa)
Threshold limit algae 1	7500 mg/l (Scenedesmus quadricauda; pH = 7)
Threshold limit algae 2	3400 mg/l (48 h; Chlorella sp.)

12.2. Persistence and degradability

JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.	
Persistence and degradability	Not established.

Benzene (71-43-2)	
Persistence and degradability	Readily biodegradable in water. Ozonation in water. Forming sediments in water. Biodegradable in the soil. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.18 g O_2 /g substance
Chemical oxygen demand (COD)	2.15 g O_2 /g substance
ThOD	3.10 g O_2 /g substance
BOD (% of ThOD)	0.70

Acetone (67-64-1)	
Persistence and degradability	Not established.

Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	2.15 g O_2 /g substance

Toluene (108-88-3)	
Chemical oxygen demand (COD)	2.52 g O_2 /g substance
ThOD	3.13 g O_2 /g substance
BOD (% of ThOD)	0.69

n-Heptane (142-82-5)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	1.92 g O_2 /g substance
Chemical oxygen demand (COD)	0.06 g O_2 /g substance
ThOD	3.52 g O_2 /g substance
BOD (% of ThOD)	> 0.5 (5 days; Literature study)

Heptane, Branched Cyclic (426260-76-6)	
Persistence and degradability	May cause long-term adverse effects in the environment.

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
Persistence and degradability	Biodegradability: not applicable. Not applicable (gas).
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O_2 /g substance
Chemical oxygen demand (COD)	1.42 g O_2 /g substance
ThOD	1.5 g O_2 /g substance
BOD (% of ThOD)	0.8 (Literature study)

Acetone (67-64-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available. Not established.
Biochemical oxygen demand (BOD)	1.43 g O_2 /g substance
Chemical oxygen demand (COD)	1.92 g O_2 /g substance
ThOD	2.20 g O_2 /g substance
BOD (% of ThOD)	(20 day(s)) 0.872

12.3. Bioaccumulative potential

JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.	
Bioaccumulative potential	Not established.

Benzene (71-43-2)	
BCF fish 1	19 (BCF)
BCF fish 2	< 10 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 3 days; Leuciscus idus; Flow-through system; Fresh water; Experimental value)
BCF other aquatic organisms 1	30 (BCF; 24 h; Chlorella sp.)
Log Pow	2.13 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Acetone (67-64-1)	
Bioaccumulative potential	Not established.

Toluene (108-88-3)	
BCF fish 2	90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

n-Heptane (142-82-5)	
BCF other aquatic organisms 1	552 (BCF; BCFBAF v3.00)
Log Pow	4.66 (Experimental value; 4.5; Literature study)
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

Heptane, Branched Cyclic (426260-76-6)	
Bioaccumulative potential	Not established.

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
Log Pow	0.83 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable.

Methanol (67-56-1)	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)

Methanol (67-56-1)	
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Acetone (67-64-1)	
BCF fish 1	0.69 (Pisces)
BCF other aquatic organisms 1	3
Log Pow	-0.24 (Test data)
Bioaccumulative potential	Not bioaccumulative. Not established.

12.4. Mobility in soil

Benzene (71-43-2)	
Surface tension	0.029 N/m (20 °C)
Log Koc	Koc,134.1; QSAR

Toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)

n-Heptane (142-82-5)	
Surface tension	0.019 N/m (25 °C; 0.020 N/m; 20 °C)
Log Koc	log Koc,SRC PCKOCWIN v2.0; 2.38; Calculated value

Methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

Acetone (67-64-1)	
Surface tension	0.0237 N/m (20 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do not drill or burn even after use. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Additional information : Flammable vapors may accumulate in the container.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): UN1950, Aerosols, 2.1, Limited Quantity

ICAO/IATA (air): UN1950, Aerosols, 2.1 , Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.1 , Limited Quantity

Special Provisions: N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Aerosols
flammable, (each not exceeding 1 L capacity)

Transport hazard class(es) (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115

Hazard labels (DOT) : 2.1 - Flammable gas

DOT Special Provisions (49 CFR 172.102) : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.

DOT Packaging Exceptions (49 CFR 173.xxx) : 306

DOT Packaging Non Bulk (49 CFR 173.xxx) : None

DOT Packaging Bulk (49 CFR 173.xxx) : None

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 48 - Stow ‘‘away from’’ sources of heat,87 - Stow ‘‘separated from’’ Class 1 (explosives) except Division 14,126 - Segregation same as for Class 9, miscellaneous hazardous materials

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard

Benzene (71-43-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313

Toluene (108-88-3)	
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard

Heptane, Branched Cyclic (426260-76-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard

Methanol (67-56-1)	
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on the United States SARA Section 355	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

Acetone (67-64-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.	
WHMIS Classification	Class B Division 5 - Flammable Aerosol

Benzene (71-43-2)
Listed on the Canadian DSL (Domestic Sustances List)

Toluene (108-88-3)
Listed on the Canadian DSL (Domestic Sustances List)

Toluene (108-88-3)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Heptane, Branched Cyclic (426260-76-6)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Methanol (67-56-1)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Acetone (67-64-1)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Heptane, Branched Cyclic (426260-76-6)

Methanol (67-56-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Acetone (67-64-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- Directive 79/831/EEC, sixth Amendment of Directive 67/548/EEC (dangerous substances) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Repr.Cat.3; R63
F; R11
T; R23/24/25
T; R39/23/24/25
Xn; R48/20
Xi; R36/38

Full text of R-phrases: see section 16

15.2.2. National regulations

Benzene (71-43-2)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on KECI (Korean Existing Chemicals Inventory) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Toluene (108-88-3)

Heptane, Branched Cyclic (426260-76-6)
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA under 40 CFR 720.30.

Methanol (67-56-1)
Listed on the Canadian IDL (Ingredient Disclosure List)

Acetone (67-64-1)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on KECI (Korean Existing Chemicals Inventory) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List)

15.3. US State regulations

JOHNSEN'S NON-CHLORINATED BRAKE PARTS CLEANER 14 OZ.	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

Benzene (71-43-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	No	Yes	

Acetone (67-64-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Toluene (108-88-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	Yes	No	

n-Heptane (142-82-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Heptane, Branched Cyclic (426260-76-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Methanol (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

Acetone (67-64-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

Benzene (71-43-2)

State or local regulations

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
U.S. - Pennsylvania - RTK (Right to Know) List
New Jersey Right-to-Know

Toluene (108-88-3)

State or local regulations

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
U.S. - New Jersey - Special Health Hazards Substances List
New Jersey Right-to-Know
U.S. - Massachusetts - Right To Know List
Rhode Island Right to Know
U.S. - Michigan - Critical Materials List
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - Illinois - Toxic Air Contaminants
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Methanol (67-56-1)

State or local regulations

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
New Jersey Right-to-Know
Florida Right to Know
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) List

Acetone (67-64-1)

State or local regulations

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
Benzene 71-43-2
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information : None.

Full text of H-phrases:

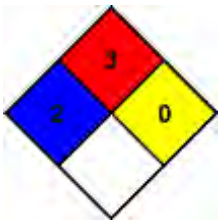
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Compressed gas	Gases under pressure Compressed gas
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Aerosol 2	Flammable aerosol Category 2
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H223	Flammable aerosol
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child

H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 3 Serious Hazard

Physical : 1 Slight Hazard

Personal Protection : B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

SAFETY DATA SHEET

(Krown)	**KROWN T40 RUST PROTECTION & LUBRICANT (AEROSOL)**		
Product code:	T-40		
Issued on:	October, 2006		
Revised:	23.05.2014	Correction:	1

1. MATERIAL / MIXTURE AND ORGANIZATION / COMPANY IDENTIFICATION

1.1. Product identification

KROWN T40 RUST PROTECTION & LUBRICANT (AEROSOL)

1.2. The intended usages of the material or mixture and those not recommended

Penetrating lubricant, rust protection

1.3. Information about the supplier of the safety data sheet

Manufacturer:	**SIA KROWN FACTORY**
	Ganību dambis 25f, Riga, LV 1005, Latvia
Telephone:	+371 67491330
Fax:	+371 67491331
E-mail of the competent person:	info@krowneurope.com
Website:	www.krowneurope.com
Importer in the UK:	**KROWN Rust Control LTD**
	36 Coneygree Road, Tipton DY4 8XF
Telephone:	01215573874
Fax:	
E-mail of the competent person:	info@krowuk.co.uk
Website:	www.krownuk.co.uk

1.4. Telephone for emergency situations

State fire and rescue service: 999
State police: non-emergency number 101, emergency 999
Emergency medical assistance service: 111, 999
State Poison Centre Drug and Poison Information Centre: 111
Manufacturer: +1 (905) 939-8750

2. HAZARDS IDENTIFICATION

2.1. Classification of the material/ mixture

Classification in accordance with the European Committee Directive 67/548/EEC and Directive 1999/45/EC

F+; R12

Classification in accordance with the Regulation (EC) No. 1272/2008

Aerosol 1; H222

2.2. Label elements

Labelling in accordance with the Regulation (EC) No. 1272/2008

Hazard pictograms:

GHS02

SAFETY DATA SHEET

(Krown) **KROWN T40 RUST PROTECTION & LUBRICANT (AEROSOL)**
Product code: T-40
Issued on: October, 2006
Revised: 23.05.2014 Correction: 1

Signal word:

Danger

Hazard statements:

H222 Extremely flammable aerosol
H229 Pressurized container: may burst if heated

Precautionary statements:

P102 Keep away from children
P210 Keep away from heat, hot surfaces, sparks, open flame and other ignition. No smoking.
P211 Do not spray on open flame or other sources of ignition.
P251 Do not pierce or burn, even after use.
P260 Do not breathe vapours/spray.
P410+412 Protect form sunlight. Do not expose to temperatures exceeding 50°C/122°F
P501 Dispose of the content/container in accordance with local regulation.

Additional labels in accordance to Regulation (EC) No. 648/2004:

>=30% Aliphatic carbohydrates

2.3. Other hazards

The mixture does not correspond to *PBT* or *vPvB* criteria.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Composition

Not applicable.

3.2. Mixtures

Names of components	CAS No.	EINECS No.	RERACH registration No.	Concentration, % of weight	Classification
Petroleum hydrocarbons	---	---	No registration data	40-70	Not classified
Isobutane (contains less than 0.1% butadiene (203-40408))	75-28-5	200-857-2	No registration data	10-30	F+;R12 Flam. Gas 1, H220 Press. Gas
1,1,1,2-tetrafluoroethane (R134a)	74-98-6	200-827-9	01-2119486944-21	5-10	F+;R12 Flam. Gas 1, H220 Press. Gas

4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact

In case of eye contact, immediately rinse with running water for at least 15 minutes. Before rinsing make sure there are no contact lenses in the eyes. Keep the eyelids open during rinsing. If the irritation remains, repeat. IMMEDIATELY seek medical attention.

Skin contact
In case of skin contact, wash with large amount of water and soap. If the irritation or redness occurs, seek medical attention.

Inhalation
In case of inhalation of vapour or spray mist, move the victim away from the source of contamination in fresh air. Seek medical attention, if necessary.

Ingestion
Due to the physical properties of the product, ingestion is highly unlikely. If accidentally ingested, dO NOT cause vomiting, immediately drink one glass of water to dilute the stomach contents. Contact doctor.
Even a little aspiration in the respiratory system during ingestion or vomiting may cause mild to severe lung damage and possible death.

4.2. Most important symptoms and effects, both acute and delayed
Contact with pressurized gas may cause skin frostbite.

4.3. Indication of any immediate medical attention and special treatment needed
Health research shows that many petroleum hydrocarbons cause potential harm to human health, which can be very different form one person to another.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media
Suitable extinguishing media
Carbon dioxide, dry chemicals, water spray or water mist.
Non-suitable extinguishing media
Do not use powerful water stream to extinguish flame, as it can facilitate spreading of fire.

5.2. Special hazards arising from the substance or mixture
Product's vapour in a mixture with air may ignite from sparks, flame or other sources of ignition. Product's vapour is heavier than air and travels along the ground surface. Leakages may cause fire or explosion hazard. Spray bottles can explode, when heated. Broken spray bottles can burst and injure the personnel.

5.3. Advice for fire fighters
When extinguishing indoor fires and any significant outdoor fires, adequate personal protective equipment and respiratory protection apparatus with independent air supply. For smaller outdoor fires that can be easily extinguished with portable fire extinguisher, the use of respiratory protection apparatus with independent air supply is not obligatory.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Emergency personnel in contaminated areas must use adequate personal protective equipment and certified self-contained breathing apparatus. Protective goggles and impervious gloves must be used. Spilled product can be slippery.

6.2. Environmental precautions
Immediately inform the responsible environmental services about the accident. Prevent release to the environment.

6.3. Methods and material for containment and cleaning up
If possible without risk, stop the spillage. Collect spillage with absorbing, non-flammable material and place in suitable containers for utilization. Move containers away from fire, if possible without risk. Remove or extinguish fire sources or combustion facilities, evacuate confined spaces, until the gas is dispersed, keep upwind. Spray containers threatened by fire with water to cool them, in order to prevent pressure increase, auto-ignition or explosion. Use shields for personal protection in case of decompression, bursting or explosion of the containers.

6.4. Reference to other sections
For waste disposal see Section 13, personal protective equipment indicated in Section 8.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Comply with general requirements for handling spray bottles. Keep away from heat and fire. Do not press, cut, heat or weld the spray bottles. Empty spray bottles can contain product residue.

7.2. Conditions for safe storage, including any incompatibilities
Keep away from heat, sparks and open fire. Keep in sealed, labelled containers in cool, dry, well ventilated area. Do not store with incompatible substances or materials.

7.3. Specific end use(s)
Lubricant with penetrating properties, rust protection

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
8.1.1. Exposure limit values

Name of the component	**8h OEL mg/m^3**	**8h OEL ppm**	**15min OEL mg/m^3**	**15min OEL ppm**
Mineral oils, petroleum mineral oils	5	-	-	-
Propane	100	-	300	-

OEL – occupational exposure limit values in accordance to Annex 1, Cabinet of Ministers' Regulations No. 325 of 15.05.2007

There is no information about the derived no effect levels (DNEL) and prescribed no effect concentration (PNEC) concerning the mixture and its components.

8.2. Exposure controls
8.2.1. Adequate technical management

General instructions: Preventive measures – minimize exposure to the effects of liquid, vapour, mist or fumes. In case of emergency, see Section 6.
Technical measures: Provide suitable ventilation in the work place. Local exhaust ventilation is recommended.

8.2.2. Such individual protection measures as personal protective equipment

Eye/face protection: Goggles in accordance to EN 166 recommended.
Hand protection: Safety gloves recommended.
Body protection: Recommended work clothing in accordance to EN943: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles
Respiratory protection: Respirators in accordance with EN 14387 recommended.
Thermal hazards: Apply traditional personal protective equipment to prevent direct contact to sprayed aerosol.
Hygienic measures: Working with the product, it is recommended to apply general protective and hygienic measures for work with chemical substances.
8.2.3. Environmental risk management
Information not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) appearance	Aerosol
b) odour	Odourless
c) odour threshold	Not specified
d) pH	Not applicable
e) melting / freezing point	Not specified (for liquid phase) 113.6 K (-159.6 ºC) (for isobutene)
f) boiling temperature and boiling temperature range	Not specified (for liquid phase) 261.5 K (-11.7) (for isobutane)
g) flash temperature	>185 ºC COC (for liquid phase) -104 ºC (for propane)
h) evaporation rate (water=1)	Data not available
i) flammability (for solids, gasses)	Not applicable
j) upper/ lower flammability or explosive limit	Not specified (for liquid phase)
- lower flammability or explosive limit	108-2.1 air (volume %) (for propellant)
- upper flammability or explosive limit	8.5-9.5 air (volume %) (for propellant)
k) vapour pressure (mm Hg)	33-109.73 psig@21.1 ºC (for propellant)
l) vapour density (air=1)	Data no available
m) relative density	0.6-0.7 g/cm^3
n) solubility in water	Insoluble
o) partition coefficient: n-octanol/water	Data not available
p) ignition temperature	450-460 ºC
q) degradation temperature	Data not available

r) viscosity	Data not available
s) explosion hazard	Data not available
t) oxidation properties	Data not available

9.2 Other information Data not available

10. STABILITY AND REACTIVITY

10.1. Reactivity
Data not available.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Explosion hazard in contact with chlorine dioxide. Heating barium peroxide with propane causes powerful exothermic reaction. Heated chlorine – propane mixtures are explosive under certain circumstances. Spary bottles may explode, if heated.

10.4. Conditions to avoid
Keep away from powerful oxidizers and heat sources, prevent heating. Do not expose to temperatures exceeding 50 ºC/122 ºF.

10.5. Incompatible materials
Powerful oxidizers, chlorine dioxide, barium peroxide.

10.6. Hazardous decomposition products
Carbonic monoxide, carbonic dioxide.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological information
a) acute toxicity
No information about acute toxicity available.
Component toxicity
Propane, LC50: 280000 ppm/4h – rat, inhalation
Isobutane, LC50: 658000 mg/m^3/4h – rat, inhalation
b) caustic irritation
Direct contact of the skin or mucosa with the spray may cause frostbite.
c) serious eye damage/ irritation
Direct contact of the skin or mucosa with spray may cause frostbite and permanent eye damage.
d) respiratory or skin sensitization
No data available regarding sensitizing effect of the mixture or components.
e) germ cell mutagenicity
No data available regarding mutagenic effect.
f) carcinogenicity

Petroleum oils may contain polycyclic aromatic hydrocarbon (PAH) admixtures. Treating oils with solvents and hydrocarbon, PAHs are separated, virtually eliminating the risk of cancer caused by the effect of PAHs and oils.

g) reproductive toxicity

No data available regarding reproductive toxicity of the mixture or components.

h) Specific target organ toxicity, single exposure

May increase cardiac sensitivity to adrenaline, which may cause irregular heartbeat and reduce cardiac functional capabilities.

i) specific target organ toxicity, repeated exposure

Consuming large per oral doses, this product caused temporary stomach, liver and kidney damage in rats (males only). If the occupational exposure limits are not exceeded the effect on humans is insignificant.

Toxicity of repeated dose:

Propane: NOAEC 4000 ppm (rat, inhalation)
Method: OECD 422 (Combined repeated dose toxicity test with reproductively / development toxicity screening)
Propane LOAEC 12000 ppm (rat, inhalation)
Method: OECD 422 (Combined repeated dose toxicity test with reproductively / development toxicity screening)

j) hazards caused by inhalation

Spray vapour may irritate mucosa and respiratory system

12. ECOLOGICAL INFORMATION

No data available on the ecological impact of the product, the evaluation is performed based on the information about the mixture components.

12.1. Toxicity

No data on mixture toxicity.

Component toxicity

Toxicity to fish
Propane, LC50: 49.9 mg/l/96h, fish
Toxicity to daphnia and other aquatic invertebrates
Propane, EC50: 27.1 mg/l/48h, Daphnia magna (daphnia)
Toxicity to algae
Propane, EC50: 11.0 mg/l/72h, algae

12.2. Persistence and degradability

Propellant upon entering the atmosphere quickly evaporates and degrades photo-chemically.

12.3. Bioaccumulative potential

The bioaccumulation of the mixture or components is not expected.

12.4. Mobility in soil

Petroleum hydrocarbons are not water soluble and do not move in soil. Propellant is a gas, parameter not applicable.

12.5. Results of PBT and vPvB assessment

No data available on the results of PBT and vPvB assessment.

12.6. Other adverse effects

Oil products may cause a film on water surface which may inhibit the oxygen exchange.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Comply with the legislative documents of the EU and the Republic of Latvia, regulating waste treatment.

Product residue and wastes

Prevent discharge into drains. Do not store with municipal waste. Transfer waste for disposal or recycling to a l waste treatment company.

Waste code

160504 Gases in pressure containers (including halons) containing dangerous substances.

Container and packaging waste

When possible, recycle containers and packaging free from product residue.

Waste codes

150101 Paper and cardboard container
If the container is free from product residue
150104 Metal packaging
If the container contains product residue
150110 Packaging containing hazardous residue or contamination

Additional information for waste treatment company personnel

It is advised to comply with the general protective and hygiene measures when working with chemical substances.

14. TRANSPORT INFORMATION

14.1 UN number

UN 1950

14.2. UN proper shipping name

AEROSOLS, flammable

14.3. Transport hazard class(-es)

ADR/RID/ADN	2.1
IMDG	2.1
ICAO/IATA class/ section	2.1

Hazard label

14.4. Packaging group

ADR/RID/ADN packaging group	-
IMDG packaging group	-
ICAO/IATA packaging group	-

14.5. Environmental hazards
Marine pollutant No

14.6. Special precautions for user
EMS F-D, S-U
Store and transport in upright position. Transport on vehicles where the load space is not separated from the driver's compartment. Ensure that the product transportation personnel is informed about the potential hazards loading/ unloading and safety procedures in case of accidental leakage or emergency.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable

15.REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) No. 1907/2006 (18 December, 2006) of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
Regulation (EC) No. 1272/2008 (16 December, 2006) of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Commission Regulation (EU) No 453/2010 (20 May 2010) amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
Commission Regulation (EU) No 487/2013 (8 May 2013) amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
Commission Regulation (EU) No 944/2013 (2 October 2013) amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 648/2004 (31 March, 2004) of the European Parliament and of the Council concerning detergents.

15. Chemical safety assessment
No data on chemical safety assessment

16. OTHER INFORMATION

Developed on: October, 2006
Developer of the initial data safety sheet: EMPACK Regulatory Department
Developed by: 23 May, 2014, SIA "Retorte"
Sections 1-15 reviewed in accordance to EU laws and regulations.

Chemical material effect descriptions (R phrases) and hazard labels (H label) in full:
R12 Extremely flammable.

H220 Extremely flammable gas.
H222 Extremely flammable aerosol.

SAFETY DATA SHEET

(Krown)	**KROWN T40 RUST PROTECTION & LUBRICANT (AEROSOL)**		
Product code:	T-40		
Issued on:	October, 2006		
Revised:	23.05.2014	Correction:	1

H229 Container under pressure: may explode if heated.

Flam. Gas 1	Flammable gases, Hazard Category 1
Press. Gas	Pressurized gas
Aerosol 1	Aerosols, Hazard Category 1

Abbreviations and acronyms used in the safety data sheet:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
ICAO: International Civil Aviation Organization
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
EINECS: European Inventory of Existing Commercial Chemical Substances

Disclaimer

The information in this safety data sheet is based on the data provided by the product manufacturer, which is to be deemed correct; however, the product importer, nor its manufacturer shall guarantee that this information is comprehensive, nor shall bare any responsibility of the consequences caused by the use of this information. It is the responsibility of the user of the product, to evaluate the information provided here and its applicability to the current circumstances of the product usage, as well as to carry out all necessary safety procedures, when using this product.

End of safety data sheet

Krown KL-FSM Extreme Duty Chain Lube

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND PREPARATION INFORMATION

Manufacturer: EMPACK a division of EMU Polishes Inc.
1062 Westport Crescent, Mississauga,
Ontario, Canada, L5T 1G1
(905) 670 – 8697

Emergency telephone numbers: EMPACK (8 AM TO 4 PM EST)
(905) 670 – 8697 CANUTEC (24 HR) (613) 996 – 6666

Supplier's Name and Address: Refer to Manufacturer

Product Name: Krown KL-FSM Extreme Duty Chain Lube

Synonyms: Not Applicable

Chemical Family: Aerosol

Molecular Formula: Not Applicable

Product Use: Lubricant, Rust Inhibitor

WHIMIS Classification: Class B5

TDG Classification: AEROSOLS, Class 2.1,**Under the Transportation of Dangerous Goods (TDG) Clear Language Regulations**: This product may be shipped as a LIMITED QUANTIY. Refer to TDG, Section 1.17, for the LIMITED QUANTITY exemption. Note that all criteria appearing under Section 1.17 must be met in order for this exemption to apply.

Prepared by: EMPACK Regulatory Department

Preparation Date: February, 2009

Krown KL-FSM Extreme Duty Chain Lube

2. HAZARDOUS INGREDIENTS

Hazardous Ingredients	*CAS #*	*Wt. %*	*OSHA TWA*	*ACGIH TWA*	*LC_{50}*
Inhalation					
Petroleum hydrocarbons	N/A	60 - 80	N/A	N/A	N/A
Propane	74-98-6	5-10	1000ppm	2500ppm	N/A
Isobutane	75-28-5	20 -40	800ppm	N/A	570000 rat/1hr

3. PHYSICAL AND CHEMICAL PROPERTIES

Physical State = Liquid and gas under pressure

Appearance = Thin brown liquid

Odour = No odour

Odour Threshold = odourless

Boiling Point (^{o}C) for concentrate = N.D

Boiling Point (^{o}C) for propellants = (- 12 ^{o}C) – (-42 ^{o}C)

Vapour Density (Air = 1) = 1.56-2

Specific Gravity (Water = 1) = 0.531-.5772

Vapour Pressure for concentrate = N.D

Evaporation Rate for concentrate = N.D

Vapour Pressure for propellants = 33-109.73 psig@21.1 ^{o}C

Evaporation Rate for = Much greater than 1. (water)

Solubility for propane = Slight (62.4ppm)@ 25 ^{o}C

Solubility for Isobutane = Easily soluble in methanol,
diethylether, n-octanol, acetone, very slightly soluble
in cold water, hot water

Solubility in Water for concentrate = NIL

4. FIRE AND EXPLOSION HAZARD

Flammable limits for solution:N.D

Flammability for propellants: flammability limits in air (% by volume):
LFL = 108-2.1; UFL = 8.5-9.5

Extinguishing Media: Carbon dioxide, dry chemicals, water spray or fog.

Fire Fighting Procedures: Emergency responders in the immediate hazard area should wear proper protective bunker gear and NIOSH approved self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Use water spray to cool fire-exposed containers is order to prevent pressure build up, autoignition or explosion. Shield personnel to protect from venting, rupturing or bursting cans.

Flash Point for propellants: (-104) – (-178)

Auto-ignition Temperature (^{o}C): 450-460 ^{o}C

Hazardous Combustion Products: Carbon dioxides (CO, CO2).

5. REACTIVITY DATA

Chemical Stability: Stable

Incompatible Materials: keep away from strong oxidizers, ignition source and heat. Explosion hazard when exposed to chlorine dioxide. Heating barium peroxide with propane causes violent exothermic reaction. Heated chlorinepropane mixtures are explosive under some condition.

Hazardous Decomposition: Extremely reactive or incompatible with oxidizing agents.

6. TOXICOLOGICAL PROPERTIES

Route of Entry:

Skin Contact: Direct contact to the skin or mucous membranes with liquid or cold vapour may cause freeze burns and frost bite.

Eye Contact: Contact with liquid or cold vapour may cause frostbite, freeze burns, and permanent eye damage.

Inhalation: Vapour maybe irritating to the mucous membranes and respiratory tract.

Ingestion: Ingestion is unlikely. Contact with mucous membranes with liquefied product may cause frostbite and freeze burns.

Effects of Acute Exposure: May increase sensitivity of the heart to adrenaline,

	which could result in irregular heart beats and reduced heart function.
Effects of Chronic Exposure:	At very high oral doses, this product caused reversible damage to the stomach, liver, and kidney (male only) of rats. These effects are not relevant to humans at occupational levels of exposure.
Carcinogenicity:	No information is available.
Reproductive Effects:	No information is available.
Teratogenicity:	No information is available.
Mutagenicity:	No information is available.

7. PREVENTIVE MEASURES

Personal protective equipment:	wear safety glasses and use impervious gloves.
Specific engineering controls:	local exhaust is recommended.
Leak and spill procedures:	remove or extinguish ignition or combustion sources, Evacuate enclosed spaces until gas is dispersed, Keep upwind. Stop leak if possible without risk.
Containers Disposal:	Don't puncture or incinerate containers, even when empty. Dispose in accordance with local, provincial and federal regulations.
Handling Procedures and Equipment:	wash before eating, drinking, using tobacco products or rest rooms. Do not breathe vapours. keep away from heat and flames.
Storage Instructions:	Keep away from heat, sparks, and open flames. Store in a cool, dry and well ventilated place away from incompatibles.
Storage requirements:	keep in a closed, labelled container in a ventilated area.

8. FIRST AID MEASURES

Eyes:	In case of eye contact, immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If

irritation persists, repeat flushing. Seek medical attention IMMEDIATELY.

Skin: For skin, wash thoroughly with soap and large amounts of water. If irritation or redness develops, seek medical attention.

Inhalation: If affected by inhalation of vapour or spray mist, move victims away from source of exposure and into fresh air. Seek medical attention if necessary.

Ingestion: NA

9. OTHER INFORMATION

Prepared by: EMPACK
Telephone: (905) 670-8697
Preparation Date: February, 2009
References:
1. Manufacturers/Suppliers Material Safety Data Sheet
2. Canadian Centre for Occupational Health and Safety, CHEMINFO, database, 2003.
3. Threshold Limit Values, ACGIH, indices, 2002.

Abbreviations:

ACGIH - American Conference of Governmental Industrial Hygienists
CAS - Chemical Abstract Service
LC - Lethal Concentration
LD - Lethal Dosage
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration (U.S.A)
TLV - Threshold Limit Value
TWA - Time Weighted Average
WHIMIS - Workplace Hazardous Materials Information System

Krown KL-FSM Extreme Duty Chain Lube

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. **This MSDS is valid for three years.**

Canadian Krown Dealers Inc.
35 Magnum Dr.
Schomberg, Ontario, L0G - 1T0
Canada
905-939-8750 / 1-800-267-5744

PRODUCT: Krown KP53 Penetrant - 400g **CODE: KR-002010**

Section 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Item Numbers	KR-002010
Product Identity	Krown KP53 Penetrant - 400g
Manufacturer	Empack Spraytech Inc. 98 Walker Drive Brampton Ontario Canada L6T 4H6 905-792-6571
24 hour emergency telephone number	CANUTEC: (613)-996-6666 collect.
Recommended Use	Lubricant, Penetrant, Rust Inhibitor.
Chemical Family	Mixture.

Section 02: HAZARDS IDENTIFICATION

Hazard Classification:

Physical Hazards	Flammable Aerosols - Category 1 . Gases Under Pressure - Compressed gas .
Health Hazards	Skin Irritation - Category 2. Carcinogenicity - Category 2. Eye Irritation - Category 2A. Toxic to Reproduction - Category 2. Aspiration Hazard - Category 2. Acute Toxicity Inhalation - Category 4.
Environmental Hazards	Not Classified.

Label Elements:

Signal Word	DANGER.
Hazard Statement	Extremely flammable aerosol. Pressurized container: may burst if heated. Harmful if inhaled. Causes skin irritation. Suspected of causing cancer. Causes serious eye irritation . Suspected of damaging fertility or the unborn child.

Precautionary Statements:

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source . Do not pierce or burn, even after use. Wash thoroughly after handling .
Response	IF INHALED: Remove person to fresh air and keep confortable for breating. Call a POISON CENTER if you feel unwell. IF ON SKIN: Wash with plenty of water. Take of contaminated clothing and wash before reuse. If skin irritation occurs: Get medical attention. If exposed or concerned: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER. Do NOT induce vomiting.
Storage	Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F . Store in a well-ventilated place. Store locked up .
Disposal	Dispose of contents/ container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Section 03: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS #	Wt. %
Xylene	1330-20-7	15-40
Isobutane	75-28-5	10-30
Ethylbenzene	100-41-4	7-13
Propane	74-98-6	7-13
Dipropylene Glycol Monomethyl Ether	34590-94-8	1-5

PRODUCT: Krown KP53 Penetrant - 400g CODE: KR-002010

Section 04: FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration and obtain immediate medical assistance.
Skin Contact	Immediately flush the contaminated skin with soap and water. If this chemical penetrates clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention .
Eye Contact	Check for and remove contact lenses. Immediately flush eyes with water for a minimum of 15 minutes keeping eyelids open. Consult a doctor if any irritation occurs.
Ingestion	Rinse mouth thoroughly with water. Drink 1-2 glasses of water. If symptoms occur, consult a physician. Do not induce vomiting .
Most important symptoms/effects, acute and delayed	Immediate medical attention is required.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Section 05: FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical powder. Carbon dioxide. Foam, water spray or fog.
Unsuitable Extinguishing Media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific Hazards Arising from the Chemical.	In case of fire, the following can be released: Carbon Oxides (CO, CO2), Other unidentified Organic Compounds.
Special Protective Equipment and Precautions for Firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with water to prevent vapor pressure build up. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from immediate hazard area if it is safe to do.
General Fire Hazards	Flammable.

Section 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 08).
Methods and Materials for Containment and Cleaning Up	Wash with plenty of water.
Environmental Precautions	Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

Section 07: HANDLING AND STORAGE

Precautions for Safe Handling	Avoid breathing vapours or mists. Never pierce, drill, grind, cut, saw or weld any empty container. Do not eat or drink while working. See Section 08 for Protective Personal Equipments.
Conditions for Safe Storage including any Incompatibilities	Keep container tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, and flame. Do not store in direct sunlight.

Section 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredients	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Xylene	100 ppm	150 ppm	100 ppm (435 mg/m3)	150 ppm (655 mg/m3)	Not established
Isobutane	800 ppm	1000 ppm	800ppm	Not available	800 ppm (TWA)
Ethylbenzene	100 ppm	125 ppm	100 ppm (435 mg/m3)	125 ppm (545 mg/m3)	100 ppm (435 mg/m3)
Propane	2,500 ppm	Not available	1,000 ppm	Not available	1,000 ppm
Dipropylene Glycol Monomethyl Ether	100 ppm	150 ppm	100 ppm (600 mg/m3)	150 ppm (900 mg/m3)	100 ppm (600 mg/m3)
	100 ppm				

Appropriate Engineering Controls	Local exhaust ventilation required to maintain the point of use below the Threshold Limit Value if unprotected personnel are involved. Ensure that eyewash stations and safety showers are available.
Individual Protection Measures:	
Eye/Face Protection	Chemical splash goggles are recommended.
Skin Protection	Use appropriate protective clothing to avoid skin contact if required.
Respiratory Protection	
Thermal Hazards	None Known.

PRODUCT: Krown KP53 Penetrant - 400g CODE: KR-002010

Section 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

General Hygiene Considerations..... When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 09: PHYSICAL AND CHEMICAL PROPERTIES

Form..... Aerosol.
Physical Appearance..... Dark Blue.
Odor..... Aromatic.
Odor Threshold (ppm)..... N/A.
Specific Gravity ..... 0.910-0.970.
Vapour Density (Air=1)..... N/A.
pH..... N/A.
Boiling Point liquid (°C)..... 137°C (279°F).
Melting/Freezing Point (°C)..... N/A.
Flash Point (°C), Method..... 28°C (82°F).
Flashback..... N/A.
Evaporation Rate (n-Butyl Acetate = 1)..... N/A.
VOC Content..... N/A.
Solubility in water..... N/A.
Auto Ignition Temperature (°C)..... N/A.
Lower Flammable Limit (% Vol)..... N/A.
Upper Flammable Limit (% Vol)..... N/A.
Coefficient of Water/Oil Distribution..... N/A.
Viscosity..... N/A.

Section 10: STABILITY AND REACTIVITY

Reactivity ..... No hazardous reactions.
Chemical Stability..... Stable under the recommended storage and handling conditions.
Possibility of Hazardous Reactions..... It may catch fire on contact with oxidizing mineral acids.
Conditions to Avoid..... Heat, flames, sparks.
Incompatible Materials..... None known.
Hazardous Decomposition Products..... In combustion emits toxic fumes.

Section 11: TOXICOLOGICAL INFORMATION

Ingredients	LC50	LD50
Xylene	5000 ppm (4 hrs)	4300 mg/kg
Isobutane	658 mg/L (4hrs,rat)	Not available
Ethylbenzene	4000 ppm (4hr)	3500 mg/kg (Rat,oral); 17800 mg/kg (Rabbit,dermal)
Propane	>800,000 ppm (15 min,Rat)	Not available
Dipropylene Glycol Monomethyl Ether	No data	5350 mg/kg Rat oral; 9500 mg/kg Rabbit dermal

Information on Likely Routes of Exposure:
Routes of entry - Inhalation..... Yes.
Routes of entry - Skin & Eye..... Yes.
Routes of entry - Ingestion..... No.
Routes of entry - Skin Absorption..... No.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Acute Toxicity..... Irritating to the eyes.
Skin Corrosion/Irritation..... Causes skin irritation.
Serious Eye Damage/Eye Irritation..... Causes serious eye irritation.
Respiratory or Skin Sensitization..... Not expected to be a skin or respiratory sensitizers.
Germ Cell Mutagenicity..... No data available to indicate product or any components present at greater than 0.1% are mutagenic.
Carcinogenicity..... Ethylbenzene (CAS#: 100-41-4): IARC: Group 2B (Possibly Carcinogenic to Humans); ACGIH: Group A3 (Confirmed Animal carcinogen with unknown relevance to humans).
Xylene (CAS#: 1330-20-7): ACGIH A4 Not Classified as a human carcinogen; IARC 3 Not classifiable as to carcinogenicity to humans.
Reproductive Toxicity..... Based on available data, the classification criteria are not met.
Specific Target Organ Toxicity - Single Exposure ..... Specific target organ toxicity single exposure Category 3. May cause drowsiness and dizziness.
Specific Target Organ Toxicity - Repeated Exposure .. May cause damage to the liver and kidneys through prolonged or repeated exposure.
Aspiration Hazard..... Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

PRODUCT: Krown KP53 Penetrant - 400g CODE: KR-002010

Section 11: TOXICOLOGICAL INFORMATION

Chronic Effects	Chronic skin contact with low concentrations may cause dermatitis. Prolonged or repeated overexposure may cause liver and kidney effects.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity	Ethylbenzene (CAS#:100-41-4): Toxicity to fish: LC50 4.3mg/L,96hr; Toxicity to aquatic invertebrates: LC50 2.6mg/L,96hr; Toxicity to algae: EC5.0mg/L,96hr. May be dangerous for the environment. No data is available on the product itself. Should not be released into the environment. This product contains the following substance which may also be hazardous for the environment: . Xylene (CAS#:1330-20-7): Toxicity to fish: 780.0 mg/L, 96 hrs; Toxicity to other aquatic invertebrates: EC50 0.8 mg/L , 48 hrs; Toxicity to algae: EC50 10.0mg/L.
Persistence and degradability	The product itself has not been tested.
Bioaccumulation Potential	The product itself has not been tested.
Mobility in Soil	The product itself has not been tested.
Other Adverse Effects	None Known.

Section 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods	This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Spilled material and water rinses are classified as chemical waste and must be disposed of in accordance with current local, provincial and federal regulations.

Section 14: TRANSPORT INFORMATION

TDG (Canada- Road)	AEROSOLS, Class 2.1, UN1950.
DOT (US-Road)	AEROSOLS, Class 2.1, UN1950, LTD. QTY. OR ORM-D.
IMDG (International- Marine)	AEROSOLS, Class 2.1, UN1950.
IATA (International- Air)	AEROSOLS, Class 2.1, UN1950, LTD QTY.

Section 15: REGULATORY INFORMATION

Canada Regulations:	WHMIS Classification. A: Compressed gas. B5: Flammable Aerosol. D2A: Material causing very toxic effect. D2B: Material causing other toxic Materials.
Canadian Environmental Protection Act (CEPA)	All ingredients listed appear on the Domestic Substances List (DSL).
US Regulations	Environmental Protection Act: Constituents of this product are included on the TSCA inventory. This product is considered hazardous under the OSHA Hazard Communication Standard.

Section 16: OTHER INFORMATION

Disclaimer	The information contained herin is based on data considered accurate. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. The SDS provider assumes no responsibility for personal injury or property damage to vendees or users or third parties, caused by the material. Such vendees or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. THIS SDS IS VALID FOR THREE YEARS.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHIMIS: Workplace Hazardous Materials Information System.
Prepared by	Regulatory Affairs
Preparation Date	Mar03/15

SAFETY DATA SHEET

A03401004

Section 1. Identification

Product name : KRYLON® QUIK-MARK™ Water-Based Inverted Marking Paint (APWA) Brilliant White

Product code : A03401004

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
101 Prospect Avenue NW
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 247-3266

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 22.3%
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 35.7%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 17.5%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Propane	10.2	74-98-6
Toluene	9	108-88-3
Talc	5.39	14807-96-6
Butane	4.8	106-97-8
Hexane	4.43	110-54-3
Titanium Dioxide	3.28	13463-67-7
Xylene	2.35	1330-20-7
2-Methylpentane	2.05	107-83-5
Lt. Aliphatic Hydrocarbon Solvent	1.94	64742-89-8
Ethylbenzene	0.42	100-41-4

Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 4. First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put

Section 6. Accidental release measures

on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Propane	**NIOSH REL (United States, 10/2016).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2016).** TWA: 20 ppm 8 hours.
Talc	**NIOSH REL (United States, 10/2016).** TWA: 2 mg/m³ 10 hours. Form: Respirable fraction **ACGIH TLV (United States, 3/2016).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction
Butane	**NIOSH REL (United States, 10/2016).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2016).** STEL: 1000 ppm 15 minutes.
Hexane	**ACGIH TLV (United States, 3/2016).** **Absorbed through skin.** TWA: 50 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 50 ppm 10 hours. TWA: 180 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 500 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Titanium Dioxide	**ACGIH TLV (United States, 3/2016).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Xylene	**ACGIH TLV (United States, 3/2016).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
2-Methylpentane	**ACGIH TLV (United States, 3/2016).** TWA: 500 ppm 8 hours. TWA: 1760 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3500 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 510 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.

Lt. Aliphatic Hydrocarbon Solvent Ethylbenzene	None. **ACGIH TLV (United States, 3/2016).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 1000 ppm 8 hours. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
toluene	**CA Alberta Provincial (Canada, 4/2009). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Québec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 188 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Butane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 600 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 800 ppm 8 hours. TWAEV: 1900 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 800 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.

Hexane	**CA Alberta Provincial (Canada, 4/2009). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 176 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 7/2016). Absorbed through skin.** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015). Absorbed through skin.** TWA: 50 ppm 8 hours. **CA Québec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 176 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 62.5 ppm 15 minutes. TWA: 50 ppm 8 hours.
Xylene	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 100 ppm 8 hours. 15 min OEL: 651 mg/m³ 15 minutes. 15 min OEL: 150 ppm 15 minutes. 8 hrs OEL: 434 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 100 ppm 8 hours. STEL: 150 ppm 15 minutes. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 100 ppm 8 hours. TWAEV: 434 mg/m³ 8 hours. STEV: 150 ppm 15 minutes. STEV: 651 mg/m³ 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
2-Methylpentane	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 3500 mg/m³ 15 minutes. 8 hrs OEL: 1760 mg/m³ 8 hours. 15 min OEL: 1000 ppm 15 minutes. 8 hrs OEL: 500 ppm 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 200 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 1000 ppm 15 minutes. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1760 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 3500 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1000 ppm 15 minutes. TWA: 500 ppm 8 hours.
Ethylbenzene	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 100 ppm 8 hours.

	8 hrs OEL: 434 mg/m³ 8 hours. 15 min OEL: 543 mg/m³ 15 minutes. 15 min OEL: 125 ppm 15 minutes. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 100 ppm 8 hours. TWAEV: 434 mg/m³ 8 hours. STEV: 125 ppm 15 minutes. STEV: 543 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours.

Occupational exposure limits (Mexico)

Ingredient name	Exposure limits
Propane	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 1000 ppm 8 hours.
toluene	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 20 ppm 8 hours.
Butane	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 1000 ppm 8 hours.
Hexane	**NOM-010-STPS-2014 (Mexico, 4/2016).** **Absorbed through skin.** TWA: 50 ppm 8 hours.
Xylene	**NOM-010-STPS-2014 (Mexico, 4/2016).** STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
2-Methylpentane	**NOM-010-STPS-2014 (Mexico, 4/2016).** STEL: 1000 ppm 15 minutes. TWA: 500 ppm 8 hours.
Ethylbenzene	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 20 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 9.1 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 9.5%

Vapor pressure : 101.3 kPa (760 mm Hg) [at 20°C]

Vapor density : 1 [Air = 1]

Relative density : 0.87

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 15.143 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Hexane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LD50 Oral	Rat	15840 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Talc	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Hexane	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-

Ethylbenzene	Skin - Moderate irritant Eyes - Severe irritant Skin - Mild irritant	Rabbit Rabbit Rabbit	- - -	milligrams 100 Percent 500 milligrams 24 hours 15 milligrams	- - -

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Talc	-	3	-
Titanium Dioxide	-	2B	-
Xylene	-	3	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Hexane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation
2-Methylpentane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Lt. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Propane	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Talc	Category 1	Inhalation	lungs
Butane	Category 2	Not determined	Not determined
Hexane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
2-Methylpentane	Category 2	Not determined	Not determined
Lt. Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Hexane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
2-Methylpentane	ASPIRATION HAZARD - Category 1
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	5286.7 mg/kg
Dermal	30073.3 mg/kg
Inhalation (gases)	175465.3 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Hexane	Acute LC50 2500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella	96 hours

Section 12. Ecological information

	Acute EC50 6530 µg/l Fresh water	subcapitata Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Toluene	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Hexane	-	501.187	high
Xylene	-	8.1 to 25.9	low
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-

Section 14. Transport information

Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2).	-	-	**Emergency schedules** F-D, S-U
	ERG No. 126	**ERG No.** 126	**ERG No.** 126		

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

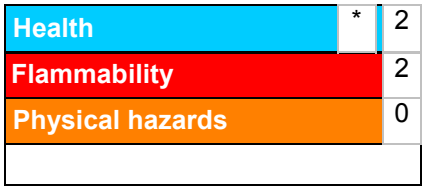
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Fertility) - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 1/15/2018

Date of issue/Date of revision : 1/15/2018

Date of previous issue : 8/30/2017

Version : 9.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

03731

Section 1. Identification

Product name : KRYLON® Industrial QUIK-MARK™ Solvent-Based Inverted Marking Paint (APWA) Bright Orange

Product code : 03731

Other means of identification : Not available.

CAS # : Not applicable.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
101 Prospect Avenue NW
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 247-3266

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 56%
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 56%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 53.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Lt. Aliphatic Hydrocarbon Solvent	30.76	64742-89-8
Propane	12.24	74-98-6
Calcium Carbonate	7.21	1317-65-3
Butane	5.76	106-97-8
Talc	5.45	14807-96-6
n-Butyl Acetate	2.97	123-86-4
Titanium Dioxide	0.96	13463-67-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Section 4. First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Lt. Aliphatic Hydrocarbon Solvent	None.
Propane	**NIOSH REL (United States, 10/2016).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Calcium Carbonate	**NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
Butane	**NIOSH REL (United States, 10/2016).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2016).** STEL: 1000 ppm 15 minutes.
Talc	**NIOSH REL (United States, 10/2016).** TWA: 2 mg/m³ 10 hours. Form: Respirable fraction **ACGIH TLV (United States, 3/2016).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction
n-Butyl Acetate	**NIOSH REL (United States, 10/2016).** TWA: 150 ppm 10 hours. TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2016).** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.
Titanium Dioxide	**ACGIH TLV (United States, 3/2016).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 15 mg/m³ 8 hours. Form: Total dust

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 1000 ppm 8 hours. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).**

	STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Butane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 600 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 800 ppm 8 hours. TWAEV: 1900 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 800 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
n-Butyl Acetate	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 200 ppm 15 minutes. 15 min OEL: 950 mg/m³ 15 minutes. 8 hrs OEL: 150 ppm 8 hours. 8 hrs OEL: 713 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 7/2016).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes. **CA Québec Provincial (Canada, 1/2014).** TWAEV: 150 ppm 8 hours. TWAEV: 713 mg/m³ 8 hours. STEV: 200 ppm 15 minutes. STEV: 950 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours.

Occupational exposure limits (Mexico)

Ingredient name	Exposure limits
Propane	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 1000 ppm 8 hours.
Butane	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 1000 ppm 8 hours.
n-Butyl Acetate	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 1.5 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 9.5%

Vapor pressure : 101.3 kPa (760 mm Hg) [at 20°C]

Vapor density : 1 [Air = 1]

Relative density : 0.85

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Section 9. Physical and chemical properties

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 23.053 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
n-Butyl Acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Talc	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
Talc	-	3	-
Titanium Dioxide	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Lt. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Calcium Carbonate	Category 3	Not applicable.	Respiratory tract irritation
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
n-Butyl Acetate	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Lt. Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Talc	Category 1	Inhalation	lungs

Aspiration hazard

Name	Result
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
n-Butyl Acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
n-Butyl Acetate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	Yes. The environmentally hazardous substance mark is not required.	No.

Section 14. Transport information

Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	The environmentally hazardous substance mark may appear if required by other transportation regulations.	**Emergency schedules** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

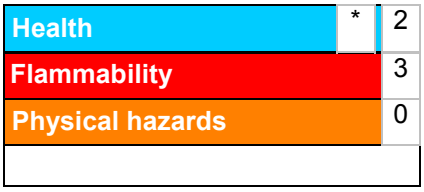
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 7/25/2017

Date of issue/Date of revision : 7/25/2017

Date of previous issue : 7/6/2017

Version : 7

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

03403

Section 1. Identification

Product name : KRYLON® QUIK-MARK™ Water-Based Inverted Marking Paint (APWA) Brilliant Orange

Product code : 03403

Other means of identification : Not available.

CAS # : Not applicable.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
101 Prospect Avenue NW
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 247-3266

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 21.4%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Toluene	9.97	108-88-3
Propane	9.52	74-98-6
Med. Aliphatic Hydrocarbon Solvent	9.02	64742-88-7
Butane	4.48	106-97-8
Calcium Carbonate	1.55	1317-65-3
Lt. Aliphatic Hydrocarbon Solvent	1.31	64742-89-8
Titanium Dioxide	0.38	13463-67-7

Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight

Section 4. First aid measures

increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2016).** TWA: 20 ppm 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Med. Aliphatic Hydrocarbon Solvent	**OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2016).** STEL: 1000 ppm 15 minutes.
Calcium Carbonate	**NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
Lt. Aliphatic Hydrocarbon Solvent	None.
Titanium Dioxide	**ACGIH TLV (United States, 3/2016).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 15 mg/m³ 8 hours. Form: Total dust

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Toluene	**CA Alberta Provincial (Canada, 4/2009). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours.

Section 8. Exposure controls/personal protection

	TWAEV: 188 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Med. Aliphatic Hydrocarbon Solvent	**CA Quebec Provincial (Canada, 1/2014).** TWAEV: 400 ppm 8 hours. TWAEV: 1590 mg/m³ 8 hours.

Occupational exposure limits (Mexico)

Ingredient name	Exposure limits
Toluene	**NOM-010-STPS (Mexico, 4/2016).** LMPE-PPT: 20 ppm 8 hours.
Propane	**NOM-010-STPS (Mexico, 4/2016).** LMPE-PPT: 1000 ppm 8 hours.
Butane	**NOM-010-STPS (Mexico, 4/2016).** LMPE-PPT: 1000 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 2 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 9.5%

Vapor pressure : 101.3 kPa (760 mm Hg) [at 20°C]

Vapor density : 1 [Air = 1]

Relative density : 0.86

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 13.74 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Titanium Dioxide	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Med. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Calcium Carbonate	Category 3	Not applicable.	Respiratory tract irritation
Lt. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Med. Aliphatic Hydrocarbon Solvent	Category 1	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Lt. Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Med. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	5013.1 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Toluene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

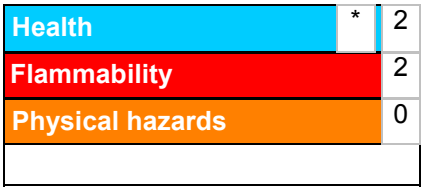
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 5/18/2017

Date of issue/Date of revision : 5/18/2017

Date of previous issue : 4/20/2017

Version : 5

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use

Section 16. Other information

or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

Safety Data Sheet: KUL-THERM LIQUID GEL

Supercedes Date 09/30/2009 **Issuing Date** 10/31/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name KUL-THERM LIQUID GEL
Recommended use Water-borne coatings
Information on Manufacturer
Partsmaster, Div of NCH Corp.
P.O. Box 655326
Dallas, TX 75265-5326

Product Code P013
Chemical nature Aqueous solution
Emergency Telephone Number
CHEMTREC® 800-424-9300
Telephone inquiry
972-579-2477

2. HAZARD IDENTIFICATION

Color Colorless **Physical State** Liquid **Odor** Odorless

GHS Classification
Physical Hazards
None
Health Hazard
None
Other hazards
None

Labeling
Signal Word
Not classified

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Silicic acid lithium magnesium sodium salt	53320-86-8	1-5

4. FIRST AID MEASURES

General advice Avoid contact with eyes.
Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.
Skin Contact Wash off with soap and plenty of water.
Inhalation If inhaled, remove to fresh air.
Ingestion Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention if symptoms occur.
Notes to physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flash Point Does not flash **Method** Not applicable
Flammability Limits in Air % Not applicable. **Upper** No data available **Lower** No data available
Suitable Extinguishing Media
Water spray. Carbon dioxide (CO2). Foam. Dry chemical. Alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards arising from the chemical
Material can create slippery conditions.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	**Health** 1	**Flammability** 0	**Instability** 0
HMIS	**Health** 1	**Flammability** 0	**Instability** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.
Environmental Precautions	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.
Methods for Containment	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Methods for Cleaning Up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)
Neutralizing Agent	Not applicable.

7. HANDLING AND STORAGE

Handling	Avoid contact with eyes.					
Storage	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.					
Storage Temperature	**Minimum**	35 °F / 2 °C		**Maximum**	120 °F / 49 °C	
Storage Conditions	**Indoor**	X	**Outdoor**	**Heated**		**Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Silicic acid lithium magnesium sodium salt	No data available	No data available	No data available

Engineering Measures	Ensure adequate ventilation.
Personal Protective Equipment	
Eye/Face Protection	Safety glasses with side-shields.
Skin Protection	None under normal processing
Respiratory Protection	None under normal processing.
General Hygiene Considerations	Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	**Viscosity**	Viscous
Color	Colorless	**Odor**	Odorless
Odor Threshold	Not applicable	**Appearance**	Transparent - Hazy
pH	9.6	**Specific Gravity**	1.014
Evaporation Rate	0.59 (Butyl acetate=1)	**Percent Volatile (Volume)**	99
VOC Content (%)	0	**VOC Content (g/L)**	0
Vapor Pressure	17.2 mmHg @ 75°F	**Vapor Density**	0.6 (Air = 1.0)
Solubility	Completely soluble	**n-Octanol/Water Partition**	No data available
Melting Point/Range	No data available	**Decomposition Temperature**	No data available
Boiling Point/Range	210 °F / 99 °C	**Flammability (solid, gas)**	No data available
Flash Point	Does not flash	**Method**	Not applicable
Autoignition Temperature	No information available.		
Flammability Limits in Air %	Not applicable.	**Upper** No data available **Lower** No data available	

10. STABILITY AND REACTIVITY

Chemical Stability	Stable. Hazardous polymerization does not occur.
Conditions to Avoid	None known
Incompatible Products	Strong acids, Strong oxidizing agents.
Hazardous Decomposition Products	Sodium oxides
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 3, 2009):

Oral LD50	No information available
Dermal LD50	No information available
Inhalation LC50	
Gas	No information available
Mist	No information available
Vapor	No information available

Principle Route of Exposure Eye contact, Skin contact.
Primary Routes of Entry None known
Acute Effects
Eyes May cause eye irritation.
Skin Low hazard for usual industrial or commercial handling.
Inhalation Low hazard for usual industrial or commercial handling.
Ingestion Low hazard for usual industrial or commercial handling.
Chronic Toxicity None known.
Target Organ Effects None known
Aggravated Medical Conditions None known

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Silicic acid lithium magnesium sodium salt	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Silicic acid lithium magnesium sodium salt	no data available	no data available	no data available	no data available	no data available

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
Silicic acid lithium magnesium sodium salt	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Silicic acid lithium magnesium sodium salt	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.
Container Disposal Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

Inventories
TSCA Complies
DSL Complies
U.S. Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Silicic acid lithium magnesium sodium salt	Not applicable	Not applicable

16. OTHER INFORMATION

Prepared By Rachael Mohochi
Supercedes Date 09/30/2009
Issuing Date 10/31/2013
Reason for Revision No information available.
Glossary No information available.
List of References. No information available.

Partsmaster, Div of NCH Corp. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this document is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

LIQUEFIED PETROLEUM GAS (LPG)
Safety Data Sheet

1. IDENTIFICATION

Product identifier
Product Name LIQUEFIED PETROLEUM GAS (LPG)

Other means of identification
Safety data sheet number LIND-P101
UN/ID no. UN1075
Trade name Flameline, Flameline 2, Forkline,HANDIGAS, HANDIGAS 2, Marathon

Recommended use of the chemical and restrictions on use
Recommended Use Industrial and professional use.
Uses advised against Consumer use

Details of the supplier of the safety data sheet
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500
Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359

Emergency telephone number
Company Phone Number +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. HAZARDS IDENTIFICATION

Flammable gases	Category 1
Gases under pressure	Liquefied gas
Simple asphyxiants	Yes

Label elements

Signal word **Danger**

Hazard Statements
Extremely flammable gas

Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation
May form explosive mixtures with air
May cause frostbite

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Keep away from heat, sparks, open flames, hot surfaces. — No smoking
Use and store only outdoors or in a well ventilated place
Use a backflow preventive device in piping
Do not open valve until connected to equipment prepared for use
Close valve after each use and when empty
Never put cylinders into unventilated areas of passenger vehicles

Precautionary Statements - Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention/advice.
IF ON SKIN:. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.
Leaking gas fire: do not extinguish, unless leak can be stopped safely.
Eliminate all ignition sources if safe to do so.

Precautionary Statements - Storage
Protect from sunlight when ambient temperature exceeds 52°C/125°F

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance

Chemical Name	CAS No.	Volume %	Chemical Formula
L.P.G. (liquefied petroleum gas)	68476-85-7	>99	N/A

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Skin contact For dermal contact or suspected frostbite, remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physican should see the patient promptly if contact with the product has resulted in blistering of the dermal surface or in deep tissue freezing.

Eye contact If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.

Ingestion Not an expected route of exposure.

Self-protection of the first aider RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Remove all sources of ignition.

Most important symptoms and effects, both acute and delayed

Symptoms High concentrations may cause asphyxia from lack of oxygen or act as a narcotic causing central nervous system depression. May cause nausea, dizziness, headaches, shortness of breath, lethargy, narcosis, unconsciousness and possibly cardiac arrhythmias. Contact with evaporating liquid may cause cold burns/frostbite.

Indication of any immediate medical attention and special treatment needed

Note to physicians A patient adversely affected by exposure to this product should not be given adrenaline (epinephrine) or similar heart stimulant since these would increase the risk of cardiac arrhythmias.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Dry chemical or CO2. Water spray (fog). DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific extinguishing methods
If possible, stop the flow of gas. Do not extinguish the fire until supply is shut off as otherwise an explosive-ignition may occur. If the fire is extinguished and the flow of gas continues, use increased ventilation to prevent build-up of explosive atmosphere. Ventilation fans must be explosion proof. Use non-sparking tools to close container valves.

Use water spray to cool surrounding containers. Be cautious of a Boiling Liquid Evaporating Vapor Explosion, BLEVE, if flame is impinging on surrounding containers. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Damaged cylinders should be handled only by specialists.

Specific hazards arising from the chemical
Extremely flammable gas. May form explosive mixtures with air. Will be easily ignited by heat, sparks or flames. Vapors may travel to source of ignition and flash back. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Cylinders may rupture under extreme heat.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO_2).

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear. As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Consider the risk of potentially explosive atmospheres. Monitor oxygen level. All equipment used when handling the product must be grounded. Use non-sparking tools and equipment. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Other Information Gas/vapor is heavier than air. Prevent from entering sewers, basements and workpits, or any place where accumulation may be dangerous.

Environmental precautions

Environmental precautions Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location.

Methods for cleaning up Do not direct water at spill or source of leak. Return cylinder to Messer or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof Separate flammable gas cylinders from oxygen and other oxidizers by a minimum distance of 20 ft. or by a 5 ft. high barrier with a minimum fire resistance rating of a half an hour. "NO SMOKING" signs should be posted in storage and use areas.

Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never insert an object (e.g. wrench, screwdriver, pry bar,etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregrated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage. Outside or detached storage is preferred.

Incompatible materials Acids. Oxidizing agents. Halogenated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
L.P.G. (liquefied petroleum gas) 68476-85-7	: See Appendix F: Minimal Oxygen Content	TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³	IDLH: 2000 ppm TWA: 1000 ppm TWA: 1800 mg/m³

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health Immediately Dangerous to Life or Health.

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Provide general ventilation, local exhaust ventilation, process enclosure or other engineering controls to maintain airborne levels below recommended exposure limits and to maintain oxygen levels above 19.5%. Explosion proof ventilation systems. Oxygen detectors should be used when asphyxiating gases may be released. Consider installation of leak detection systems in areas of use and storage. Systems under pressure should be regularly checked for leakages. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). If there is potential for exposure to liquid, wear Goggles face-shield over either safety glasses with side shields or safety goggles.

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders. Wear loose fitting, cold insulating gloves and suitable clothing to prevent skin contact with liquid, cold gas and cold equipment or piping. Wear fire/flame resistant/retardant clothing. Take precautionary measures against static discharge.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Product Level Information:

Physical state	Gas
Appearance	Colorless
Odor	Boiling cabbage.
Odor threshold	4800 ppm* (ethyl mercaptan)
pH	Not applicable
Melting/freezing point	-188 °C / -306.4 °F
Boiling point / boiling range	-42 °C / -44 °F
Evaporation rate	Not applicable
Flammability (solid, gas)	Flammable Gas
Lower flammability limit:	2.4%
Upper flammability limit:	9.5%
Flash point	-103 °C / -154 °F
Autoignition temperature	432 °C / 810 °F
Decomposition temperature	No data available
Water solubility	Slightly soluble 6.1% @ 17.8°C
Partition coefficient	<=2.8
Kinematic viscosity	Not applicable

Component Level Information:

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m³@20°C	Critical Temperature
L.P.G. (liquefied petroleum gas)	42.58	-42.1 °C	600 - 39000 hPa @ 20 °C	1.52	1.52	96.7 °C

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge Yes.

Possibility of Hazardous Reactions
May form explosive mixtures with air.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Acids. Oxidizing agents. Halogenated compounds.

Hazardous Decomposition Products
Carbon monoxide. Carbon dioxide (CO_2).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation High concentrations of aliphatic hydrocarbon gases may cause CNS depression. Recent information suggest that C1-C4 aliphatic (alkane) hydrocarbon gases can cause potentially fatal cardiac arrhythmias. Cardiac sensitization to adrenalin in dogs has been noted following inhalation. In dogs, the heart is more sensitive to epinephrine induced ventricular fibrillations following exposure to 15-90% propane for 10 minutes. Ventricular fibrillations have been reported in humans following inhalation of n-butane.

Skin contact Contact with evaporating liquid may cause cold burns/frostbite.

Eye contact Contact with evaporating liquid may cause cold burns/frostbite.

Ingestion Not an expected route of exposure.

Information on toxicological effects

Symptoms High concentrations may cause asphyxia from lack of oxygen or act as a narcotic causing central nervous system depression.
Symptoms of overexposure are dizziness, headache, tiredness, nausea, vomiting, unconsciousness, cessation of breathing

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Not classified.
Sensitization Not classified.
Germ cell mutagenicity Not classified.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.
IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen
Reproductive toxicity Exposure of rats during gestation days 6-10 to concentrations of 1000, 5000, and 10,000 ppm liquefied petroleum gas did not result in fetal toxicity or abnormalities.

STOT - single exposure Not classified.
STOT - repeated exposure Not classified.
Chronic toxicity A thirteen week inhalation study in which rats were exposed to liquefied petroleum gas at concentrations of 1000, 5000, and 10,000 ppm did not demonstrate adverse effects.
Target Organ Effects Respiratory system. Central nervous system (CNS).
Aspiration hazard Not applicable.

Numerical measures of toxicity

Product Information
Oral LD50 No information available
Dermal LD50 No information available
Inhalation LC50 No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
No known acute aquatic toxicity.

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
L.P.G. (liquefied petroleum gas) 68476-85-7	2.8

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

Contaminated packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

TDG
UN/ID no. UN1075
Proper shipping name Liquefied petroleum gases
Hazard Class 2.1
Description UN1075, Liquefied petroleum gases, 2.1

IATA
UN/ID no. UN1075
Proper shipping name Petroleum gases, liquefied
Hazard Class 2.1
ERG Code 10L
Special Provisions A1

IMDG
UN/ID no. UN1075
Proper shipping name Petroleum gases, liquefied
Hazard Class 2.1
EmS-No. F-D, S-U

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

Legend
Canada NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

NFPA **Health hazards** 2 **Flammability** 4 **Instability** 0 **Physical and Chemical Properties** -

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA Recommended Hazard Ratings for Compressed Gases, 4th Edition.

Revision Date	03-May-2021
Revision Note:	SDS sections updated; 1

LIND-P101
LPG

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

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End of Safety Data Sheet

Gaz de Pétrole Liquéfié (LPG)
Fiche de données de sécurité

1. IDENTIFICATION

Identificateur de produit
Nom du produit Gaz de Pétrole Liquéfié (LPG)

Autres moyens d'identification
Numéro de la fiche signalétique LIND-P101
N° ID/ONU UN1075
Nom commercial Flameline, Flameline 2, Forkline,HANDIGAS, HANDIGAS 2, Marathon

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation
Utilisation recommandée Utilisation industrielle et professionnelle.
Utilisations contre-indiquées Utilisation par le consommateur

Coordonnées du fournisseur de la fiche de données de sécurité
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Téléphone: 905-501-2500
Email: service@messer-ca.com
Site Web: www.messer-ca.com

Service à la clientèle: 888-256-7359

Numéro d'appel d'urgence
Numéro de téléphone de l'entreprise +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. IDENTIFICATION DES DANGERS

Gaz inflammables	Catégorie 1
Gaz sous pression	Gaz liquéfié
Asphyxiants simples	Oui

Éléments d'étiquetage

Mot indicateur **Danger**

Mentions de danger
Gaz extrêmement inflammable
Contient un gaz sous pression; peut exploser sous l'effet de la chaleur

Peut remplacer l'oxygène et causer une suffocation rapide
Peut former des mélanges explosifs avec l'air
Peut provoquer des gelures

Conseils de prudence - Prévention
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer
Utiliser et stocker seulement en plein air ou dans un endroit bien ventilé
Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie
Ne pas ouvrir le robinet avant de brancher à l'équipement prêt à l'emploi
Fermer le robinet après chaque utilisation et lorsque la bouteille est vide
Ne jamais mettre des bouteilles à gaz dans des endroits non ventilés d'un véhicule de tourisme

Conseils de prudence - Réponse
EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Consulter un médecin.
EN CAS DE CONTACT AVEC LA PEAU :. Dégeler les parties gelées avec de l'eau tiède. Ne pas frotter les zones touchées. Consulter immédiatement un médecin.
Fuite de gaz enflammé : Ne pas éteindre si la fuite ne peut pas être arrêtée sans danger.
Éliminer toutes les sources d'ignition si cela est faisable sans danger.

Conseils de prudence - Entreposage
Protéger du rayonnement solaire lorsque la température ambiante dépasse 52 °C /125 °F

HNOC (danger non classé autrement)
Non applicable

3. COMPOSITION/INFORMATIONS SUR LES COMPOSANTS

Substance simple

Nom chimique	No. CAS	% en volume	Formule Chimique
L.P.G. (liquified petroleum gas)	68476-85-7	>99	N/A

4. PREMIERS SOINS

Description des premiers soins

Conseils généraux Montrer cette fiche technique de santé-sécurité au médecin en consultation.

Inhalation Transporter la victime à l'air frais et la garder au repos dans une position où elle peut confortablement respirer. En cas de difficultés respiratoires, donner de l'oxygène. Pratiquer la respiration artificielle si la victime ne respire plus. Obtenir immédiatement des soins médicaux.

Contact avec la peau En cas de contact avec la peau ou de gelure suspectée, retirer les vêtements contaminés et rincer les endroits touchés avec de l'eau tiède. NE PAS UTILISER D'EAU CHAUDE. Le patient devrait consulter un médecin si le contact avec le produit a causé la formation d'ampoules ou le gel des tissus profonds.

Contact avec les yeux Si on suspecte des gelures, rincer les yeux avec de l'eau froide pendant 15 minutes et obtenir des soins médicaux immédiatement.

Ingestion Pas une voie d'exposition prévue.

Équipement de protection individuelle pour les intervenants en premiers soins LE PERSONNEL D'INTERVENTION D'URGENCE DEVRAIT ÊTRE ÉQUIPÉ D'UN APPAREIL RESPIRATOIRE AUTONOME. Éliminer toutes les sources d'inflammation.

Les plus importants symptômes et effets, aigus ou retardés

Symptômes Des concentrations élevées peuvent entraîner une asphyxie causée par le manque d'oxygène ou agir comme un narcotique qui provoque une dépression du système nerveux central. Risque présumé d'effets tels que nausées, vertiges, maux de tête, essoufflement, léthargie, narcose, inconscience et arythmie cardiaque. Le contact avec le liquid s'évapore peut causer des brûlures par le froid/gelures.

Indication des éventuels besoins médicaux immédiats et traitements particuliers nécessaires

Note aux médecins Un patient négativement touché par une exposition à ce produit ne devrait pas recevoir d'adrénaline (adrénaline) ou un stimulant similaire pour le cœur puisque ceux-ci augmenteraient le risque d'une arythmie cardiaque.

5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés
Poudre chimique sèche ou CO2. Eau pulvérisée (brouillard). NE PAS ÉTEINDRE UN INCENDIE DE FUITE DE GAZ SI LA FUITE NE PEUT PAS ÊTRE ARRÊTÉE.

Moyens d'extinction inappropriés Ne pas utiliser un jet d'eau solide pour éviter la dispersion et la propagation du feu.

Méthodes d'extinction particulières
Si possible, couper le débit de gaz. Fermer l'alimentation du gaz avant d'éteindre le feu; sinon une inflammation explosive peut se produire. Si l'incendie est éteint et que le débit de gaz continue, augmenter la ventilation pour empêcher la création d'une atmosphère explosive. Les ventilateurs doivent être antidéflagrants. Utiliser des outils antiétincelles pour fermer les robinets du contenant.

Pulvériser de l'eau sur les contenants environnants pour les refroidir. Attention au risque d'explosions des vapeurs d'un liquide en ébullition (BLEVE/ Boiling liquid expanding vapour explosions) si les flammes détériorent les contenants environnants. Pour des incendies majeurs, utilisez des boyaux fixes ou des buses contrôlées; si cela n'est pas possible, éloignez-vous de la zone d'incendie et laisser le feu se consumer. Les bombonnes endommagées ne doivent être manipulées que par des spécialistes.

Dangers particuliers associés au produit chimique
Gaz extrêmement inflammable. Peut former des mélanges explosifs avec l'air. S'enflammera facilement lorsqu'exposé à la chaleur, à des étincelles ou à des flammes. Les vapeurs peuvent se déplacer vers les sources d'inflammation et causer un retour de feu. Les vapeurs provenant des gaz liquéfiés sont initialement plus lourdes que l'air et se propagent au niveau du sol. Dans une zone confinée (cave, réservoir, wagon-trémie ou citerne, etc.), les vapeurs sont susceptibles de s'accumuler. Les bouteilles peuvent se rompre sous une chaleur extrême.

Produits de combustion dangereux Monoxyde de carbone. Dioxyde de carbone (CO_2).

Équipement de protection et précautions pour les pompiers
Comme pour tout incendie, porter un respirateur à air comprimé, NIOSH (approuvé ou équivalent), ainsi qu'une combinaison complète de protection. Par mesure de prévention immédiate, isoler dans un rayon minimum de 100 mètres autour du site du déversement ou de la fuite.

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTAL

Précautions individuelles, équipement de protection et procédures d'urgence

Précautions personnelles ÉLIMINER du site toute source d'allumage (ex: cigarette, fusée routière, étincelles et flammes). Évacuer le personnel vers des endroits sécuritaires. Vérifier que la ventilation est adéquate, en particulier dans des zones confinées. Considérer le risque d'atmosphères potentiellement explosives. Vérifier la teneur en oxygène. Tout équipement utilisé lors de la

manutention du produit doit être mis à la terre. Utiliser des outils et de l'équipement anti-étincelles. Porter un appareil respiratoire autonome lors de l'entrée dans un secteur, sauf s'il a été démontré que l'atmosphère est sûre.

Autres informations Les gaz/vapeurs sont plus lourds que l'air. Prévenir l'écoulement dans les égouts, sous-sols et fossés, ou tous autres endroits où l'accumulation peut être dangereuse.

Précautions pour le protection de l'environnement

Précautions pour le protection de l'environnement Empêcher la propagation des vapeurs par les égouts, les systèmes de ventilation et les zones confinées.

Méthodes et matériel de confinement et de nettoyage

Méthodes de confinement Couper le débit de gaz ou déplacer la bouteille à l'extérieur si cela peut être fait sans risque. Si le contenant ou le robinet fuit, composer le numéro de téléphone d'urgence approprié indiqué à la Section 1 ou appeler la succursale de Messer la plus proche.

Méthodes de nettoyage Ne pas diriger l'eau sur le produit déversé ni sur l'origine de la fuite. Retourner les contenants de gaz et d'air comprimé au distributeur agréé ou au point de collecte pour une élimination adéquate.

7. MANUTENTION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger

Conseils sur la manutention sécuritaire Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer Mettre à la terre et fixer toutes les conduites et l'équipement associés au système du produit. Tout l'équipement doit être anti-étincelles et antidéflagrant Prévoir une distance de séparation minimale de 6 m (20 pi) entre les bouteilles de gaz inflammables et les boutielles d'oxygène et autres comburants ou une barrière de 1,5 m (5 pi) de haut avec une durée de résistance au feu minimale d'une demi-heure Des panneaux « DÉFENSE DE FUMER » doivent être affichés dans les endroits d'entreposage et d'utilisation.

Protéger les bouteilles des dommages physiques; ne pas traîner, rouler, glisser ou laisser tomber. Lors du déplacement des bouteilles, même sur une courte distance, utiliser un chariot conçu pour le transport de bouteilles. Ne jamais tenter de soulever une bouteille par le chapeau de protection du détendeur. Si l'utilisateur éprouve des difficultés à faire fonctionner le robinet de la bouteille, cesser l'utilisation et appeler le fournisseur. Ne jamais insérer un objet (par ex., une clé, un tournevis, un levier, etc.) dans les ouvertures du chapeau du détendeur. Utiliser une clé à courroie réglable pour retirer les chapeaux trop serrés ou rouillés. N'utiliser qu'avec une ventilation adéquate. Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie. Utiliser uniquement avec un équipement prévu pour la pression de la bouteille. Fermer le robinet après chaque utilisation et lorsque la bouteille est vide. Vérifier que le système de gaz complet a été vérifié pour détecter les fuites avant de l'utiliser.

Ne jamais mettre des bouteilles à gaz dans le coffre d'une voiture ou dans des lieux non ventilés d'un véhicule de tourisme. Ne jamais tenter de remplir de nouveau une bouteille de gaz comprimé sans le consentement écrit du propriétaire. Ne jamais amorcer un arc sur une bouteille de gaz comprimé ou faire d'une bouteille une partie d'un circuit électrique.

Uniquement des personnes expérimentées et adéquatement formées devraient manipulées des gas sous pression. Toujours entreposer et manipuler les bouteilles de gaz comprimé conformément à la publicacion CGA-P1 « Safe Handling of Compressed Gases in Containers » (Manutention sécuritaire des gaz comprimés dans des contenants), de la Compressed Gas Association.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Conditions d'entreposage Entreposer dans un endroit frais, sec et bien ventilé d'une construction non combustible

éloigné des zones de circulation intense et des sorties d'urgence. Garder à des températures inférieures à 52 °C / 125 °F. Les bouteilles doivent être entreposées en position verticale avec le chapeau de protection du détendeur en place et bien attachées pour éviter toute chute. Les bouteilles pleines et vides doivent être séparées. Utiliser un système d'inventaire « premier entré, premier sorti » pour éviter d'entreposer les bouteilles pleines pour une durée excessive. Les contenants devraient être régulièrement vérifiés pour déterminer leur état général et détecter les fuites. Un entreposage extérieur ou détaché est préféré.

Matières incompatibles Acides. Oxydants. Composés halogénés.

8. CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition

Nom chimique	ACGIH TLV	OSHA PEL	NIOSH IDLH
L.P.G. (liquified petroleum gas) 68476-85-7	: See Appendix F: Minimal Oxygen Content	TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³	IDLH: 2000 ppm TWA: 1000 ppm TWA: 1800 mg/m³

ACGIH TLV : Conférence américaine des hygiénistes industriels gouvernementaux - valeur limite d'exposition. OSHA PEL : Administration de la sécurité et de la santé professionnelle - limites d'exposition admissibles. NIOSH IDLH : Dangereux immédiatement pour la santé ou la vie Danger immédiat pour la vie ou la santé

Autres informations Limites annulées révoquées par la décision de la cour d'appel dans AFL-CIO v. OSHA, 965 F.2d 962 (11e Cir., 1992).

Contrôles techniques appropriés

Mesures d'ingénierie Assurer une ventilation générale, une ventilation par aspiration à la source, une enceinte d'isolement ou autres mesures d'ingénierie afin de maintenir les niveaux de concentration de particules en suspension dans l'air sous les limites d'exposition recommandées et de maintenir les niveaux d'oxygène au-dessus de 19,5 %. Systèmes de ventilation antidéflagrants. Les détecteurs d'oxygènes devraient être utilisés lorsque des gaz asphyxiants pourraient être libérés. Considérer l'installation de systèmes de détection des fuites dans les zones d'utilisation et de stockage. Les systèmes sous pression devraient être régulièrement vérifiés pour détecter les fuites. Douches. Douches oculaires.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection des yeux/du visage Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques). S'il y a un risque d'éclaboussures, porter: Lunettes de protection chimique Écran facial

Protection de la peau et du corps Des gants de travail et des souliers de sécurité sont recommandés lors de la manutention de bouteilles. Porter des gants isolants contre le froid lors de la manutention d'un liquide. Porter des vêtements résistant au feu/aux flammes/ignifuges. Prendre des mesures de précaution contre les décharges électrostatiques.

Protection respiratoire En cas d'irritation ou de dépassement des limites d'exposition, vous devez porter une protection respiratoire approuvée NIOSH/MSHA. Des respirateurs à pression positive à adduction d'air pur peuvent être requis pour des concentrations élevées de contaminants atmosphériques. Une protection respiratoire doit être fournie conformément à la réglementation locale en cours.

Considérations générales sur l'hygiène Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle. Éviter tout contact avec les yeux, la peau ou les vêtements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Informations sur les propriétés physiques et chimiques essentielles

Informations sur le produit

État physique	Gaz
Aspect	Incolore
Odeur	Ébullition de choux.
Seuil olfactif	4 800 ppm* (éthylmercaptan)
pH	Non applicable
Point de fusion/congélation	-188 °C / -306.4 °F
Point d'ébullition / intervalle d'ébullition	-42 °C / -44 °F
Taux d'évaporation	Non applicable
Inflammabilité (solide, gaz)	Gaz inflammable
Limite inférieure d'inflammabilité:	2.4%
Limite supérieure d'inflammabilité:	9.5%
Point d'éclair	-103 °C / -154 °F
Température d'auto-inflammation	432 °C / 810 °F
Température de décomposition	Donnée non disponible
Solubilité dans l'eau	Légèrement soluble 6.1% @ 17.8°C
Coefficient de partage	<=2.8
Viscosité cinématique	Non applicable

Information sur les composants

Nom chimique	Masse moléculaire	Point/gamme d'ébullition	Pression de vapeur	Densité de vapeur (air =1)	Densité du gaz kg/m³ à 20 °C	Température critique
L.P.G. (liquified petroleum gas)	42.58	-42.1 °C	600 - 39000 hPa @ 20 °C	1.52	1.52	96.7 °C

10. STABILITÉ ET RÉACTIVITÉ

Réactivité
Non réactif dans des conditions normales

Stabilité chimique
Stable dans des conditions normales.

Données sur les risques d'explosion

Sensibilité aux chocs	Aucune.
Sensibilité aux décharges électrostatiques	Oui.

Possibilité de réactions dangereuses
Peut former des mélanges explosifs avec l'air.

Conditions à éviter
Chaleur, flammes et étincelles.

Matières incompatibles
Acides. Oxydants. Composés halogénés.

Produits de décomposition dangereux
Monoxyde de carbone. Dioxyde de carbone (CO_2).

11. DONNÉES TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Inhalation Des concentrations élevées d'hydrocarbures aliphatiques gazeux peuvent causer une dépression du SNC. Des renseignements récents suggèrent que des hydrocarbures aliphatiques de C1 à C4 gazeux (alcanes) peuvent causer une arythmie cardiaque

potentiellement mortelle. Chez les chiens, une sensibilisation cardiaque à l'adrénaline a été observée après inhalation. Chez les chiens, le cœur est plus sensible aux fibrillations ventriculaires induites par l'épinéphrine après une exposition à 15 à 90 % de propane pendant dix minutes. Des fibrillations ventriculaires ont été rapportées chez les humains après l'inhalation de n-butane.

Contact avec la peau Le contact avec le liquid s'évapore peut causer des brûlures par le froid/gelures

Contact avec les yeux Le contact avec le liquid s'évapore peut causer des brûlures par le froid/gelures

Ingestion Voie d'exposition peu probable.

Informations sur les effets toxicologiques

Symptômes Des concentrations élevées peuvent entraîner une asphyxie causée par le manque d'oxygène ou agir comme un narcotique qui provoque une dépression du système nerveux central.
Les symptômes d'une surexposition comprennent des vertiges, des maux de tête, de la fatigue, des nausées, une perte de conscience et un arrêt respiratoire

Effets retardés et immédiats et effets chroniques d'une exposition de courte et de longue durée

Irritation Non répertorié.
Sensibilisation Non répertorié.
Mutagénicité sur les cellules germinales Non répertorié.
Cancérogénicité Le tableau ci-dessous indique si chaque agence a inscrit un ingrédient comme un cancérogène.

CIRC (Centre international de recherche sur le cancer)
Inclassable comme cancérogène pour l'humain

Toxicité pour la reproduction L'exposition de rats pendant les journées de gestation 6 à 10 à des concentrations de 1 000, de 5 000 et de 10 000 ppm de gaz de pétrole liquéfiés n'a pas entraîné de fœtotoxicité ou d'anomalies.
STOT - exposition unique Non répertorié.
STOT - exposition répétée Non répertorié.
Toxicité chronique Une étude de treize semaines sur l'inhalation au cours de laquelle des rats ont été exposés à des gaz de pétrole liquéfiés à des concentrations de 1 000, de 5 000 et de 10 000 ppm n'a montré aucun effet indésirable.
Effets sur les organes cibles Appareil respiratoire. Système nerveux central.
Danger par aspiration Non applicable.

Mesures numériques de la toxicité

Informations sur le produit
DL50 par voie orale Aucun renseignement disponible
DL50 par voie cutanée Aucun renseignement disponible
CL50 par inhalation Aucun renseignement disponible

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Aucune toxicité aquatique aiguë connue.

Persistance et dégradabilité
Aucun renseignement disponible.

Bioaccumulation
Aucun renseignement disponible.

Nom chimique	Coefficient de partage
L.P.G. (liquified petroleum gas) 68476-85-7	2.8

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets

Élimination des déchets Ne pas tenter d'éliminer les résidus ou les quantités inutilisées. Retourner à Messer, dans le contenant d'expédition CORRECTEMENT ÉTIQUETÉ, AVEC TOUS LES BOUCHONS DE SORTIE DU ROBINET ET PROTECTEURS DE ROBINET EN PLACE, pour une élimination adéquate.

Emballage contaminé Ne pas réutiliser des récipients vides.

14. INFORMATIONS RELATIVES AU TRANSPORT

TMD

N° ID/ONU	UN1075
Nom officiel d'expédition	Gaz de pétrole liquéfiés
Classe de danger	2.1
Désignation	UN1075, Liquefied petroleum gases, 2.1

IATA

N° ID/ONU	UN1075
Nom officiel d'expédition	Gaz de pétrole liquéfiés
Classe de danger	2.1
Code ERG	10L
Dispositions particulières	A1

IMDG

N° ID/ONU	UN1075
Nom officiel d'expédition	Gaz de pétrole liquéfiés
Classe de danger	2.1
EmS-N°	F-D, S-U

15. INFORMATIONS SUR LE RÉGLEMENTATION

Inventaires internationaux

TSCA	Est conforme à (aux)
LIS/LES	Est conforme à (aux)
EINECS/ELINCS	Est conforme à (aux)

Légende :

TSCA - États-Unis - Article 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES – liste intérieure des substances/liste extérieure des substances pour le Canada
EINECS/ELINCS - Inventaire européen des substances chimiques commercialisées existantes /Liste européenne des substances chimiques modifiées

Légende
Canada NPRI - National Pollutant Release Inventory

16. AUTRES INFORMATIONS

NFPA **Risques pour la santé** 2 **Inflammabilité** 4 **Instabilité** 0 **Propriétés physiques et chimiques** -

Note : Les classes sont assignées conformément aux directives de la Compressed Gas Association (CGA) telles que publiées dans la brochure P-19-2019 de la CGA, « CGA Recommended Hazard Ratings for Compressed Gases » (Classes de danger recommandées par la CGA pour les gaz comprimés), 4e édition.

Date de révision 03-mai-2021
Revision Note: Sections de la FS mises à jour; 1

LIND-P101
LPG

Avis de non-responsabilité

Pour les conditions, y compris les limites de la responsabilité, veuillez consulter la convention d'achat en vigueur entre l'acheteur et Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. ou Messer Canada Inc. (ou l'une ou l'autre de leurs sociétés affiliées et filiales).

AVIS DE NON-RESPONSABILITÉ DE GARANTIES EXPRESSES ET TACITES

Bien que les précautions raisonnables aient été prises pour préparer ce document, nous ne présentons aucune recommandation et n'accordons aucune garantie que les renseignements fournis sont exacts ou complets, et nous n'assumons aucune responsabilité concernant l'appropriation à l'usage de ces renseignements ou les conséquences de leur utilisation. Il relève de la responsabilité de chaque utilisateur de s'assurer que les renseignements conviennent à l'usage projeté.

Fin de la fiche signalétique

DISTRIBUTED BY: **Josef Gas.**

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFIER:	**OXYGEN, REFRIGERATED LIQUID**		
Product Name(s):	LIQUID OXYGEN	Formula:	O2
Synonym(s):	L.O.X.	Chemical Family:	ELEMENT
PRODUCT USE(S):	To provide life support to hospital/ Home patients, to increase rate of combustion or burning in industrial appl. To replace chlorine for pulp bleaching	W.H.M.I.S. Classification Class(es):	A, C

HAZARDOUS INGREDIENTS:

INGREDIENT PARAMETERS	C.A.S. / P.I.N. NUMBER(S)	CONC. % VOL./VOL.	L.D. 50 (Species & Route)	L.C. 50 (Species & Route)
OXYGEN	7782447/1073	APPR. 100	NOT APPL.	NOT APPL.

PHYSICAL DATA

PHYSICAL STATE:	Gas @ N.T.P.
ODOUR AND APPEARANCE:	Colourless and Odourless
ODOUR THRESHOLD:	NONE
SPECIFIC GRAVITY (air=1):	1.14 (@ Boiling Point)
VAPOUR PRESSURE:	Container Rated Pressure
VAPOUR DENSITY:	1.05
EVAPORATION RATE:	Not Applicable
BOILING POINT:	-183.0°C
FREEZING POINT:	-218.4°C
pH:	Not Applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION:	Not Available
SOLUBILITY IN WATER:	0.0489(vol./vol.)
% VOLATILES:	100

FOR TRANSPORT EMERGENCY CALL COLLECT CANUTEC TEL: 1-613-996-6666

FIRE OR EXPLOSION HAZARDS

CONDITIONS OF FLAMMABILITY:	NONE. Oxygen will support or sustain combustion of other materials. Some materials that do not burn in air may ignite when the Oxygen concentration increase above 21%.
MEANS OF EXTINCTION:	Cool containers with water spray. Extinguish surrounding fire(s). Oxygen will not burn but it will sustain the combustion of surrounding materials.
FLASH POINT:	NONE
UPPER FLAMMABLE LIMIT:	NONE LOWER FLAMMABILITY LIMIT: NONE
AUTOIGNITION TEMPERATURE:	NONE
HAZARDOUS COMBUSTION PRODUCTS:	NONE
SENSITIVITY TO MECHANICAL IMPACT:	NONE
SENSITIVITY TO STATIC DISCHARGE:	NONE
SPECIAL PROCEDURES:	Evacuate areas where a leak or a spill is present. Fight surrounding fires as the case may be. Do not use water on the source of leak to avoid ice formation that may obstruct the operation of Safety Relief Devices.

REACTIVITY DATA

CONDITIONS OF CHEMICAL UNSTABILITY:	NONE
INCOMPATIBILITY:	All combustible, organic materials. All reducing agents. Alkali metals.
CONDITIONS OF REACTIVITY:	Oxygen reacts readily with most organic compounds.
HAZARDOUS DECOMPOSITION PRODUCTS:	NONE

TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN (CONTACT):	YES
SKIN (ABSORPTION):	NO
EYE CONTACT:	YES
INHALATION:	YES
INGESTION:	YES
EFFECTS OF ACUTE EXPOSURE:	Exposure to PURE oxygen (for prolonged periods at pressures higher than atmospheric) may cause nausea, dizziness, pulmonary damages, epileptic seizures, death. Such effects have been reported as a function of the pressure. Acute exposure to Liquid oxygen is unlikely since the product will vaporize at room temperatures. Short term contact with Liquid oxygen may cause frostbite.
EFFECTS OF CHRONIC EXPOSURE:	NONE KNOWN
EXPOSURE LIMITS:	Not applicable
IRRITANCY:	Lung irritant when PURE and at pressures higher than atmospheric.
SENSITIZATION:	NONE
CARCINOGENICITY:	NONE
REPRODUCTIVE TOXICITY:	NONE
TERATOGENICITY:	NONE
MUTAGENICITY:	NONE
TOXIC SYNERGISTIC PRODUCTS:	NONE

FIRST AID

EYE:	Contact with Liquid Oxygen may cause frostbite. Rinse with lukewarm water for 15 minutes. Obtain medical attention.
INGESTION:	Contact with Liquid Oxygen may cause frostbite. Rinse with lukewarm water for 15 minutes. Obtain medical attention.
INHALATION:	Exposure to PURE Oxygen for a prolonged period (from 5 minutes @ 100psig. to 5 hours @ 1 atm.) have been reported to cause pulmonary irritation, edema. Reduce pressure, move to fresh air where possible. Obtain medical attention.
SKIN:	Contact with Liquid Oxygen may cause frostbite. Rinse with lukewarm water for 15 minutes. Obtain medical attention.

PREVENTIVE MEASURES

PERSONAL PROTECTION

EYE:	Faceshield to prevent contact with cold liquid.
HAND:	Insulated gloves to prevent contact with cold liquid or insulated containers.
FEET:	Safety footwear where applicable.
CLOTHING:	Long sleeves, trousers recommended.
RESPIRATOR:	Not applicable.

ENGINEERING CONTROLS: Provide ventilation. Keep oil, grease, combustible materials away.

SPILL AND LEAK PROCEDURE: Remove all sources of ignition. Clear the area, Spills on combustible surfaces may cause a fire hazard. Ventilate for 2 hours after the frost has disappeared on the surface before walking on it. Try to stop the leak at source if without risk. Gas will dissipate depending on the site/area ventilation. Verify oxygen concentration prior to re-entry.

WASTE DISPOSAL: No wastes may be generated other than empty containers

HANDLING PROCEDURES & EQUIPMENT: Keep away from Oil, Grease, Combustible, Flammable materials. Use appropriate carts for moving containers. Secure container when in use. Close the container valve when NOT in use, or when empty.

STORAGE REQUIREMENTS: Store in well ventilated areas. Keep away from sources of ignition. Keep containers upright.

SPECIAL SHIPPING INFORMATION: Transport upright in well-ventilated vehicle. Do not transport in trunk of enclosed vehicle. Commercial (cylinders) quantities may NOT be transported in passenger compartments.

T.D.G. SHIPPING NAME: Oxygen, Refrigerated Liquid T.D.G. CLASSIFICATION CLASS(ES): 2.2 (5.1)

T.D.G. P.I.N. / U.N. : 1073

PREPARED BY: **JOSEF GAS**
TEL: (416) 658-1212
EFFECTIVE DATE: JANUARY 1 2016

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **LIQ WRENCH PENETRANT**

Product Use : Multi-use penetrant.

Chemical Family : Mixture.

Manufacturer part no. : L104C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:

Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)

24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS classification:

Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.
WHMIS symbols required on a supplier label:

Emergency Overview : Dark liquid. Petroleum odour.
Warning! POISON! May be fatal if inhaled. Harmful or fatal if absorbed through the skin. May be harmful or fatal if swallowed. May cause nausea, vomiting, headache and other central nervous system effects. Causes skin and eye irritation. May cause respiratory irritation. May be an aspiration hazard. Can enter the lungs and cause damage. Contains material which can cause damage to the blood system, the liver and the kidneys. Contains material which may cause cancer, based on animal data.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Inhalation in very high concentrations may result in blood system effects, such as red blood cell fragility. May result in unconsciousness and possibly death.

Skin : May cause moderate to severe skin irritation. May be absorbed and cause symptoms similar to those for inhalation.

Eyes : Causes severe eye irritation. May cause burning sensation, redness and tearing (watering).

Ingestion : May cause severe irritation to the mouth, throat and stomach. Ingestion may cause symptoms similar to inhalation. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Contains: 2-butoxyethanol. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage, based on animal data. Humans are less sensitive to these effects. Effects appear to be species specific.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Natural methyl ester	67762-38-3	40.00 - 70.00
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	7.00 - 13.00
2-butoxyethanol	111-76-2	3.00 - 7.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. Seek immediate medical attention/advice.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes For Physician : Treat symptomatically. This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. However, may ignite if exposed to extreme heat and flame. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Product may float, and be re-ignited at the water's surface.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Phosphorus compounds; Sulphur oxides; Nitrogen oxides (NOx); Hydrocarbons; Polycyclic aromatic hydrocarbons; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required. Contaminated absorbent material may pose the same hazards as the spilled product.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep container tightly closed when not in use.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Bases; Strong oxidizing agents; Strong acids.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Natural methyl ester	N/Av	N/Av	N/Av	N/Av
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m³ (As 'Oil mist, mineral') (inhalable)	N/Av	5 mg/m³ (As 'Oil mist, mineral')	N/Av
2-butoxyethanol	20 ppm	N/Av	50 ppm (240 mg/m³) (skin)	N/Av

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Wear resistant clothing and boots.

Eye / face protection : Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Wash hands thoroughly after using this product, and before eating, drinking or smoking.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Appearance : Dark liquid.

Odour : Petroleum odour.

Odour threshold : N/Av

pH : N/Av

Boiling point : 160°C

Specific gravity : 0.897

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : N/Av

Solubility in water : insoluble

Vapour density (Air = 1) : N/Av

Evaporation rate (n-Butyl acetate = 1) : N/Av

Volatile organic Compounds (VOC's) : N/Av

Volatiles (% by weight) : 8.5

Flash point : > 93.3°C

Flash point Method : Tag closed cup

Auto-ignition temperature : N/Av

Lower flammable limit (% by vol.) : N/Av

Upper flammable limit (% by vol.) : N/Av

Flame Projection Length : N/Ap

Flashback observed : N/Ap

Absolute pressure of container : N/Ap

Viscosity : N/Av

General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. After prolonged storage, may release explosive peroxides in the presence of air. Exposure to sunlight accelerates decomposition.

Hazardous polymerization : Hazardous polymerization does not occur.

Conditions to avoid : Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.

Materials To Avoid And Incompatibility

: Strong oxidizing agents; Strong acids; Strong bases.

Hazardous decomposition products

: Peroxides. Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and kidneys.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES

Irritancy : Severe skin and eye irritant.

Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50} (4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Natural methyl ester	N/Av	> 5000 mg/kg	> 2000 mg/kg
Distillates (petroleum), hydrotreated heavy naphthenic	> 5 mg/L (mist)	> 5000 mg/kg	> 2000 mg/kg
2-butoxyethanol	450 ppm (2.175 mg/L) (vapour)	530 mg/kg	400 - 500 mg/kg

Carcinogenic status : Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: 2-butoxyethanol. No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.

Reproductive effects : Not expected to cause reproductive effects.

Teratogenicity : Not expected to be a teratogen.

Mutagenicity : Not expected to be mutagenic in humans.

Epidemiology : None known or reported by the manufacturer.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Synergistic materials : None known or reported by the manufacturer.

other important hazards : CNS depression may result from extreme exposures.

Conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory or blood system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Natural methyl ester	67762-38-3	> 1000 mg/L (Read-across)	N/Av	None.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 5000 mg/L (Rainbow trout)	N/Av	None.
2-butoxyethanol	111-76-2	1490 mg/L (Bluegill sunfish)	> 100 mg/L (Zebra fish)	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Natural methyl ester	67762-38-3	800 - 5243 mg/L (Daphnia magna) (Read-across)	N/Av	None.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 1000 mg/L (Daphnia magna)	N/Av	None.
2-butoxyethanol	111-76-2	835 mg/L (Daphnia magna)	100 mg/L	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Natural methyl ester	67762-38-3	N/Av	N/Av	None.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 1000 mg/L/96hr (Green algae)	N/Av	None.
2-butoxyethanol	111-76-2	911 mg/L/72hr (Green algae)	286 mg/L/72hr	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself. Contains: Distillates (petroleum), hydrotreated heavy naphthenic.
Distillates (petroleum), hydrotreated heavy naphthenic is not considered readily biodegradable and is insoluble in water. The substance may persist in the environment.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Natural methyl ester (CAS 67762-38-3)	> 6.2	N/Av
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	> 20	N/Av
2-butoxyethanol (CAS 111-76-2)	0.8	0.97

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	None	
TDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

Warning! POISON! May be fatal if inhaled. Harmful or fatal if absorbed through the skin. May be harmful or fatal if swallowed. May cause respiratory irritation. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. May be an aspiration hazard. Can enter the lungs and cause damage. Causes skin and eye irritation. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Contains material which may cause cancer, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Keep containers closed when not in use. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stopped, begin artificial respiration. For skin contact, wash with soap and water while removing contaminated clothing. For eye contact, flush with running water for at least 15 minutes. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. For all cases, obtain medical attention immediately.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CNS: Central Nervous System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	

DISCLAIMER OF LIABILITY

This Material Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Radiator Specialty Co. of Canada and CCOHS' Web Information Service. The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Radiator Specialty Co. of Canada expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this MSDS does not apply to use with any other product or in any other process.

This Material Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Radiator Specialty Co. of Canada.

MSDS Preparation Date (mm/dd/yyyy)

: 08/02/2007

MSDS Revision Date (mm/dd/yyyy)

: 06/29/2016

Revision No. : 4

Revision Information : (M)SDS sections updated:
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT

Revision Number: 011.0

Issue date: 10/12/2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE 262
Product type: Anaerobic Sealant
Restriction of Use: None identified
Company address:
Henkel Canada Corporation
Meadowpine Boulevard 2515
Mississauga, Ontario L5N 6C3

IDH number: 231926
Item number: 26221
Region: Canada
Contact information:
Telephone: +1 (905) 814-6511
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
WARNING:	CAUSES SKIN AND EYE IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2B
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	2

PICTOGRAM(S)

Precautionary Statements

Prevention: Do not breathe vapors, mist, or spray. Wash affected area thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if you feel unwell. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with Canadian Hazardous Products Regulations (WHMIS 2015) and is consistent with the provision of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Weight %*
Saccharin	81-07-2	1 - 5
Ethene, homopolymer	9002-88-4	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Cumene	98-82-8	0.1 - 1
Methyl methacrylate	80-62-6	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of nitrogen. Irritating vapors.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: For safe storage, store between 0 °C (32°F) and 32 °C (89.6 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

Shelf Life Statement: Not available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Saccharin	None	None	None	None
Ethene, homopolymer	10 mg/m3 TWA Inhalable particles. 3 mg/m3 TWA Respirable particles.	15 MPPCF TWA Respirable fraction. 15 mg/m3 TWA Total dust. 50 MPPCF TWA Total dust. 5 mg/m3 TWA Respirable fraction. 5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None
Methyl methacrylate	50 ppm TWA 100 ppm STEL (Dermal sensitization)	100 ppm (410 mg/m3) PEL	None	50 ppm

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Red
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
pH: Not applicable
Vapor pressure: < 5 mm hg (27 °C (80.6 °F))

Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available.
Specific gravity:	1.05
Vapor density:	Not available.
Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available.
VOC content:	0 %; 0 g/l
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Phenolics. Irritating organic vapours.
Incompatible materials:	Iron. Copper. Rust. Aluminum. Zinc. Reducing agents. Strong acids and oxidizing agents. Oxygen scavengers. Strong alkalis.
Reactivity:	Not available.
Conditions to avoid:	Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Causes eye irritation.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Saccharin	Oral LD50 (Mouse) = 17 g/kg	No Target Organs
Ethene, homopolymer	None	No Target Organs
Cumene hydroperoxide	Inhalation LC50 (Mouse, 4 h) = 200 mg/l	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Cumene	Oral LD50 (Rat) = 2.91 g/kg Oral LD50 (Rat) = 1,400 mg/kg Inhalation LC50 (Rat, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung
Methyl methacrylate	Oral LD50 (Rat) = 7,800 mg/kg Oral LD50 (Rabbit) = 6,000 mg/kg Oral LD50 (Rat) = 9,400 mg/kg	Allergen, Irritant, Kidney, Liver, Mutagen, Nervous System, Respiratory

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Saccharin	No	No	No
Ethene, homopolymer	No	No	No
Cumene hydroperoxide	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No
Methyl methacrylate	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

Canada Transportation of Dangerous Goods - Ground
Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)
Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)
Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: 2

Prepared by: Product Safety and Regulatory Affairs

Issue date: 10/12/2017

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Low Sulphur Diesel Fuel Conditioner

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 02/15/2017 Revision date: 02/15/2017 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixtures

Product name : Low Sulphur Diesel Fuel Conditioner

Product code : 963/964/965/966

1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Diesel Fuel additive

1.3. Supplier

Kleen-Flo Tumbler ind. Ltd.
75 Advance Boulevard
L6T 4N1 Brampton - CANADA
T 905-793-4311

1.4. Emergency telephone number

Emergency number : CANUTEC (613) 996-6666

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Flam. Liq. 2	H225
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Carc. 2	H351
Repr. 2	H361
Asp. Tox. 1	H304

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :

GHS02 GHS07 GHS08

Signal word (GHS-CA) : Danger

Hazard statements (GHS-CA) :
H225 - Highly flammable liquid and vapour
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H304 - May be fatal if swallowed and enters airways

Precautionary statements (GHS-CA) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take action to prevent static discharges
P264 - Wash hands thoroughly after handling
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P308+P313 - IF exposed or concerned: Get medical advice/attention
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P331 - Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
P362+P364 - Take off contaminated clothing and wash it before reuse
P332+P313 - If skin irritation occurs: Get medical advice/attention
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-CA)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Isopropyl alcohol	(CAS No) 67-63-0	65-85
Xylenes (o-, m-, p- isomers)	(CAS No) 1330-20-7	10-30
Ethylbenzene	(CAS No) 100-41-4	3-7
Toluene	(CAS No) 108-88-3	0.1-1

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Alcohol resistant foam. Carbon dioxide. Dry chemical.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use water jet.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Highly flammable liquid and vapour. Products of combustion may include, and are not limited to: oxides of carbon.

Explosion hazard : May form flammable/explosive vapour-air mixture.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges.

6.2. Methods and materials for containment and cleaning up

For containment : Stop leak if safe to do so. Eliminate sources of ignition. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Keep away from sources of ignition.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Isopropyl alcohol (67-63-0)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	400 ppm

Xylenes (o-, m-, p- isomers) (1330-20-7)		
USA - ACGIH	ACGIH TWA (ppm)	100 ppm
USA - ACGIH	ACGIH STEL (ppm)	150 ppm

Ethylbenzene (100-41-4)		
USA - ACGIH	ACGIH TWA (ppm)	20 ppm

Toluene (108-88-3)		
USA - ACGIH	ACGIH TWA (ppm)	20 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear liquid
Colour	:	Yellow
Odour	:	Characteristic, alcohol
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	82 °C
Flash point	:	16 °C (TCC)
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Highly flammable liquid and vapour
Vapour pressure	:	No data available
Vapour pressure at 50 °C	:	No data available
Relative density	:	0.8
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Viscosity, kinematic	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal storage conditions. May form flammable/explosive vapour-air mixture.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat. Open flame. Direct sunlight. Incompatible materials.
Incompatible materials	:	Strong oxidizing agents.
Hazardous decomposition products	:	May include, and are not limited to: oxides of carbon. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified.
Acute toxicity (dermal)	:	Not classified.
Acute toxicity (inhalation)	:	Not classified.

Low Sulphur Diesel Fuel Conditioner	
LD50 oral rat	> 2000 mg/kg (Calculated Acute Toxicity Estimate)
LD50 dermal rabbit	> 2000 mg/kg (Calculated Acute Toxicity Estimate)
LC50 inhalation rat	> 20 mg/l/4h (Calculated Acute Toxicity Estimate)

Isopropyl alcohol (67-63-0)	
LD50 oral rat	1870 mg/kg
LD50 dermal rabbit	4059 mg/kg
LC50 inhalation rat	72600 mg/m³/4 h

Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	> 4350 mg/kg
LC50 inhalation rat	29.08 mg/l/4h

Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15400 mg/kg

Ethylbenzene (100-41-4)	
LC50 inhalation rat	17.4 mg/l/4h

Toluene (108-88-3)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 inhalation rat	12.5 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Suspected of causing cancer.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

STOT-single exposure : Not classified.

STOT-repeated exposure : Not classified.

Aspiration hazard : May be fatal if swallowed and enters airways.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Isopropyl alcohol (67-63-0)	
LC50 fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 fish 1	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	2.661 - 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
EC50 Daphnia 2	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)

Ethylbenzene (100-41-4)	
LC50 fish 1	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 fish 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 Daphnia 1	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Toluene (108-88-3)	
LC50 fish 1	15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

Low Sulphur Diesel Fuel Conditioner	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Low Sulphur Diesel Fuel Conditioner	
Bioaccumulative potential	Not established.

Isopropyl alcohol (67-63-0)	
Partition coefficient n-octanol/water	0.05 (at 25 °C)

Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF fish 1	0.6 - 15

Xylenes (o-, m-, p- isomers) (1330-20-7)	
Partition coefficient n-octanol/water	2.77 - 3.15

Ethylbenzene (100-41-4)	
BCF fish 1	15
Partition coefficient n-octanol/water	3.2

Toluene (108-88-3)	
Partition coefficient n-octanol/water	2.7

12.4. Mobility in soil

Isopropyl alcohol (67-63-0)	
Partition coefficient n-octanol/water	0.05 (at 25 °C)

Xylenes (o-, m-, p- isomers) (1330-20-7)	
Partition coefficient n-octanol/water	2.77 - 3.15

Ethylbenzene (100-41-4)	
Partition coefficient n-octanol/water	3.2

Toluene (108-88-3)	
Partition coefficient n-octanol/water	2.7

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

For Product Code: #964 /#965 /#966

UN-No. (TDG) : UN1993

Packing group : II

TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids

Transport document description : UN1993 FLAMMABLE LIQUID, N.O.S., 3, II

Proper Shipping Name (Transportation of Dangerous Goods) : FLAMMABLE LIQUID, N.O.S. (2-Propanol solution)

Hazard labels (TDG) :

Product Code #963: Consumer commodity

14.2. Transport information/DOT

No additional information available

14.3. Air and sea transport

No additional information available

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Date of issue	:	02/15/2017
Revision date	:	02/15/2017
Other information	:	None.
Prepared by	:	Kleen-Flo Tumbler Ind. Ltd.

Conditionneur Pour Carburant Diesel

Fiche de données de sécurité

conformément à la Loi sur les produits dangereux (11 février 2015)

Date d'émission: 02/15/2017 Date de révision: 02/15/2017 Version: 1.0

SECTION 1: Identification

1.1. Identificateur de produit

Forme du produit : Mélanges

Nom du produit : Conditionneur Pour Carburant Diesel

Code du produit : 963/964/965/966

1.2. Usage recommandé et restrictions d'utilisation

Utilisations recommandées & restrictions : Additif pour carburant diesel

1.3. Fournisseur

Les Entreprises Kleen-Flo Tumbler Limitée
75 Advance Boulevard
L6T 4N1 Brampton - CANADA
T 905-793-4311

1.4. Numéro d'appel d'urgence

Numéro d'urgence : CANUTEC (613) 996-6666

SECTION 2: Identification des dangers

2.1. Classification de la substance ou du mélange

Classification (GHS-CA)

Liquides inflammables, Catégorie 2	H225
Corrosif/irritant pour la peau, Catégorie 2	H315
Lésions oculaires graves/irritation oculaire, Catégorie 2A	H319
Cancérogénicité, Catégorie 2	H351
Toxicité pour la reproduction, Catégorie 2	H361
Danger par aspiration, Catégorie 1	H304

2.2. Éléments d'étiquetage SGH, y compris conseils de prudence

Étiquetage GHS-CA

Pictogrammes de danger (GHS-CA) :

GHS02 GHS07 GHS08

Mention d'avertissement (GHS-CA) : Danger

Mentions de danger (GHS-CA) : H225 - Liquide et vapeurs très inflammables
H315 - Provoque une irritation cutanée
H319 - Provoque une sévère irritation des yeux
H351 - Susceptible de provoquer le cancer
H361 - Susceptible de nuire à la fertilité ou au fœtus
H304 - Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires

Conseils de prudence (GHS-CA) : P201 - Se procurer les instructions avant utilisation
P202 - Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
P210 - Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer
P233 - Maintenir le récipient fermé de manière étanche
P240 - Mise à la terre/liaison équipotentielle du récipient et du matériel de réception
P241 - Utiliser du matériel électrique, d'éclairage, de ventilation antidéflagrant
P242 - Ne pas utiliser d'outils produisant des étincelles
P243 - Prendre des précautions pour prévenir les décharges statiques
P264 - Se laver les mains soigneusement après manipulation
P280 - Porter un équipement de protection des yeux, un équipement de protection du visage, des vêtements de protection, des gants de protection
P308+P313 - EN CAS d'exposition prouvée ou suspectée: consulter un médecin
P301+P310 - EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON ou un médecin
P331 - NE PAS faire vomir
P303+P361+P353 - EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Retirer immédiatement les vêtements contaminés. Rincer la peau à l'eau
P362+P364 - Enlever les vêtements contaminés et les laver avant réutilisation
P332+P313 - En cas d'irritation cutanée: consulter un médecin
P305+P351+P338 - EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles

peuvent être facilement enlevées. Continuer à rincer
P337+P313 - Si l'irritation oculaire persiste: consulter un médecin
P403+P235 - Stocker dans un endroit bien ventilé. Conserver au frais
P405 - Garder sous clef
P501 - Éliminer le contenu/récipient dans un centre de collecte de déchets dangereux ou spéciaux, conformément à la réglementation locale, régionale, nationale et/ou internationale

2.3. Autres dangers

Pas d'informations complémentaires disponibles

2.4. Toxicité aiguë inconnue (GHS-CA)

Non applicable

SECTION 3: Composition/information sur les ingrédients

3.1. Substances

Non applicable

3.2. Mélanges

Nom	Identificateur de produit	%
Alcool isopropylique	(n° CAS) 67-63-0	65-85
Xylène, isomères mixtes, purs	(n° CAS) 1330-20-7	10-30
Ethylbenzène	(n° CAS) 100-41-4	3-7
Toluène	(n° CAS) 108-88-3	0,1-1

SECTION 4: Premiers soins

4.1. Description des premiers secours

Premiers soins après inhalation : S'il y a difficulté à respirer, transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Consulter un médecin en cas de malaise.

Premiers soins après contact avec la peau : En cas de contact, rincer immédiatement et abondamment avec de l'eau. Retirer les vêtements/souliers contaminés. Laver les vêtements avant de les porter à nouveau. Si une irritation cutanée se développe et persiste, consulter un médecin.

Premiers soins après contact oculaire : En cas de contact, rincer immédiatement et abondamment avec de l'eau pendant au moins 15 minutes. Le cas échéant, retirer les lentilles de contact si elles peuvent être facilement enlevées. Si l'irritation persiste, consulter un médecin.

Premiers soins après ingestion : EN CAS D'INGESTION: NE PAS faire vomir. Appeler immédiatement un CENTRE ANTIPOISON ou un médecin

4.2. Symptômes et effets les plus importants, aigus ou retardés

Symptômes/lésions après inhalation : Peut causer l'irritation des voies respiratoires.

Symptômes/lésions après contact avec la peau : Provoque une irritation cutanée. Les symptômes peuvent inclure des rougeurs, des œdèmes, une délipidation, des dessèchements et une gerçure de la peau.

Symptômes/lésions après contact oculaire : Provoque une sévère irritation des yeux. Les symptômes peuvent inclure un inconfort ou des douleurs, un clignement excessif des paupières et une production excessive de larmes, avec une rougeur prononcée et un gonflement de la conjonctive.

Symptômes/lésions après ingestion : Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires. Les émanations aspirées de ce produit peuvent causer une pneumonie chimique. Peut causer un malaise gastro-intestinal, des nausées ou des vomissements.

4.3. Nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire

Autre avis médical ou traitement : Les symptômes peuvent ne pas apparaître immédiatement. En cas d'accident ou de malaise, consulter immédiatement un médecin (si possible, lui montrer l'étiquette ou la fiche signalétique).

SECTION 5: Mesures à prendre en cas d'incendie

5.1. Agents extincteurs appropriés

Moyens d'extinction appropriés : Mousse résistant à l'alcool. Dioxyde de carbone. Produit chimique sec.

5.2. Agents extincteurs inappropriés

Agents d'extinction non appropriés : Ne pas utiliser un jet d'eau.

5.3. Dangers spécifiques du produit dangereux

Danger d'incendie : Liquide et vapeurs très inflammables. Les produits de combustion peuvent inclure, sans s'y limiter : oxydes de carbone.

Danger d'explosion : Peut former des mélanges vapeur-air inflammables/explosifs.

5.4. Équipements de protection spéciaux et précautions spéciales pour les pompiers

Protection en cas d'incendie : Rester en amont du vent par rapport à l'incendie. Porter un habit pare feu complet incluant un équipement de respiration (SCBA).

SECTION 6: Mesures à prendre en cas de déversement accidentel

6.1. Précautions individuelles, équipement de protection et procédures d'urgence

Mesures générales : Porter les vêtements protecteurs recommandés dans la section 8. Isoler la zone de danger et interdire l'accès au personnel non protégé et non autorisé. Prendre des précautions spéciales pour éviter des charges d'électricité statique.

6.2. Méthodes et matériaux pour le confinement et le nettoyage

Pour la rétention : Obturer la fuite si cela peut se faire sans danger. Éliminer toute source d'ignition. Contenir et/ou absorber le déversement avec une substance inerte (par ex. du sable ou de la vermiculite) puis placer ensuite dans un conteneur adapté. Ne pas laisser s'écouler dans les égouts ni dans les cours d'eau. Utiliser l'équipement de protection individuelle (EPI) approprié.

Procédés de nettoyage : Déblayer la substance avec une pelle et la placer dans un conteneur de récupération. Ventiler la zone.

6.3. Référence aux autres sections

Pour plus d'informations, se reporter à la section 8 : "Contrôle de l'exposition-protection individuelle"

SECTION 7: Manutention et stockage

7.1. Précautions à prendre pour une manipulation sans danger

Précautions à prendre pour une manipulation sans danger : Éviter le contact avec la peau et les yeux. Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols. Ne pas avaler. Manipuler et ouvrir le récipient avec prudence. Ne pas manger, ne pas boire et ne pas fumer pendant l'utilisation. Conserver à l'écart de toute source d'ignition - Ne pas fumer. Prendre des mesures de précaution contre les décharges électrostatiques. Ne pas utiliser d'outils produisant des étincelles. Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité. Utiliser l'équipement de protection individuel requis.

Dangers supplémentaires lors du traitement : Manipuler les conteneurs vides avec précaution, les vapeurs résiduelles étant inflammables.

7.2. Conditions nécessaires pour assurer la sécurité du stockage, tenant compte d'éventuelles incompatibilités

Mesures techniques : Suivre des procédures de mise à la terre appropriées pour éviter l'électricité statique.

Conditions de stockage : Conserver hors de la portée des enfants. Maintenir le récipient fermé de manière étanche. Conserver dans un endroit sec, frais et très bien ventilé. Conserver à l'abri des sources d'ignition.

SECTION 8: Contrôles de l'exposition/protection individuelle

8.1. Paramètres de contrôle

Alcool isopropylique (67-63-0)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	400 ppm

Xylène, isomères mixtes, purs (1330-20-7)		
USA - ACGIH	ACGIH TWA (ppm)	100 ppm
USA - ACGIH	ACGIH STEL (ppm)	150 ppm

Ethylbenzène (100-41-4)		
USA - ACGIH	ACGIH TWA (ppm)	20 ppm

Toluène (108-88-3)		
USA - ACGIH	ACGIH TWA (ppm)	20 ppm

8.2. Contrôles techniques appropriés

Contrôles techniques appropriés : Aérer/ventiler les lieux pour maintenir l'exposition aux poussières en suspension, émanations chimiques, fumée, etc, sous les limites permises.

Contrôle de l'exposition de l'environnement : Maintenir les niveaux sous les seuils de la protection environnementale de la communauté.

8.3. Mesures de protection individuelle/équipements de protection individuelle

Protection des mains:

Porter des gants appropriés résistant aux produits chimiques

Protection oculaire:

Porter des lunettes de protection contre les poussières/les éclaboussures (correctement ajustées), ainsi qu'une protection faciale (écran facial).

Protection de la peau et du corps:

Porter un vêtement de protection approprié

Protection des voies respiratoires:

En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Le choix de l'appareil de protection respiratoire doit être fondé sur les niveaux d'expositions prévus ou connus, les dangers du produit et les limites d'utilisation sans danger de l'appareil de protection respiratoire retenu.

Autres informations:

Ne pas manger, fumer ou boire là où la substance est manipulée, traitée ou stockée. Se laver les mains minutieusement avant de manger ou de fumer. À manipuler selon les pratiques de sécurité et d'hygiène industrielles établies.

SECTION 9: Propriétés physiques et chimiques

9.1. Informations sur les propriétés physiques et chimiques essentielles

État physique	:	Liquide
Apparence	:	Liquide clair
Couleur	:	Jaune
Odeur	:	caractéristique, d'alcool
Seuil olfactif	:	Aucune donnée disponible
pH	:	Aucune donnée disponible
Vitesse d'évaporation relative (acétate de butyle=1)	:	Aucune donnée disponible
Vitesse d'évaporation relative (éther=1)	:	Aucune donnée disponible
Point de fusion	:	Aucune donnée disponible
Point de congélation	:	Aucune donnée disponible
Point d'ébullition	:	82 °C
Point d'éclair	:	16 °C (TCC)
Température d'auto-inflammation	:	Aucune donnée disponible
Température de décomposition	:	Aucune donnée disponible
Inflammabilité (solide, gaz)	:	Liquide et vapeurs très inflammables
Pression de la vapeur	:	Aucune donnée disponible
Pression de vapeur à 50 °C	:	Aucune donnée disponible
Densité relative	:	0,8
Solubilité	:	Aucune donnée disponible
Coefficient de partage n-octanol/eau	:	Aucune donnée disponible
Viscosité, cinématique	:	Aucune donnée disponible
Limites d'explosivité	:	Aucune donnée disponible

9.2. Autres informations

Pas d'informations complémentaires disponibles

SECTION 10: Stabilité et réactivité

10.1. Réactivité

Réactivité	:	Aucun dans les conditions normales d'utilisation.
Stabilité chimique	:	Stable dans les conditions normales d'entreposage. Peut former des mélanges vapeur-air inflammables/explosifs.
Possibilité de réactions dangereuses	:	Aucun dans les conditions normales d'utilisation.
Conditions à éviter	:	Chaleur. Flamme nue. Rayons directs du soleil. Matières incompatibles.
Matières incompatibles	:	Oxydants puissants.
Produits de décomposition dangereux	:	Peut inclure, sans s'y limiter : oxydes de carbone. Peut libérer des gaz inflammables.

SECTION 11: Données toxicologiques

11.1. Informations sur les effets toxicologiques

Toxicité Aiguë (voie orale)	:	Non classé
Toxicité Aiguë (voie cutanée)	:	Non classé
Toxicité aigüe (inhalation)	:	Non classé

Conditionneur Pour Carburant Diesel	
DL50 orale rat	> 2000 mg/kg (Estimation de la toxicité aiguë calculée)
DL50 cutanée lapin	> 2000 mg/kg (Estimation de la toxicité aiguë calculée)
CL50 inhalation rat	> 20 mg/l/4h (Estimation de la toxicité aiguë calculée)

Alcool isopropylique (67-63-0)	
DL50 orale rat	1870 mg/kg

Alcool isopropylique (67-63-0)	
DL50 cutanée lapin	4059 mg/kg
CL50 inhalation rat	72600 mg/m³/4 h

Xylène, isomères mixtes, purs (1330-20-7)	
DL50 orale rat	3500 mg/kg
DL50 cutanée lapin	> 4350 mg/kg
CL50 inhalation rat	29,08 mg/l/4h

Ethylbenzène (100-41-4)	
DL50 orale rat	3500 mg/kg
DL50 cutanée lapin	15400 mg/kg
CL50 inhalation rat	17,4 mg/l/4h

Toluène (108-88-3)	
DL50 orale rat	2600 mg/kg
DL50 cutanée lapin	12000 mg/kg
CL50 inhalation rat	12,5 mg/l/4h

Corrosion cutanée/irritation cutanée : Provoque une irritation cutanée.

Lésions oculaires graves/irritation oculaire : Provoque une sévère irritation des yeux.

Sensibilisation respiratoire ou cutanée : Non classé

Mutagénicité sur les cellules germinales : Non classé

Cancérogénicité : Susceptible de provoquer le cancer.

Toxicité pour la reproduction : Susceptible de nuire à la fertilité ou au fœtus.

Toxicité spécifique pour certains organes cibles (exposition unique) : Non classé

Toxicité spécifique pour certains organes cibles (exposition répétée) : Non classé

Danger par aspiration : Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

Autres informations : Voies d'exposition possibles : ingestion, inhalation, peau et yeux.

Symptômes/lésions après inhalation : Peut causer l'irritation des voies respiratoires.

Symptômes/lésions après contact avec la peau : Provoque une irritation cutanée. Les symptômes peuvent inclure des rougeurs, des œdèmes, une délipidation, des dessèchements et une gerçure de la peau.

Symptômes/lésions après contact oculaire : Provoque une sévère irritation des yeux. Les symptômes peuvent inclure un inconfort ou des douleurs, un clignement excessif des paupières et une production excessive de larmes, avec une rougeur prononcée et un gonflement de la conjonctive.

Symptômes/lésions après ingestion : Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires. Les émanations aspirées de ce produit peuvent causer une pneumonie chimique. Peut causer un malaise gastro-intestinal, des nausées ou des vomissements.

SECTION 12: Données écologiques

12.1. Toxicité

Écologie - général : Peut entraîner des effets néfastes à long terme pour l'environnement aquatique.

Alcool isopropylique (67-63-0)	
CL50 poisson 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
CL50 poissons 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
CE50 Daphnie 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Xylène, isomères mixtes, purs (1330-20-7)	
CL50 poisson 1	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
CL50 poissons 2	2.661 - 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
CE50 Daphnie 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
CE50 Daphnie 2	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)

Ethylbenzène (100-41-4)	
CL50 poisson 1	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
CL50 poissons 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
CE50 Daphnie 1	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Toluène (108-88-3)	
CL50 poisson 1	15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
CL50 poissons 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
CE50 Daphnie 1	5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Toluène (108-88-3)	
CE50 Daphnie 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistance et dégradabilité

Conditionneur Pour Carburant Diesel	
Persistance et dégradabilité	Non établi.

12.3. Potentiel de bioaccumulation

Conditionneur Pour Carburant Diesel	
Potentiel de bioaccumulation	Non établi.

Alcool isopropylique (67-63-0)	
Coefficient de partage n-octanol/eau	0,05 (à 25 °C)

Xylène, isomères mixtes, purs (1330-20-7)	
BCF poissons 1	0,6 - 15
Coefficient de partage n-octanol/eau	2,77 - 3,15

Ethylbenzène (100-41-4)	
BCF poissons 1	15
Coefficient de partage n-octanol/eau	3,2

Toluène (108-88-3)	
Coefficient de partage n-octanol/eau	2,7

12.4. Mobilité dans le sol

Alcool isopropylique (67-63-0)	
Coefficient de partage n-octanol/eau	0,05 (à 25 °C)

Xylène, isomères mixtes, purs (1330-20-7)	
Coefficient de partage n-octanol/eau	2,77 - 3,15

Ethylbenzène (100-41-4)	
Coefficient de partage n-octanol/eau	3,2

Toluène (108-88-3)	
Coefficient de partage n-octanol/eau	2,7

12.5. Autres effets néfastes

Pas d'informations complémentaires disponibles

SECTION 13: Données sur l'élimination

13.1. Méthodes d'élimination

Recommandations relatives à l'élimination du produit ou de l'emballage : Ces matériaux doivent être éliminés dans le respect de toutes les réglementations locales, régionales, provinciales et fédérales. Il est recommandé d'éviter ou réduire autant que possible la production de déchets.

Indications complémentaires : Manipuler les conteneurs vides avec précaution, les vapeurs résiduelles étant inflammables.

SECTION 14: Informations relatives au transport

14.1. Description sommaire pour l'expédition

Conformément aux exigences de TMD

Transport des marchandises dangereuses (TMD)

Classification of Stock # 964/965/966 as follow:

N° UN (TMD) : UN1993

Groupe d'emballage : II

TMD Classe Primaire de Danger : 3 - Classe 3 - Liquides inflammables

Description document de transport : UN1993 LIQUIDE INFLAMMABLE, N.S.A., 3, II

Désignation officielle pour le transport (Transport des marchandises dangereuses (TMD)) : LIQUIDE INFLAMMABLE, N.S.A. (2-propanol Solution)

Etiquettes de danger (TMD) :

#963: Bien de consommation

14.2. Informations relatives au transport/DOT (Ministère des transports des États-Unis)

Pas d'informations complémentaires disponibles

14.3. Transport aérien et maritime

Pas d'informations complémentaires disponibles

SECTION 15: Informations relatives à la réglementation

15.1. Directives nationales

Tous les composants de ce produit figurent aux inventaires canadiens LIS (Liste intérieure des substances) et LES (Liste extérieure des substances) (ou en sont exclus).

15.2. Réglementations internationales

Pas d'informations complémentaires disponibles

SECTION 16: Autres informations

Date d'émission	:	02/15/2017
Date de révision	:	02/15/2017
Autres informations	:	Aucun(e).
Préparé par	:	Les Entreprises Kleen-Flo Tumber Limitée

Clause de non-responsabilité : nous croyons que les affirmations, les informations techniques et les recommandations contenues dans la présente sont véridiques, mais elles sont données sans garantie d'aucune sorte. Les informations contenues dans ce document s'appliquent à cette substance spécifique comme fournie. Elles peuvent ne pas être valables pour cette substance si elle est utilisée en combinaison avec toute autre substance. Il est de la responsabilité de l'utilisateur de s'assurer de la pertinence et de l'intégralité de cette information quant à l'usage particulier qu'il en fera.

SAFETY DATA SHEET

1. Identification

Product identifier **LPS® PreSolve (Aerosol)**

Other means of identification

Part Number 01420

Recommended use A solvent degreasing agent designed for removing tar, adhesives, grease, oil and other residues from metal and other hard surfaces.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name ITW Pro Brands

Address 4647 Hugh Howell Rd.
Tucker, GA 30084

Country (U.S.A.)

Tel: +1 770-243-8800

In Case of Emergency 1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)

Website www.lpslabs.com

E-mail lpssds@itwprobrands.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Pressurized container: May burst if heated. Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Wear eye/face protection. Pressurized container: Do not pierce or burn, even after use. Avoid breathing gas. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

Response If on skin: Wash with plenty of water. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

Storage	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates Petroleum Hydrotreated Light		64742-47-8	60 - 70
3-Methoxy-3-methyl-1-butanol (MMB)		56539-66-3	10 - 20
d-limonene		5989-27-5	10 - 20
Carbon Dioxide		124-38-9	1 - 3

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Rash. Symptoms of overexposure can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, and are reversible if exposure is stopped.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim under observation. Symptoms may be delayed.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Contents under pressure. Keep away from heat, sparks and open flame. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.
Skin protection	
Hand protection	Chemical resistant gloves are recommended.
Other	Avoid contact with clothing. Wear suitable protective clothing. Chemical resistant gloves.
Respiratory protection	No personal respiratory protective equipment normally required. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Not applicable.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Gas.
Form	Aerosol.
Color	Clear, Off-white.
Odor	Orange
Odor threshold	Not established
pH	Not applicable
Melting point/freezing point	Not established
Initial boiling point and boiling range	> 302 °F (> 150 °C)
Flash point	104.0 °F (40.0 °C) Tag Closed Cup
Evaporation rate	> 0.1 BuAc
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	0.7 %
Flammability limit - upper (%)	6 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 5 mm Hg @ 20°C
Vapor density	> 1 (air = 1)
Relative density	Not available.

Solubility(ies)

Solubility (water)	< 15 %
Partition coefficient (n-octanol/water)	Not established
Auto-ignition temperature	> 392 °F (> 200 °C)
Decomposition temperature	Not established
Viscosity	< 3 cSt @ 25°C

Other information

Heat of combustion	> 30 kJ/g
Percent volatile	100 %
Specific gravity	0.82 - 0.86 @ 20°C

VOC (Weight %)	97.2 % per U.S. State and Federal Consumer Product Regulations CARB

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions. Risk of ignition.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness.
Skin contact	Causes skin irritation. May cause sensitization by skin contact.
Eye contact	Causes eye irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms related to the physical, chemical and toxicological characteristics	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
3-Methoxy-3-methyl-1-butanol (MMB) (CAS 56539-66-3)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Mouse	5830 mg/kg
	Rat	> 2000 mg/kg
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
		> 2000 mg/kg, 24 Hours
Inhalation		
Aerosol		
LC50	Cat	> 6.4 mg/l, 6 Hours
	Rat	> 7.5 mg/l, 6 Hours
		> 4.3 mg/l, 4 Hours
Vapor		
LC50	Rat	> 0.1 mg/l, 8 Hours
Oral		
LD50	Rat	> 5000 mg/kg
d-limonene (CAS 5989-27-5)		
Acute		
Oral		
LD50	Mouse	5600 - 6600 mg/kg
	Rat	> 2000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

d-limonene (CAS 5989-27-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Narcotic effects.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not likely, due to the form of the product.

Chronic effects Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
d-limonene (CAS 5989-27-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	0.619 - 0.796 mg/l, 96 hours

Persistence and degradability Not inherently biodegradable.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

d-limonene 4.232

Mobility in soil Readily absorbed into soil.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F
D003: Waste Reactive material

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No
Special precautions for user	Not available.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No.
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	Aerosols, flammable, MARINE POLLUTANT
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Carbon Dioxide (CAS 124-38-9)

US. New Jersey Worker and Community Right-to-Know Act

Carbon Dioxide (CAS 124-38-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon Dioxide (CAS 124-38-9)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 09-15-2015

Revision date 03-23-2016

Version # 03

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information Product and Company Identification: Product and Company Identification
Hazard(s) identification: GHS Signal Words
Composition/information on ingredients: Component information
Fire-fighting measures: Unsuitable extinguishing media
Fire-fighting measures: General fire hazards
Toxicological information: Inhalation
GHS: Classification

SAFETY DATA SHEET

Lucas Air Tool Lube/Lucas Tool Box Buddy

Section 1. Identification

GHS product identifier : Lucas Air Tool Lube/Lucas Tool Box Buddy

Other means of identification : Not available.

Product number : 10092, 10200, 10216, 10225/10070

Relevant identified uses of the substance or mixture and uses advised against

Lubricanting Oil.

Supplier's details : Lucas Oil Products, Inc
302 North Sheridan Street
Corona, California 92880-2067
Toll Free: (800) 342-2512
Tel: (951) 270-0154
Fax: (951) 270-1902
Website: www.LucasOil.com

Emergency telephone number (with hours of operation) : (951) 493-1149
(951) 847-5949
Markn@lucasoil.com

7:00A.M. to 5:00P.M. Monday thru Friday

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Other means of identification	:	Not available.

CAS number/other identifiers

CAS number	:	Not applicable.
Product code	:	Not available.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
Ingestion	:	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	No specific treatment.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	Straight streams of water.
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	No specific data.
Special protective actions for fire-fighters	:	No special measures are required.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear.]

Color : Slight yellow.

Odor : Petroleum.

Odor threshold : Not available.

pH : Not available.

Section 9. Physical and chemical properties

Melting point	:	Not available.
Boiling point	:	>260°C (>500°F)
Flash point	:	Closed cup: 221.11°C (430°F)
Burning time	:	Not applicable.
Burning rate	:	Not applicable.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	0.893
Solubility	:	Negligible at 25°C
Solubility in water	:	Not available.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Kinematic (100°C (212°F)): 0.075 cm^2/s (7.5 cSt)

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Excessive heat.
Incompatible materials	:	Reactive or incompatible with the following materials: strong oxidizers.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

Skin	:	There is no data available.
Eyes	:	There is no data available.
Respiratory	:	There is no data available.

Sensitization

Section 11. Toxicological information

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available. Specific target organ toxicity (repeated exposure) There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-

Section 14. Transport information

Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) PAIR: Diphenylamine

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: Distillates (petroleum), hydrotreated heavy paraffinic

Pennsylvania : None of the components are listed.

Section 15. Regulatory information

California Prop. 65

No products were found.

International regulations

International lists	:	Australia inventory (AICS): All components are listed or exempted. China inventory (IECSC): All components are listed or exempted. Japan inventory: Not determined. Korea inventory: All components are listed or exempted. Malaysia Inventory (EHS Register): Not determined. New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted. Philippines inventory (PICCS): All components are listed or exempted. Taiwan inventory (CSNN): Not determined.
Chemical Weapons Convention List Schedule I Chemicals	:	Not listed
Chemical Weapons Convention List Schedule II Chemicals	:	Not listed
Chemical Weapons Convention List Schedule III Chemicals	:	Not listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 0 Flammability : 1 Physical hazards : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 0 Flammability : 1 Instability : 0

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History

Date of issue mm/dd/yyyy	:	12/15/2013
Version	:	1
Revised Section(s)	:	Not applicable.
Prepared by	:	KMK Regulatory Services Inc.

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name	**LYSOL® Brand II (Kills 99.9% of Viruses & Bacteria) All Purpose Cleaner Complete Clean (Trigger), All Scents**
UPC CODES	Refer to Section 16
CAS #	Mixture
Product Use	Disinfectant
Distributed by	Reckitt Benckiser (Canada) Inc. 1680 Tech Avenue Unit #2 Mississauga, ON L4W 5S9 In Case of Emergency: 1-800-888-0192 Transportation Emergencies: 24 Hour Number: North America: CHEMTREC: 1-800-424-9300 Outside North America: 1-703-527-3887

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/	2
Flammability		0
Physical Hazard		0
Personal Protection		B

2. Hazards Identification

Emergency Overview

This product is regulated by Health Canada as a disinfectant. Extensive testing has been completed to show that it is safe and effective when used as directed.

CAUTION
EYE IRRITANT. DO NOT get in eyes. Wash thoroughly with soap and water after handling. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Keep out of reach of children.

Potential short term health effects

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	Moderate eye irritation. Avoid eye contact.
Skin	May be irritating to sensitive skin or in the case or prolonged contact with the liquid.
Inhalation	None expected during normal conditions of use.
Ingestion	Health injuries are not known or expected under normal use.
Target organs	Skin. Eyes.
Chronic effects	The finished product is not expected to have chronic health effects.
Signs and symptoms	Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
N-Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride	Not Applicable	0 - 0.1
N-Alkyl (1% C8, 1% C10, 67% C12, 25% C14, 7% C16, 1% C18) dimethyl benzyl ammonium chloride	Not Applicable	0 - 0.1

4. First Aid Measures

First aid procedures	
Eye contact	If in eyes, IMMEDIATELY flush eyes thoroughly with water. Remove any contact lenses and continue to flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
Skin contact	If on skin, wash area with plenty of soap and water. Get medical attention if irritation develops.
Inhalation	Remove to fresh air.
Ingestion	Rinse mouth with water. Contact a physician or poison control center if symptoms develop. NEVER give an unconscious person anything to ingest.
Notes to physician	Symptoms may be delayed.
General advice	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire-fighting Measures

Flammable properties	Not flammable by WHMIS criteria.
Extinguishing media	
Suitable extinguishing media	Water spray. Foam. Dry chemical. Carbon dioxide.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighers	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of nitrogen. Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	CAUTION Causes moderate eye irritation. Avoid contact with eyes. Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Storage	Store in original container in a cool, secure area inaccessible to children and pets. Keep in properly labelled containers.

8. Exposure Controls / Personal Protection

Exposure limit values

Ingredient(s)	Exposure limit values
N-Alkyl (1% C8, 1% C10, 67% C12, 25% C14, 7% C16, 1% C18) dimethyl benzyl ammonium chloride	**ACGIH-TLV** Not established
N-Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride	**ACGIH-TLV** Not established

Engineering controls General ventilation normally adequate.

Personal protective equipment

Eye/Face protection Safety glasses
Emergency responders should wear full eye and face protection.

Hand protection Impervious gloves.
Emergency responders should wear impermeable gloves.

Skin and body protection As required by employer code.
Emergency responders should wear impermeable clothing and footwear when responding to a situation where contact with the liquid is possible.

Respiratory protection No special requirements under normal use conditions.
Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink.
Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

9. Physical and Chemical Properties

Appearance	Clear.
Colour	Various
Form	aqueous solution
Odour	Various
Odour threshold	Not available
Physical state	Liquid
pH	8.5 - 9.5
Freezing point	Not available
Boiling point	Not available
Pour point	Not available
Evaporation Rate	Not available
Flash point	> 93.3 °C (> 199.94 °F) Tagliabue
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability Limits in Air, Upper, % by Volume	Not available
Vapour pressure	Not available
Vapour density	Not available
Specific gravity	1.19 (Water = 1)
Octanol/water coefficient	Not available
Solubility (H2O)	Complete

10. Stability and Reactivity

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	DO NOT MIX WITH BLEACH or use in conjunction with other household products. Excessive heat.
Incompatible materials	Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Oxides of carbon.

Possibility of hazardous reactions Hazardous polymerisation does not occur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
N-Alkyl (1% C8, 1% C10, 67% C12, 25% C14, 7% C16, 1% C18) dimethyl benzyl ammonium chloride	Not available
N-Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
N-Alkyl (1% C8, 1% C10, 67% C12, 25% C14, 7% C16, 1% C18) dimethyl benzyl ammonium chloride	Not available
N-Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride	Not available

Effects of acute exposure

Eye	Moderate eye irritation. Avoid eye contact.
Skin	May be irritating to sensitive skin or in the case or prolonged contact with the liquid.
Inhalation	None expected during normal conditions of use.
Ingestion	Health injuries are not known or expected under normal use.
Sensitisation	Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Chronic effects	The finished product is not expected to have chronic health effects.
Carcinogenicity	The finished product is not expected to have chronic health effects.
Mutagenicity	The finished product is not expected to have chronic health effects.
Reproductive effects	The finished product is not expected to have chronic health effects.
Teratogenicity	The finished product is not expected to have chronic health effects.
Synergistic Materials	Not available

12. Ecological Information

Ecotoxicity	Not available
Environmental effects	Not available
Aquatic toxicity	Not available
Persistence and degradability	Not available
Bioaccumulation/accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available
Other adverse effects	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Dispose in accordance with all applicable regulations. Do not reuse empty container. Rinse container and offer for recycling where facilities exist.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

UN/ID N.o. Not applicable

U.S. Department of Transportation (DOT): Classification: Not regulated

Proper shipping name	Not applicable
U.S. DOT Hazard Class	Not applicable
Subsidiary Risk	Not applicable
Packing group	Not applicable
DOT RQ (lbs)	Not applicable
ERG NO	Not applicable

Transportation of Dangerous Goods (TDG - Canada): Classification: Not regulated

Proper shipping name	Not applicable
Status	Not applicable
Packing group	Not applicable

IMDG (Marine Transport): Classification: Not regulated

Proper shipping name	Not applicable
Class	Not applicable
Subsidiary Risk	Not applicable
Packing group	Not applicable
IMDG Page	Not applicable
Marine pollutant	Not applicable
EMS	Not applicable
MFAG	Not applicable
Maximum Quantity	Not applicable

IATA/ICAO (Air): Classification: Not regulated

Proper shipping name	Not applicable
Class	Not applicable
Subsidiary Risk:	Not applicable
Packing group	Not applicable
Maximum Quantity	Not applicable

15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Product Registration: Registered with TPD, DIN 02246307

WHMIS classification

Exempt - Registered product - (DIN 02246307)

Inventory Status

Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Further information

59631-77787-4 - LYSOL® Brand II (Kills 99.9% of Viruses & Bacteria) All Purpose Cleaner Complete Clean (Trigger) - 650 mL - Green Apple - 382202

59631-75227-7 - LYSOL® Brand II (Kills 99.9% of Viruses & Bacteria) All Purpose Cleaner Complete Clean (Trigger) - 650 mL - Lemon - 372256

59631-76607-6 - LYSOL® Brand II (Kills 99.9% of Viruses & Bacteria) All Purpose Cleaner Complete Clean (Trigger) - 650 mL - Orange Fresh - 376560

Issue date 15-Jul-2010

Effective Date 15-Jul-2010

Expiry Date 15-Jul-2013

Prepared by Reckitt Benckiser Regulatory Department 800-333-3899

Other Information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

Conforms to USDOL OSHA 29CFR 1910.1200 HAZCOM

SAFETY DATA SHEET

Lysol® Brand III Disinfectant Spray, All Scents

HEALTH • HYGIENE • HOME

1. Product and company identification

Product name : Lysol® Brand III Disinfectant Spray, All Scents

Distributed by : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600

Emergency telephone number (Medical) : 1-800-338-6167

Emergency telephone number (Transport) : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

Website: : **http://www.rbnainfo.com**

Product use : Disinfectant.

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

SDS # : D0224478 v8.0

Formulation #: : 1338-022 (0175933 v1.0) Original
1338-022 (8083521 v1.0) Original
1338-019 (0175919 v1.0) Country
1338-019 (8080039 v1.0) Campestre
1338-016 (0175935 v1.0) Summer Breeze
1338-018 (0175934 v1.0) Green Apple / Green Apple Breeze
1338-017 (0175927 v1.0) Kitchen (Citrus)
1338-021 (0175938 v1.0) Crisp Berry
1338-020 (0175932 v1.0) Garden Mist
1338-020 (8089468 v1.0) Bebe
1338-015 (0175918 v1.0) Spring Waterfall
1338-015 (0258756 v1.0) Blr Swf Ext Prd
1178-172 (0175917 v1.0) Crisp Linen
1178-172 (8089462 v1.0) Frescura
1178-172 (0242193 v1.0) Blr C/L Ext Prd
1338-026 (0175929 v1.0) Early Morning Breeze
1314-032 (0175926 v1.0) Citrus Meadows
1544-074 (0175943 v2.0) Vanilla & Blossoms
1314-038 (0175920 v1.0) Jasmine & Rain / Lavender
e0002-161 (8159483 v1.0) Pomegranate Crush
1784-045A (0346500 v1.0) Crisp Mountain Air
1325-133 (0222651 v1.0) Amphyl
1338-023 (0175940 v1.0) Fresh / Oxygen

EPA ID No. : 777-99

1. Product and company identification

UPC Code / Sizes : Sizes: 6 oz., 12 oz., 12.5 oz. and 19 oz. (Tin plate steel cans).

2. Hazards identification

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable aerosol.
Pressurized container: may burst if heated.

Precautionary statements

General : Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Pressurized container: may burst if heated. Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Wash hands thoroughly after handling.

Response : Not applicable.

Storage : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal : Not applicable.

Supplemental label elements : None known.

Hazards not otherwise classified : None known.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Ethyl alcohol	30 - 60	64-17-5
butane	1-5	106-97-8
propane	<2.5	74-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
Ethyl alcohol	**ACGIH TLV (United States, 6/2013).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.
butane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 800 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 6/2013).** STEL: 1000 ppm 15 minutes.
propane	**OSHA PEL 1989 (United States, 3/1989).**

8. Exposure controls/personal protection

	TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and chemical properties

Appearance

Physical state : Liquid. [Aerosol.]

Color : Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : 10.5 to 11.8 [Conc. (% w/w): 100%]

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 25.6°C (78.1°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.8667 to 0.8967 g/cm³ [20 to 25°C]

Solubility : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 17.99 kJ/g

Ignition distance : <45.72 cm

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
*Lysol® Brand III Disinfectant Spray, All Scents (Aerosol)	LC50 Inhalation Vapor	Rat	>2.12 mg/l	4 hours Maximum attainable concentration

Conclusion/Summary : Not classified Harmful. * Information is based on toxicity test result of the concentrate of a similar product.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethyl alcohol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
*Lysol® Brand III Disinfectant Spray, All Scents (Aerosol)	Eyes - Cornea opacity	Rabbit	< 1	72 hours	4 days
	Skin - Primary dermal irritation index (PDII)	Rabbit	0.3	4 hours	72 hours

Conclusion/Summary

Skin : Slightly irritating to the skin. *Information is based on toxicity test result of the concentrate of a similar product.

Eyes : Moderately irritating to eyes. *Information is based on toxicity test result of the concentrate of a similar product.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethyl alcohol	-	1	-

Reproductive toxicity

Not available.

Teratogenicity

11. Toxicological information

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethyl alcohol	Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water	Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae	96 hours 48 hours 48 hours 4 days 96 hours 12 weeks

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethyl alcohol	-0.35	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
TDG Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
Mexico Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
IMDG Class	UN1950	Aerosols, flammable	2.1	-		Limited quantity
IATA-DGR Class	UN1950	Aerosols, flammable	2.1	-		See DG List

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR**: 2-methylpropan-2-ol

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 311: ammonia

Clean Air Act (CAA) 112 regulated flammable substances: butane; propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard

15. Regulatory information

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethyl alcohol	30 - 60	Yes.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: ETHYL ALCOHOL; BUTANE; PROPANE

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL; ALCOHOL; BUTANE; PROPANE

Pennsylvania : The following components are listed: DENATURED ALCOHOL; BUTANE; PROPANE

Label elements

Signal word: : CAUTION

Hazard statements : Causes moderate eye irritation

Precautionary measures : Do not get in eyes, on skin, or on clothing. Wash with soap and water.

Keep out of the reach of children.

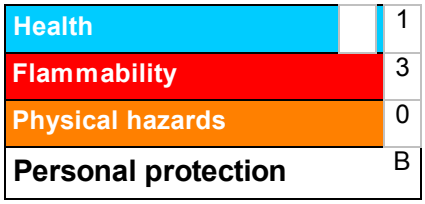
CONTENTS UNDER PRESSURE. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120 °F. Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

Hazard statements :

Flammable

16. Other information

Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

16. Other information

NFPA (30B) aerosol Flammability Level 1

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Date of issue : 26/06/2015.

Date of previous issue : 09/04/2015.

Version : 8

Prepared by : Reckitt Benckiser LLC.
Product Safety Department
1 Philips Parkway
Montvale, New Jersey 07646-1810 USA.
FAX: 201-476-7770

Revision comments : Revision as per US GHS. Correction to NFPA 30B level.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

16. Other information

RB is a member of the CSPA Product Care Product Stewardship Program.

Conforms to USDOL OSHA 29CFR 1910.1200 HAZCOM

SAFETY DATA SHEET

Lysol® Brand III Disinfectant Spray, All Scents

HEALTH • HYGIENE • HOME

1. Product and company identification

Product name : Lysol® Brand III Disinfectant Spray, All Scents

Distributed by : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600

Emergency telephone number (Medical) : 1-800-338-6167

Emergency telephone number (Transport) : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

Website: : **http://www.rbnainfo.com**

Product use : Disinfectant.

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

SDS # : D0224478 v8.0

Formulation #: : 1338-022 (0175933 v1.0) Original
1338-022 (8083521 v1.0) Original
1338-019 (0175919 v1.0) Country
1338-019 (8080039 v1.0) Campestre
1338-016 (0175935 v1.0) Summer Breeze
1338-018 (0175934 v1.0) Green Apple / Green Apple Breeze
1338-017 (0175927 v1.0) Kitchen (Citrus)
1338-021 (0175938 v1.0) Crisp Berry
1338-020 (0175932 v1.0) Garden Mist
1338-020 (8089468 v1.0) Bebe
1338-015 (0175918 v1.0) Spring Waterfall
1338-015 (0258756 v1.0) Blr Swf Ext Prd
1178-172 (0175917 v1.0) Crisp Linen
1178-172 (8089462 v1.0) Frescura
1178-172 (0242193 v1.0) Blr C/L Ext Prd
1338-026 (0175929 v1.0) Early Morning Breeze
1314-032 (0175926 v1.0) Citrus Meadows
1544-074 (0175943 v2.0) Vanilla & Blossoms
1314-038 (0175920 v1.0) Jasmine & Rain / Lavender
e0002-161 (8159483 v1.0) Pomegranate Crush
1784-045A (0346500 v1.0) Crisp Mountain Air
1325-133 (0222651 v1.0) Amphyl
1338-023 (0175940 v1.0) Fresh / Oxygen

EPA ID No. : 777-99

1. Product and company identification

UPC Code / Sizes : Sizes: 6 oz., 12 oz., 12.5 oz. and 19 oz. (Tin plate steel cans).

2. Hazards identification

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable aerosol.
Pressurized container: may burst if heated.

Precautionary statements

General : Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Pressurized container: may burst if heated. Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Wash hands thoroughly after handling.

Response : Not applicable.

Storage : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal : Not applicable.

Supplemental label elements : None known.

Hazards not otherwise classified : None known.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Ethyl alcohol	30 - 60	64-17-5
butane	1-5	106-97-8
propane	<2.5	74-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
Ethyl alcohol	**ACGIH TLV (United States, 6/2013).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.
butane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 800 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 6/2013).** STEL: 1000 ppm 15 minutes.
propane	**OSHA PEL 1989 (United States, 3/1989).**

8. Exposure controls/personal protection

	TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and chemical properties

Appearance

Physical state : Liquid. [Aerosol.]

Color : Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : 10.5 to 11.8 [Conc. (% w/w): 100%]

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 25.6°C (78.1°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.8667 to 0.8967 g/cm³ [20 to 25°C]

Solubility : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 17.99 kJ/g

Ignition distance : <45.72 cm

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
*Lysol® Brand III Disinfectant Spray, All Scents (Aerosol)	LC50 Inhalation Vapor	Rat	>2.12 mg/l	4 hours Maximum attainable concentration

Conclusion/Summary : Not classified Harmful. * Information is based on toxicity test result of the concentrate of a similar product.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethyl alcohol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
*Lysol® Brand III Disinfectant Spray, All Scents (Aerosol)	Eyes - Cornea opacity	Rabbit	< 1	72 hours	4 days
	Skin - Primary dermal irritation index (PDII)	Rabbit	0.3	4 hours	72 hours

Conclusion/Summary

Skin : Slightly irritating to the skin. *Information is based on toxicity test result of the concentrate of a similar product.

Eyes : Moderately irritating to eyes. *Information is based on toxicity test result of the concentrate of a similar product.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethyl alcohol	-	1	-

Reproductive toxicity

Not available.

Teratogenicity

11. Toxicological information

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethyl alcohol	Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water	Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae	96 hours 48 hours 48 hours 4 days 96 hours 12 weeks

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethyl alcohol	-0.35	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
TDG Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
Mexico Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
IMDG Class	UN1950	Aerosols, flammable	2.1	-		Limited quantity
IATA-DGR Class	UN1950	Aerosols, flammable	2.1	-		See DG List

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR**: 2-methylpropan-2-ol

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 311: ammonia

Clean Air Act (CAA) 112 regulated flammable substances: butane; propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard

15. Regulatory information

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethyl alcohol	30 - 60	Yes.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: ETHYL ALCOHOL; BUTANE; PROPANE

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL; ALCOHOL; BUTANE; PROPANE

Pennsylvania : The following components are listed: DENATURED ALCOHOL; BUTANE; PROPANE

Label elements

Signal word: : CAUTION

Hazard statements : Causes moderate eye irritation

Precautionary measures : Do not get in eyes, on skin, or on clothing. Wash with soap and water.

Keep out of the reach of children.

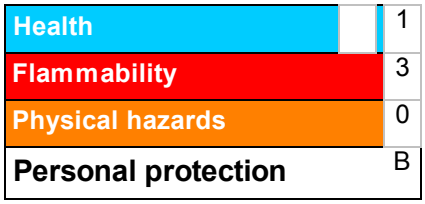
CONTENTS UNDER PRESSURE. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120 °F. Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

Hazard statements :

Flammable

16. Other information

Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

16. Other information

NFPA (30B) aerosol Flammability Level 1

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Date of issue : 26/06/2015.

Date of previous issue : 09/04/2015.

Version : 8

Prepared by : Reckitt Benckiser LLC.
Product Safety Department
1 Philips Parkway
Montvale, New Jersey 07646-1810 USA.
FAX: 201-476-7770

Revision comments : Revision as per US GHS. Correction to NFPA 30B level.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

16. Other information

RB is a member of the CSPA Product Care Product Stewardship Program.

Conforms to USDOL OSHA 29CFR 1910.1200 HAZCOM

SAFETY DATA SHEET

Lysol Brand II Kills 99.9% of Viruses & Bacteria** Disinfecting Wipes
Crisp Linen Scent, Citrus Meadows Scent, Lemon & Lime Blossom Scent, Lemon Scent, Ocean Fresh Scent, Fresh Scent

1. Product and company identification

Product name : Lysol Brand II Kills 99.9% of Viruses & Bacteria** Disinfecting Wipes
Crisp Linen Scent, Citrus Meadows Scent, Lemon & Lime Blossom Scent, Lemon Scent, Ocean Fresh Scent, Fresh Scent

Distributed by : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600

Emergency telephone number (Medical) : 1-800-338-6167

Emergency telephone number (Transport) : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

Website: : **http://www.rbnainfo.com**

Product use : Surface Disinfectant.

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

SDS # : D8169502 v6.0

Formulation #: : Lysol Brand II Kills 99.9% of Viruses & Bacteria** Disinfecting Wipes
- Crisp Linen Scent
- Citrus Meadows Scent
- Lemon & Lime Blossom Scent
- Lemon Scent
- Ocean Fresh Scent
- Fresh Scent

EPA ID No. : 777-114

UPC Code / Sizes : Wipe impregnated with liquid (Loading ratio 4:1 (premix:wipe) / 35, 80 and 110 count wipe in HDPE canister)

2. Hazards identification

Classification of the substance or mixture : Not classified

GHS label elements

Hazard pictograms : Not applicable.

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : None known.

Hazards not otherwise classified : None known.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Ethyl alcohol	1 - 2.5	64-17-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

4. First aid measures

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
Ethyl alcohol	**ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and chemical properties

Appearance

Physical state : Solid. [Presaturated Wipes]

Color : Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : 10.5 [liquid preparations]

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: >93.3°C (>199.9°F) liquid preparations

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.999 [liquid preparations]

Solubility : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
*Lysol Disinfecting Wipes	LC50 Inhalation Vapor	Rat	>2.04 mg/l	24 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : Not classified Harmful. *Information is based on toxicity test result of the concentrate of a similar product.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethyl alcohol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
*Lysol Disinfecting Wipes	Skin - Slight irritant	Rabbit	1.2	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-

Conclusion/Summary

Skin : Slightly irritating to the skin. *Information is based on toxicity test result of the concentrate of a similar product.

Eyes : Moderately irritating to eyes. *Information is based on toxicity test result of the concentrate of a similar product.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
*Lysol Disinfecting Wipes	skin	Guinea pig	Not sensitizing

Conclusion/Summary

11. Toxicological information

Skin : Non-sensitizer to skin. *Information is based on toxicity test result of the concentrate of a similar product.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethyl alcohol	-	1	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethyl alcohol	Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water	Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae	96 hours 48 hours 48 hours 4 days 96 hours 12 weeks

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethyl alcohol	-0.35	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

Not a DOT controlled material (United States). Not a TDG-controlled material. This preparation is not classified as dangerous according to international transport regulations (ADR/RID, IMDG or ICAO/IATA).

15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) proposed test rules**: Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

TSCA 8(a) PAIR: 2-methylpropan-2-ol; nonanal; decanal; 3-p-cumenyl-2-methylpropionaldehyde; octanal; dodecanal; 2-(4-tert-butylbenzyl)propionaldehyde; α-hexylcinnamaldehyde

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethyl alcohol	1 - 2.5	Yes.	No.	No.	Yes.	No.

15. Regulatory information

State regulations

Massachusetts : The following components are listed: ETHYL ALCOHOL

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL; ALCOHOL

Pennsylvania : The following components are listed: DENATURED ALCOHOL

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : The following components are listed: Ethanol

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Label elements

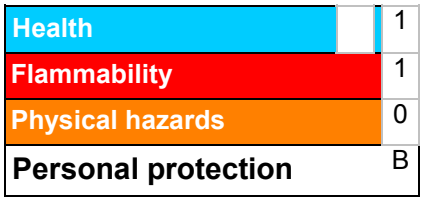
Signal word: : CAUTION

Hazard statements : May cause eye irritation.

Precautionary measures : Avoid contact with eyes. Wash hands after use.
Keep out of reach of children.

16. Other information

Hazardous Material Information System (U.S.A.) :



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The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Date of issue : 5/26/2016

Date of previous issue : 03/07/2014.

Version : 6

Prepared by : Reckitt Benckiser LLC.
Product Safety Department
1 Philips Parkway
Montvale, New Jersey 07646-1810 USA.
FAX: 201-476-7770

Revision comments : Update as per US GHS.

Indicates information that has changed from previously issued version.

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

CSPA Product Care®

RB is a member of the CSPA Product Care Product Stewardship Program.

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

Product name: MASTERS PRO-DOPE
Product use: Thread sealing compound.

Supplier name and address:
G.F. THOMPSON CO. LTD.
620 Steven Court
Newmarket, Ontario
L3Y 6Z2

Manufacturer name and address:
Refer to supplier.

Emergency Tel:
Mon – Fri, 7:30 am to 5:00 pm EST
905-898-2557
800-499-3673 (toll free)
24 hr Emergency Tel:
905-252-6219 or 416-786-4336

WHMIS CLASS: B4, D1A, D2A, D2B

HMIS Rating:
* - Chronic hazard 0 - Minimal 1 – Slight 2 - Moderate 3 - Serious 4 – Severe

Health: *2 Flammability: 3 Reactivity: 0

SECTION II - INGREDIENTS

Ingredients	CAS#	wt.%	LC_{50} / 4 Hrs (Rat, ihl.)	LD_{50} mg/kg (Rat, oral)	(Rabbit, dermal)
Castor oil	8001-79-4	15 - 40	N/Av	N/Av	N/Av
Ethylene glycol n-butyl ether	111-76-2	10 - 30	450 ppm	320 (rabbit)	400
Isopropyl alcohol	67-63-0	10 - 30	17,000 ppm	4720	12,890

SECTION III - PHYSICAL DATA

Physical state, odour and appearance: Solid paste. Slight alcohol odour.
Evaporation rate (n-Butyl acetate = 1): N/Av
Volatile, % by volume: 10
Solubility in water: Slightly soluble
pH: N/Av.
Vapour pressure (mmHg): N/Av
Coefficient of water/oil distribution: N/Av
VOC: 246 g/l, 17.29%
Freezing / melting point: N/Av
Odour threshold: N/Av
Specific gravity: 1.41
Boiling point: N/Av
Vapour density (Air = 1): N/Av
Viscosity: N/Av

SECTION IV - FIRE AND EXPLOSION DATA

Conditions of flammability: Flammable solid, due to organic solvent content. Product may be ignited by heat, sparks and flame.
Flash point (Method): 25°C / 77°F (Method not known)
Auto-ignition temperature: N/Av
Upper flammable limit %: N/Av
Lower flammable limit %: N/Av
Means of extinction: Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.
Sensitivity to mechanical impact/static discharge: N/Av.

Special fire fighting procedures: Firefighters should wear proper full protective equipment and self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Water spray may only be useful in cooling equipment and containers exposed to heat and flame.
Unusual fire and explosion hazards: Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.
Hazardous combustion products: Carbon oxides and other irritating fumes and smoke.

SECTION V - REACTIVITY DATA

Stability: Stable under the recommended storage and handling conditions prescribed. Hazardous polymerization will not occur.
Incompatible materials: Strong oxidizers (e.g. Chlorine, Peroxides, etc.).
Conditions of reactivity: Stable under ambient pressure and temperature. Avoid heat, sparks and flames.
Hazardous decomposition products: None known. Refer to Section IV for 'Hazardous combustion products'.

SECTION VI - TOXICOLOGICAL PROPERTIES

******Routes of exposure and acute effects******

Exposure limit: ACGIH-TLV: Ethylene glycol n-butyl ether – 20 ppm; Isopropyl alcohol – 200 ppm.
OSHA-PEL: Ethylene glycol n-butyl ether – 50 ppm (skin); Isopropyl alcohol – 400 ppm.
Routes of exposure: Skin contact, skin absorption, eye contact, inhalation and ingestion.
Irritancy of product: Moderate to severe.
Inhalation: Harmful if inhaled. Inhalation may cause nose, throat and respiratory tract irritation. Symptoms may include headache, nausea, vomiting, other central nervous system effects and blood system effects (red blood cell fragility and hemoglobinuria).
Skin: May cause moderate to severe irritation. Product could be absorbed if left on the skin and cause headache, nausea, vomiting, other central nervous system effects and blood system effects (red blood cell fragility and hemoglobinuria).
Eyes: May cause severe irritation.
Ingestion: Harmful if ingested. May cause irritation to the mouth, throat and stomach. Symptoms may include headache, nausea, vomiting, diarrhea, other central nervous system effects and possibly blood system effects (red blood cell fragility and hemoglobinuria).
Chronic effects: Prolonged or repeated skin contact may cause severe drying and cracking of the skin (dermatitis). Prolonged or repeated inhalation may cause severe toxicity to the blood system. At higher concentrations, prolonged inhalation may cause liver damage.
Carcinogenicity: Contains Ethylene glycol n-butyl ether. Ethylene glycol n-butyl ether is classified as a confimed animal carcinogen with unknown relevance to humans by ACGIH (Group A3). None of the listed ingredients are classified as carcinogenic by IARC.
Reproductive effects, Teratogenicity, Mutagenicity: Contains Isopropyl alcohol. Isopropyl alcohol may cause fetotoxic effects, based on animal data.
Sensitization to material: None known.
Synergistic materials: N/Av.
Conditions aggravated by exposure: Pre-existing skin, eye and respiratory disorders.

SECTION VII - FIRST AID

Inhalation: Immediately remove victim to fresh air. Obtain medical attention.
Skin contact: Immediately wash skin with mild soap and plenty of water, while removing contaminated clothing. Obtain medical attention immediately.
Eye contact: Immediately flush eyes thoroughly with water for at least fifteen minutes. Do not rub eyes. Obtain medical attention immediately.
Ingestion: Do not induce vomiting. Obtain medical attention immediately. Never give anything by mouth to an unconscious or convulsing person.

SECTION VIII - PREVENTIVE MEASURES

Spill, leak or release: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate chemically resistant equipment. Eliminate all sources of heat and flame. Ventilate area of release. Stop leak if you can do so without risk. Scrape up into suitable containers, using method that does not generate sparks. Place any recovered material in closed, labelled containers for recycling or disposal (see below).Clean spill area. Keep out of waterways. Notify the appropriate authorities as required.
Waste disposal: Handle according to recommendations listed below. Dispose in accordance with all applicable government regulations.

SECTION VIII - PREVENTIVE MEASURES Continued

PROTECTIVE EQUIPMENT

Respiratory protection: None required under normal use. For prolonged exposure or if the TLV is exceeded, wear NIOSH-approved respirators.
Ventilation: Use in well ventilated area. General ventilation should be sufficient under normal use. Local exhaust ventilation may be necessary for prolonged exposures or if the product is being heated.
Protective gloves: Gloves impervious to the material, must be worn. Advice should be sought from glove suppliers.
Eye protection: Safety goggles, to prevent product from entering the eyes.
Other protective equipment: An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required according to workplace standards.

*** STORAGE & HANDLING ***

Storage and handling conditions:
Handling: Wear appropriate chemically protective equipment. Use in a well ventilated area. Avoid inhaling vapours or fumes. Avoid contact with skin, eyes, and clothing. Avoid and control operations that create dusty atmospheres. Keep away from heat, sparks and flame. Ground all equipment during handling. Keep away from incompatible materials. Keep container tightly closed when not in use. Wash thoroughly after handling.
Storage: Store in a cool, dry, well-ventilated area away from incompatibles (refer to Section V), heat and flame. No smoking in the area. Inspect periodically for damage or leaks.

Special Shipping Information - Transportation of Dangerous Goods Regulations (TDGR): Refer to the supplier for shipping information.

SECTION IX - PREPARATION INFORMATION

Prepared by: G. F. Thompson Co. Ltd
Telephone No.: 905-898-2557
Preparation date: September 30, 2015

Additional notes or references:
Legend: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
RTECs: Registry of Toxic Effects of Chemical Substances
TLV: Threshold Limit Values
WHMIS: Workplace Hazardous Materials Information System

References: 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2005.
2. International Agency for Research on Cancer Monographs, searched 2006.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2006 (Chempendium and RTECs).
4. Material Safety Data Sheet from manufacturer.

SAFETY DATA SHEET (GHS)

Section 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product / Chemical Name:

Mastic Remover For Concrete - BEAN-e-doo®

Other Means Of Identification:

Carpet and tile glue remover.

Recommended Use Of The Product / Chemical And Restrictions On Use:

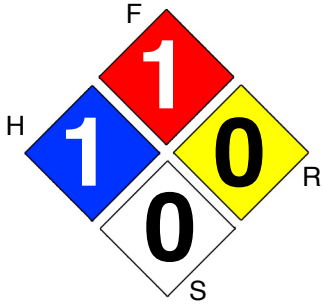
Removal of carpet and tile glue or adhesives on concrete.

Manufacturer / Company Information:

Franmar Chemical, Inc.
10282 E. 1400 North Rd.
Bloomington, IL 61705
1-800-538-5069 / 1-309-828-2900

For Chemical Emergency - Spill, Leak, Fire, Exposure, or Accident Call:

CHEMTREC Day or Night: Within USA and Canada: 1-800-424-9300
CCN717946 or +1 703-527-3887 (collect calls accepted)



Health: 1
Flammability: 1
Reactivity: 0
Special: 0

NFPA HAZARD RATING
4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

Section 2: HAZARD IDENTIFICATION

Classification Of Product / Chemical Mixture And Any National or Regional Information:

None known.

GHS Statements:

GHS Signal Word: WARNING

GHS Hazard Phrases: (H316) Causes mild skin irritation. (H320) Causes eye irritation. (H303) May be harmful if swallowed.

Other Hazards Which Do Not Result In Classification:

None known.

Section 3: COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Percent
Soy methyl ester	67784-80-9	80-90%
Proprietary, non-hazardous, non-regulated ethoxylated alcohol surfactant	trade secret	10-15%

Other Chemical Information:

Section 4: FIRST AID MEASURES

Necessary Measures For Routes Of Exposure:

Inhalation:
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin:
If skin irritation occurs, get medical advice/attention.

Eyes:
If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medial advice/attention.

Ingestion:
Rinse mouth. Call a doctor/physician if you feel unwell.

Important Symptoms/Effects, Acute and Delayed:

Specific data not available.

Immediate Medical Attention And Special Treatment Needed:

Specific data not available.

Section 5: FIRE FIGHTING MEASURES

Suitable (and unsuitable) Extinguishing Media:

CO2, Dry Chemical for small fires, foam for large fires, water spray

Hazards Arising From The Product/Chemical *(e.g., nature of any hazardous combustion products)*:

None known

Special Fire Fighting Procedures:

Use water spray to cool containers.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear protective clothing.

Environmental Precautions:

Specific data not available.

Methods and Materials for Containment and Cleaning Up:

Contain the spill and hold for disposal.

Section 7: HANDLING AND STORAGE

Precautions For Safe Handling:

Normal care in handling & storage.

Conditions For Safe Storage, Including Any Incompatibilities:

Specific data not available.

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters, e.g., Occupational Exposure Limit Values or Biological Limit Values:

Specific data not available.

Appropriate Engineering Controls:

Not required. Mechanical generally sufficient.

Individual Protective Measures, Such As Personal Protective Equipment:

Safety glasses, or chemical goggles.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.):	Light yellow, low viscosity liquid	**Flammability (solid, gas):**	None known.
Odor:	Mild odor	**Upper/Lower Flammability or Explosive Limits:**	
Odor Threshold:	Specific data not available.	**Vapor Pressure:**	< 2mm Hg at 20˚C
pH:	6.65	**Vapor Density:**	Estimated heavier than air.
Freezing / Melting Point:	below 32˚f	**Relative Density:**	7.3 lbs/gal (@25˚C)
Boiling Point and Boiling Range:	Over 300˚f	**Partition Coefficient (n-octanol/water):**	Specific data not available.
Flash Point:	Above 200˚f (PMcc)	**Autoignition Temperature:**	445˚C (833˚F)
Evaporation Rate:	Less than 1 (n-butyl acetate=1)	**Decomposition Temperature:**	Specific data not available.
Solubility:	Emulsifiable	**VOC:**	2.3% .06 lb/g 20 g/l

Section 10: STABILITY AND REACTIVITY

Chemical Stability:

Stable

Possibility Of Hazardous Reactions:

Will not occur.

Conditions To Avoid *(e.g., static discharge, shock or vibration)*:

Strong oxidizing agents.

Incompatible Materials:

Specific data not available.

Hazardous Decomposition Products:

Produces carbon monoxide and carbon dioxide on combustion.

Section 11: TOXICOLOGICAL INFORMATION

Information On The Likely Routes Of Exposure *(inhalation, ingestion, skin and eye contact)*:

SKIN: (H316) Causes mild skin irritation.
EYE: (H320) Causes eye irritation.
INGESTION: (303) May be harmful if swallowed.

Symptoms Related To The Physical, Chemical and Toxicological Characteristics:

Not listed by NTP, IARC, OSHA.

Delayed and Immediate Effects and Also Chronic Effects From Short- and Long-Term Exposure:

Specific data not available.

Numerical Measures Of Toxicity *(such as acute toxicity estimates)*:

Specific data not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity *(aquatic and terrestrial, where available)*:

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and Degradability:

Specific data not available on the degradability of this product.
Meets U.S. EPA 28 day half-life criteria.

Bioaccumulative Potential:

Meets U.S. EPA 28 day half-life criteria.

Mobility In Soil:

The product is immiscible with water and will spread on the water surface.

Other Adverse Effects:

Specific data not available.

Section 13: DISPOSAL CONSIDERATIONS

Description Of Waste Residues and Information On Their Safe Handling and Methods Of Disposal, Including The Disposal Of Any Contaminated Packaging:

Contaminated absorbent material may be disposed of in an approved landfill. Dispose of in accordance with all existing local, state, and federal ordinances.

Section 14: TRANSPORT INFORMATION

UN Number:

N/A, non-regulated

UN Proper Shipping Name:

Fatty acid ester

Transport Hazard Class(es):

NMFC (National Motor Freight Classification): Identification number 144920
Shipping Classification 65

Packing Group *(if applicable)*:

Specific data not available.

Marine Pollutant *(Yes/No)*:

Specific data not available.

Special Precautions Which User Needs To Be Aware Of / Or Comply With In Connection With Transport Or Conveyance Either Within Or Outside Their Premises:

Specific data not available.

Section 15: REGULATORY INFORMATION

SARA TITLE III (Superfund Amerndments and Reauthorization Act): N/A
Section 312 Extremely Hazardous Substance: None
Section 311/312 Hazard Categories: None
Section 313 Toxic Chemicals: None

Section 16: OTHER INFORMATION

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*

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **Date of compilation:** 19.09.2011
· **1.1 Product identifier**

· **Trade name: MB-ActiveCleaner**
· **1.2 Relevant identified uses of the substance or mixture and uses advised against** no data available

· **Application of the substance / the preparation:**
Cleaning material / Detergent
Toilet cleaner

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer / Supplier:**
URIMAT Schweiz AG Tel.: + 41 (0)55 251 52 30
Etzelstrasse 39 Fax: + 41 (0)55 251 52 31
CH-8634 Hombrechtikon
· **E-mail address of the competent person responsible for the Safety Data Sheet:** info@urimat.com

· **Informing department:** Sales / Technique
· **1.4 Emergency telephone number:**
Swiss Toxicological Information Center
Freiestrasse 16
CH - 8032 Zürich
Emergency Call : + 41 44 251 51 51 (from outside Switzerland)
Emergency Call : +145 (24h)
www.toxi.ch

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
The product is not classified as hazardous according to the CLP regulation.
· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Additional information:**
Safety data sheet available on request.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 67-63-0 EINECS: 200-661-7 Index number: 603-117-00-0	Propan-2-ol Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	1-5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

· **Ingredients according to Regulation (EC) No 648/2004:**	
anionic surfactants	< 5%
perfumes (LINALOOL), METHYLISOTHIAZOLINONE, METHYLCHLOROISOTHIAZOLINONE	

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SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:*** *Take off contaminated clothing.*
· ***After inhalation:*** *Supply fresh air; consult doctor in case of symptoms.*
· ***After skin contact:***
Rinse with plenty of water.
If skin irritation continues, consult a doctor.
· ***After eye contact:***
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
· ***After swallowing:***
Rinse out mouth and then drink plenty of water.
In case of persistent symptoms consult doctor.
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents***
Product does not burn - take extinguishing measures according to fire conditions.
· ***For safety reasons unsuitable extinguishing agents*** *none*
· ***5.2 Special hazards arising from the substance or mixture***
Sulphur oxides (SOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Wear self-contained breathing apparatus.*
· ***Additional information***
Cool endangered containers with water spray jet.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
If without risk possible, move drums with material away from dangerous area.

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Ensure adequate ventilation.
Danger of slipping on leaked/spilled product.
Do not breathe vapour.
Avoid contact with skin and eyes.
· ***6.2 Environmental precautions:***
Do not allow to enter drainage system, surface or ground water.
Do not allow large quantities of product to reach sewage system or water bodies.
· ***6.3 Methods and material for containment and cleaning up:***
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

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SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Avoid prolonged or repeated skin contact.
Avoid contact with eyes.
Make sure that all applicable workplace limits are observed.
· ***Information about protection against explosions and fires:***
The product forms flammable fumes when heated.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and containers:***
Observe all local and national regulations for storage of water polluting products.
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:***
Store container in a well ventilated position.
Protect from frost.
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
· ***7.3 Specific end use(s)*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***Additional information about design of technical systems:*** *No further data; see item 7.*

· ***8.1 Control parameters***

· ***Components with critical values that require monitoring at the workplace:***	
67-63-0 Propan-2-ol (1-5%)	
WEL (Great Britain)	*Short-term value: 1250 mg/m³, 500 ppm* *Long-term value: 999 mg/m³, 400 ppm*

· ***DNELs***		
67-63-0 Propan-2-ol		
Oral	*DNEL long-term exposure - systemic effects*	*26 mg/kg bw/d (general population)*
Dermal	*DNEL long-term exposure - systemic effects*	*319 mg/kg bw/d (general population)* *888 mg/kg bw/d (worker)*
Inhalative	*DNEL long-term exposure - systemic effects*	*89 mg/m³ (general population)* *500 mg/m³ (worker)*

· ***PNECs***	
67-63-0 Propan-2-ol	
PNEC	*140.9 mg/l (aqua (freshwater)) (Assessment factor 1)* *140.9 mg/l (aqua (intermittent releases)) (Assessment factor 1)* *140.9 mg/l (aqua (marine water)) (Assessment factor 1)* *552 mg/kg (sediment (freshwater))* *552 mg/kg (sediment (marine water))* *28 mg/kg (soil)* *2251 mg/l (STP (sewage treatment plant)) (Assessment factor 1)*

· ***Additional information:*** *The lists that were valid during the compilation were used as basis.*

· ***8.2 Exposure controls***
· ***Personal protective equipment***
· ***General protective and hygienic measures***
Avoid close or long term contact with the skin.

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Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
Use skin protection cream for preventive skin protection.
Do not inhale gases / fumes / aerosols.
Do not eat, drink or smoke while working.

· ***Breathing equipment:***
If all workplace limits are observed and good ventilation is ensured, no special precautions necessary.

· ***Protection of hands:***
Protective gloves
Sensibilisation by the components in the glove materials is possible.
To avoid skin problems reduce the wearing of gloves to the required minimum.
Check the permeability prior to each renewed use of the glove.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· ***Penetration time of glove material***
Penetration time: ≥ 8 hours
Protective gloves should be replaced at first signs of wear.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· ***Eye protection:*** *Safety glasses with side-shields (frame goggles) (e.g. EN 166)*

· ***Body protection:*** *Body protection must be chosen depending on activity and possible exposure.*

· ***Limitation and supervision of exposure into the environment***
Do not allow to enter drainage system, surface or ground water.

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*liquid*
Colour:	*red*
· ***Smell:***	*fresh*
· ***Odour threshold:***	*not determined*
· ***pH-value at 20 °C:***	*± 5.6*
· ***Change in condition***	
Melting point/Melting range:	*not determined*
Boiling point/Boiling range:	*not determined*
· ***Flash point:***	*> 100 °C*
· ***Inflammability (solid, gaseous)***	*not applicable*
· ***Ignition temperature:***	
Decomposition temperature:	*Not determined.*
· ***Self-inflammability:***	*Product is not selfigniting.*
· ***Danger of explosion:***	*Product is not explosive.*

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· **Critical values for explosion:**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidising properties**	not classified as oxidising
· **Vapor pressure:**	Not determined.
· **Density at 20 °C:**	± 0.98 g/cm³
· **Relative density**	Not determined.
· **Vapour density (AIR = 1):**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	fully miscible
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
dynamic:	not determined
kinematic:	not determined
· **9.2 Other information**	Further informations please refer to technical data sheet.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** see 10.3
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** Sunlight
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** Strong oxidizing agents
· **10.6 Hazardous decomposition products:**
Sulphur oxides (SOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
According to present knowledge no CMR-effects known.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.

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· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) N° 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Water hazard class 1 (Self-assessment): slightly hazardous for water
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Disposal must be made according to official regulations.
· **European waste catalogue:**
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

· **Uncleaned packagings:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN-Number** · **ADR, IMDG, IATA**	Void
· **14.2 UN proper shipping name** · **ADR, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)** · **ADR, IMDG, IATA** · **Class**	Void
· **14.4 Packing group** · **ADR, IMDG, IATA**	Void
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations**

· **Decree to be applied in case of technical fault:** Directive 2012/18/EU does not apply.

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Trade name: MB-ActiveCleaner

(Contd. of page 6)

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Reasons for changes:**
The Material Safety Data Sheet has been revised. Changes in the respective chapters are characterized in the left side edge by *.

· **Relevant phrases**
The(se) H-statement(s) are those of the ingredient(s) and do(es) NOT represent the classification of the preparation/mixture.
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

· **Department issuing SDS:**
C.S.B. GmbH Phone: +49 - 2151 - 652086-0
Düsseldorfer Str. 113 Fax: +49 - 2151 - 652086-9
47809 Krefeld / Germany

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources:** These data are based on information submitted by pre-suppliers.

· ***** Data compared to the previous version altered.**

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according to 1907/2006/EC, Article 31

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*

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **Date of compilation:** *14.09.2011*
· **1.1 Product identifier**

· **Trade name: MB ActiveCube**
· **1.2 Relevant identified uses of the substance or mixture and uses advised against** *no data available*

· **Application of the substance / the preparation:** *Toilet rim block*

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer / Supplier:**
URIMAT Schweiz AG *Tel.: + 41 (0)55 251 52 30*
Etzelstrasse 39 *Fax: + 41 (0)55 251 52 31*
CH-8634 Hombrechtikon
· **E-mail address of the competent person responsible for the Safety Data Sheet:** *info@urimat.com*

· **Informing department:** *Sales / Technique*
· **1.4 Emergency telephone number:**
Swiss Toxicological Information Center
Freiestrasse 16
CH - 8032 Zürich
Emergency Call : + 41 44 251 51 51 (from outside Switzerland)
Emergency Call : +145 (24h)
www.toxi.ch

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

GHS05 corrosion

Eye Dam. 1 *H318 Causes serious eye damage.*

GHS07

Skin Irrit. 2 *H315 Causes skin irritation.*
Skin Sens. 1 *H317 May cause an allergic skin reaction.*

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS05 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**
Alkyl(C10-C13)benzenesulfonic acid, sodium salt
D-Limonene
Coconut fatty acid, monoethanolamide
Linalool
Subtilisin
· **Hazard statements**
H315 Causes skin irritation.

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Trade name: MB ActiveCube

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H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P102	Keep out of reach of children.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 68411-30-3 EINECS: 270-115-0	Alkyl(C10-C13)benzenesulfonic acid, sodium salt Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315	25 - 50%
CAS: 68140-00-1 EINECS: 268-770-2	Coconut fatty acid, monoethanolamide Eye Dam. 1, H318	2.5-<10%
CAS: 5989-27-5 EINECS: 227-813-5 Index number: 601-029-00-7	D-Limonene Flam. Liq. 3, H226; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317	≤2.5%
CAS: 9014-01-1 EINECS: 232-752-2 Index number: 647-012-00-8	Subtilisin Resp. Sens. 1, H334; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	≤2.5%
CAS: 78-70-6 EINECS: 201-134-4	Linalool Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	≤2.5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

· **Ingredients according to Regulation (EC) No 648/2004:**	
anionic surfactants	≥ 30%
non-ionic surfactants	< 5%
perfumes (D-LIMONENE, LINALOOL), enzymes	

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Take off contaminated clothing.
· **After inhalation:**
Unlikely route of exposure.
In case of unconsciousness bring patient into stable side position for transport.
· **After skin contact:**
Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

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Trade name: MB ActiveCube

(Contd. of page 2)

· ***After eye contact:***
Rinse opened eye for several minutes under running water.
Use eye protection.
Remove contact lenses, if present and easy to do.
Call a doctor immediately.
· ***After swallowing:***
Rinse out mouth and then drink plenty of water.
Instantly call for doctor.
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed*** *symptomatic treatment*

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents***
Carbon dioxide (CO_2), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.
· ***For safety reasons unsuitable extinguishing agents*** *Water with a full water jet.*
· ***5.2 Special hazards arising from the substance or mixture***
Carbon monoxide (CO) and Carbon dioxide (CO_2)
Formation of toxic gases is possible during heating or in case of fire.
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Wear self-contained breathing apparatus.*

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Ensure adequate ventilation.
Avoid contact with skin and eyes.
· ***6.2 Environmental precautions:***
Do not allow to enter drainage system, surface or ground water.
Do not allow large quantities of product to reach sewage system or water bodies.
Inform respective authorities in case of a large amount of product reaches water or sewage system.
Inform respective authorities in case product reaches water or sewage system.
· ***6.3 Methods and material for containment and cleaning up:***
Ensure adequate ventilation.
Collect mechanically.
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.
Wash area with plenty of water.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Avoid contact with skin and eyes.
· ***Information about protection against explosions and fires:*** *No special measures required.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and containers:***
Observe all local and national regulations for storage of water polluting products.

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· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:**
Store container in a well ventilated position.
Store in cool, dry conditions in well sealed containers.
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **8.1 Control parameters**
· **Components with critical values that require monitoring at the workplace:**
Observe all workplace limits for dust.

76-22-2 Camphor (< 1.0%)	
WEL (Great Britain)	Short-term value: 19 mg/m³, 3 ppm Long-term value: 13 mg/m³, 2 ppm

· **DNELs**

68411-30-3 Alkyl(C10-C13)benzenesulfonic acid, sodium salt		
Oral	DNEL long-term exposure - systemic effects	0.85 mg/kg bw/d (general population)
Dermal	DNEL long-term exposure - systemic effects	85 mg/kg bw/d (general population)
		170 mg/kg bw/d (worker)
Inhalative	DNEL long-term exposure - systemic effects	3 mg/m³ (general population)
		12 mg/m³ (worker)

· **PNECs**

68411-30-3 Alkyl(C10-C13)benzenesulfonic acid, sodium salt	
PNEC	0.268 mg/l (aqua (freshwater)) (Assessment factor 1)
	0.0167 mg/l (aqua (intermittent releases)) (Assessment factor 100)
	0.0268 mg/l (aqua (marine water)) (Assessment factor 10)
	8.1 mg/kg (sediment (freshwater)) (Assessment factor 10)
	8.1 mg/kg (sediment (marine water)) (Assessment factor 10)
	35 mg/kg (soil)
	3.43 mg/l (STP (sewage treatment plant)) (Assessment factor 10)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
Instantly remove any contaminated garments.
Avoid contact with the eyes and skin.
Wash hands during breaks and at the end of the work.
Use skin protection cream for preventive skin protection.
Do not eat, drink or smoke while working.
Keep away from foodstuffs, beverages and food.
· **Breathing equipment:** Use breathing protection in case of dust formation.
· **Protection of hands:**
Protective gloves
Use protective gloves on prolonged contact.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Check the permeability prior to each renewed use of the glove.
To avoid skin problems reduce the wearing of gloves to the required minimum.

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Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
Penetration time: ≥ 8 hours
Protective gloves should be replaced at first signs of wear.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** *Tightly sealed safety glasses*

· **Body protection:**
Protective work clothing
Body protection must be chosen depending on activity and possible exposure.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	*solid*
Colour:	*blue*
· **Smell:**	*product specific*
· **Odour threshold:**	*not determined*
· **pH-value:**	*> 11*
· **Change in condition**	
Melting point/Melting range:	*not determined*
Boiling point/Boiling range:	*not applicable*
· **Flash point:**	*not applicable*
· **Inflammability (solid, gaseous)**	*Not determined.*
· **Ignition temperature:**	
Decomposition temperature:	*Not determined.*
· **Self-inflammability:**	*Product is not selfigniting.*
· **Danger of explosion:**	*Product is not explosive.*
· **Critical values for explosion:**	
Lower:	*Not determined.*
Upper:	*Not determined.*
· **Oxidising properties**	*not classified as oxidising*
· **Vapor pressure:**	*Not applicable.*
· **Density:**	*not determined*
· **Relative density**	*Not determined.*
· **Vapour density (AIR = 1):**	*Not applicable.*
· **Evaporation rate**	*Not applicable.*
· **Solubility in / Miscibility with**	
Water:	*not determined*
· **Partition coefficient (n-octanol/water):**	*Not determined.*

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Trade name: MB ActiveCube

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· **Viscosity:**
dynamic: Not applicable.
kinematic: Not applicable.
· **9.2 Other information** Further informations please refer to technical data sheet.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** see 10.3
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:**
Alkaline materials
Strong acids
Strong oxidizing agents
· **10.6 Hazardous decomposition products:**
Sulphur oxides (SOx)
Nitrogen oxides (NOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)
Poisonous gases/vapours

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**		
68411-30-3 Alkyl(C10-C13)benzenesulfonic acid, sodium salt		
Oral	LD50	1080 mg/kg (rat) (OECD Guideline 401 (Acute Oral Toxicity)) ECHA Dossier 18 May 2015
9014-01-1 Subtilisin		
Oral	LD50	2000 mg/kg (rat)
78-70-6 Linalool		
Oral	LD50	> 2000 mg/kg (rat)
Dermal	LD50	5610 mg/kg (rabbit)

· **Primary irritant effect:**
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye damage.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of Regulation (EC) No. 1272/2008 (CLP/GHS):
Eye Dam. 1
Skin Sens. 1
Skin Irrit. 2
· **Sensitisation** Contains sensitising substances. May produce an allergic reaction.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.

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Trade name: MB ActiveCube

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· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
68411-30-3 Alkyl(C10-C13)benzenesulfonic acid, sodium salt	
EC50/48 h	1 - 10 mg/l (water flea (daphnia magna))
EC50/72 h	10 - 100 mg/l (algae (Scenedesmus subspicatus))
LC50/96 h	1 - 10 mg/l (carp (cyprinus carpio))
5989-27-5 D-Limonene	
EC50/48 h	0.48 mg/l (water flea (daphnia magna))
LC50/96 h	0.70 mg/l (fathead minnow (pimephales promelas))
9014-01-1 Subtilisin	
EC50/48 h	1.4 mg/l (daphnia)

· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) N° 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
Harmful to aquatic organisms
Water hazard class 2 (Self-assessment): hazardous for water
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Disposal must be made according to official regulations.
· **European waste catalogue:**
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**
· **ADR, IMDG, IATA** Void

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Safety data sheet
according to 1907/2006/EC, Article 31

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Trade name: MB ActiveCube

(Contd. of page 7)

· **14.2 UN proper shipping name** · **ADR, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)** · **ADR, IMDG, IATA** · **Class**	Void
· **14.4 Packing group** · **ADR, IMDG, IATA**	Void
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations**

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

· **Decree to be applied in case of technical fault:** Directive 2012/18/EU does not apply.

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Reasons for changes:**
The Material Safety Data Sheet has been revised. Changes in the respective chapters are characterized in the left side edge by *.

· **Relevant phrases**
The(se) H-phrase(s) are those of the ingredient(s) and do(es) not necessarily represent the classification of the product.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

· **Department issuing SDS:**
C.S.B. GmbH Phone: +49 - 2151 - 652086-0
Düsseldorfer Str. 113 Fax: +49 - 2151 - 652086-9
47809 Krefeld / Germany

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Trade name: MB ActiveCube

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· ***Abbreviations and acronyms:***
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· ***Sources:*** *These data are based on information submitted by pre-suppliers.*

· **** Data compared to the previous version altered.***

Safety Data Sheet

1. Identification

Product Information W.20396

Product Name: Mediclean® Disinfectant Spray II

Recommended Use Disinfectant - Canadian DIN # 02486342

Uses advised against Professional Use Only

Supplier

Legend Brands
ProRestore Products
15180 Josh Wilson Road
Burlington, WA 98233
E-Mail: sds@legendbrands.com
800-932-3030

Legend Brands
4520 Eastgate Parkway
Mississauga, ON L4W 3W6
800-932-3030

Emergency telephone number INFOTRAC 1-800-535-5053 (North America)
1-352-323-3500 (International)

2. Hazards Identification

Classification in accordance with the Workplace Hazardous Materials Information System (WHMIS) 2015 based on the Hazardous Products Regulations (HPR).

Flam. Liq. 3

GHS Pictograms

Signal Word

Warning

Unknown Acute Toxicity

< 1% of the mixture consists of ingredient(s) of unknown toxicity

HAZARD STATEMENTS

Flammable liquid and vapor.

Precautionary Statements - Prevention

Keep away from heat. - No smoking.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.

Take precautionary measures against static discharge.
Wear eye protection/ face protection.

Precautionary Statements - Response

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of fire: Use carbon dioxide to extinguish.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/ container to an approved waste disposal plant.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	HMIRA
Isopropyl alcohol	67-63-0	3-7	
Diisobutylphenoxyethoxyethyl dimethyl	121-54-0	0.1-1.0	
o-phenyl phenol	90-43-7	0.1-1.0	

4. First-aid Measures

Description of first-aid measures

General advice

Call a physician if irritation develops or persists.

Inhalation

Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. Immediate medical attention is required.

Skin contact

If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Remove all contaminated clothes and shoes. If symptoms persist, call a physicianMay cause slight irritation. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. If symptoms persist, call a doctor. Show this safety data sheet to the doctor in attendance.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If symptoms persist, call a physicianCall a physician if irritation develops or persists. Remove contact lenses, if present.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physicianCall a physician immediately. Gently wipe or rinse the inside of the mouth with water.

Symptoms

See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

Notes to physician

Treat symptomatically.

5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media

Water spray. Foam. Dry powder. Dry chemical. Alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Carbon dioxide (CO2).

Extinguishing media which shall not be used for safety reasons

High volume water jet.

Special hazards arising from the substance or mixture

Flash back possible over considerable distance. Hazardous decomposition products formed under fire conditions.

Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas. Do not breathe vapors or spray mist.

Advice for emergency responders

Remove all sources of ignition. Use personal protection recommended in Section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. See Section 12 for additional Ecological information.

Methods and materials for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labeled containers. Use personal protective equipment. Remove all sources of ignition.

Methods for cleaning up

Use personal protective equipment as required.

Reference to other sections

See section 8 for more information

7. Handling and Storage

Conditions for safe storage, including any incompatibilities

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Keep away from sources of ignition - No smoking.

Hygiene measures

See section 7 for more information.

Storage Conditions

Keep containers tightly closed in a cool, well-ventilated place. Store in original container.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Isopropyl alcohol	200 ppm	400 ppm	400 ppm	N.E.

TLV = Threshold Limit Value TWA = Time Weighted Average PEL = Permissible Exposure Limit STEL = Short-Term Exposure Limit N.E. = Not Established

Engineering Measures

Showers, eyewash stations, and ventilation systems.

Personal protective equipment

Eye/Face Protection

Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene measures

See section 7 for more information.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Milky
Color	Transparent
Odor	Mint
Odor Threshold	No Information
pH	9.0
Melting/freezing point, °C (°F)	No Information
Flash Point, °C (°F)	39 (102.2)
Boiling point/boiling range, °C (°F)	100 - 302 (212 - 575.6)
Evaporation rate	No Information Available
Explosive properties	No Information
Vapor pressure	No Information
Vapor density	No Information
Specific Gravity (g/cm^3)	1.007
Water solubility	No Information
Partition coefficient	No Information
Autoignition temperature,°C	No Information
Decomposition Temperature °C	No Information
Viscosity, kinematic	No Information

Other information

Volatile organic compounds (VOC) content	8%
Density, lb/gal	No Information

10. Stability and Reactivity

Reactivity

Stable under normal conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None known based on information supplied

Conditions to Avoid

Direct sources of heat. Strong oxidizing agents

Incompatible Materials

None known based on information supplied

Hazardous Decomposition Products

Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Product Information

No Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (dermal) 49,161.000000 mg/kg

Component Information

CAS-No.	Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
67-63-0	Isopropyl alcohol	5840 mg/kg (Rat)	13,900 mg/kg (Rabbit)	N.I.
121-54-0	Diisobutylphenoxyethoxyethyl dimethyl	295 mg/kg Rat	N.I.	N.I.
90-43-7	o-phenyl phenol	2000 mg/kg Rat	>2000 mg/kg Rat	N.I.

N.I. = No Information

Skin corrosion/irritation.

SKIN IRRITANT

Eye damage/irritation.

No Information

Respiratory or skin sensitization

No Information

Ingestion.

No Information

Germ cell mutagenicity.

Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physicianWhen symptoms persist or in all cases of doubt seek medical advice

Carcinogenicity.

No Information

CAS-No.	Chemical Name	IARC	NTP	OSHA
67-63-0	Isopropyl alcohol	Group 3	-	-

Reproductive toxicity

No Information

Specific target organ systemic toxicity (single exposure).

No Information

Specific target organ systemic toxicity (repeated exposure).

No Information

Aspiration hazard.

No Information

Primary Route(s) of Entry

No Information

12. Ecological Information

Toxicity

0.71000 % of mixture consists of components of unknown hazards to the aquatic environment.

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Isopropyl alcohol 67-63-0	EC50 96 h Desmodesmus subspicatus >1000 mg/L, EC50 72 h Desmodesmus subspicatus >1000 mg/L	LC50 96 h Pimephales promelas 9640 mg/L, LC50 96 h Pimephales promelas 11130 mg/L, LC50 96 h Lepomis macrochirus >1400000 µg/L	EC50 48 h Daphnia magna 13299 mg/L

o-phenyl phenol 90-43-7	EC50 72 h Desmodesmus subspicatus 0.85 mg/L	LC50 96 h Pimephales promelas 3.4 mg/L, LC50 96 h Lepomis macrochirus 2.74 mg/L, LC50 96 h Oncorhynchus mykiss 2.75 mg/L, LC50 96 h Poecilia reticulata 5.8 mg/L	EC50 48 h Daphnia magna 1 - 2.5 mg/L

Persistence and degradability

No data are available on the product itself.

Bioaccumulative potential

Discharge into the environment must be avoided.

CAS-No.	Chemical Name	log POW
67-63-0	Isopropyl alcohol	0.05
90-43-7	o-phenyl phenol	3.18

Mobility in soil

No information

Other adverse effects

No information

13. Disposal Considerations

Waste Disposal Guidance

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transport Information

DOT

Shipping Name: Not regulated (If shipped in NON-BULK packaging by ground transport.)
Packing Group: III

IMDG -

Proper Shipping Name: LIMITED QUANTITY
FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL)
Hazard Class: 3
UN Number: 1993
Packing Group: III

IATA Air transport is not recommended.

15. Regulatory Information

International Inventories:

TSCA	Complies
DSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	Complies
KECI	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

TSCA	United States Toxic Substances Control Act Section 8(b) Inventory
DSL	Canadian Domestic Substances List
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS	Japan Existing and New Chemical Substances
IECSC	China Inventory of Existing Chemical Substances
KECL	Korean Existing and Evaluated Chemical Substances
PICCS	Philippines Inventory of Chemicals and Chemical Substances
AICS	Australian Inventory of Chemical Substances
NZIoC	New Zealand Inventory of Chemicals
TCSI	Taiwan Chemical Substance Inventory

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class B2

16. Other Information

Revision Date: 2/25/2019 **Supersedes Date:** New SDS

Reason for revision: No Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	0	**Flammability:**	2	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA Ratings:

Health:	0	**Flammability:**	2	**Instability:**	0	**Physical & Chemical:**	-

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product where instructions and recommendations are not followed.

SAFETY DATA SHEET

Revision Date 18-Oct-2016 **Version** 9

1. IDENTIFICATION

Product identifier
Product Name MEDIUM STRENGTH THREADLOCKER BLUE 6 ML

Other means of identification
Product Code 24200
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Adhesive
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufactured and Distributed by:
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

May Also Be Distributed by:
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839
24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Warning

Causes skin irritation
Causes serious eye irritation
May cause damage to organs through prolonged or repeated exposure

Appearance Blue **Physical state** Liquid **Odor** Mild

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
POLYGLYCOL DIMETHACRYLATE	25852-47-5	40 - 70	*
DIMETHYLBENZYL HYDROPEROXIDE	80-15-9	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents, Peroxides, Reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .
NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Blue
Odor	Mild
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 149 °C / >300 °F	
Flash point	> 93 °C / > 200 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	1.00-1.15	
Water solubility	Insoluble	

Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	<3%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents, Peroxides, Reducing agents

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure if inhaled.
Eye contact	Irritating to eyes. May cause redness and tearing of the eyes.
Skin contact	Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause irritation to mucous membranes.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	= 382 mg/kg (Rat)	= 0.126 mL/kg (Rabbit)	= 220 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	18864 mg/kg
ATEmix (dermal)	54321 mg/kg
ATEmix (inhalation-dust/mist)	24.7 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

0.376 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT
Proper shipping name: Not regulated

IATA
Proper shipping name: Not regulated

IMDG

Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not determined
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
DIMETHYLBENZYL HYDROPEROXIDE - 80-15-9	1.0
SACCHARIN - 81-07-2	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
TITANIUM DIOXIDE - 13463-67-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	X	X	X
SACCHARIN 81-07-2	X	X	X
PROPYLENE GLYCOL 57-55-6	X	-	X
TITANIUM DIOXIDE 13463-67-7	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 18-Oct-2016

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

This Safety Data Sheet (SDS) is for welding consumables and related products and may be used to comply with OSHA's Hazard Communication standard, 29 CFR 1910.1200, and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499 and Canadian Workplace Hazardous Materials Information System (WHMIS) per Health Canada administrative policy. The OSHA standard must be consulted for specific requirements. This Safety Data Sheet complies with ISO 11014-1 and ANSI Z400.1. This document is translated in several languages and is available on our website at www.hobartbrothers.com, from your sales representative or by calling customer service at 1 (937) 332-4000.

SECTION 1 – IDENTIFICATION

Manufacturer/Supplier
Name: HOBART BROTHERS COMPANY
Address: 101 TRADE SQUARE EAST, TROY, OH 45373
Website: www.hobartbrothers.com

Telephone No: +1 (937) 332-4000
Emergency No: +1 (800) 424-9300

Product Type: GAS METAL ARC WELDING (GMAW) SOLID WIRE; SUBMERGED ARC WELDING (SAW) SOLID WIRE

AWS Specification: ER70S-2, ER70S-3, ER70S-6, AND ER80S-D2; EM-12, EM-12K, EM-13K, EH-12K AND EA-2

Recommended Use: GAS METAL ARC WELDING (GMAW) SOLID WIRE; SUBMERGED ARC WELDING (SAW) SOLID WIRE
Restrictions on Use: Use only as indicated for welding operations

SECTION 2 – IDENTIFICATION OF HAZARDS

HAZARD CLASSIFICATION – The products described in Section 1 are not classified as hazardous according to applicable GHS hazard classification criteria as required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200).

LABEL ELEMENTS: **Hazard Symbol** – No symbol required
Hazard Statement – Not applicable
Signal Word – No signal word required
Precautionary Statement – Not Applicable

HAZARDS NOT OTHERWISE CLASSIFIED

WARNING! - Avoid breathing welding fumes and gases, they may be dangerous to your health. Always use adequate ventilation. Always use appropriate personal protective equipment.
PRIMARY ROUTES OF ENTRY: Respiratory System, Eyes and/or Skin.
ELECTRIC SHOCK: Arc welding and associated processes can kill. See Section 8.
ARC RAYS: The welding arc can injure eyes and burn skin.
FUMES AND GASES: Can be dangerous to your health.

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures and electrodes used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation, plus those from the base metal and coating, etc., of the materials shown in Section 3 of this Safety Data Sheet. Monitor for the component materials identified in the list in Section 3.

Fumes from the use of this product may contain complex oxides or compounds of the following elements and molecules: amorphous silica fume, copper, manganese and zirconium. Other reasonably expected constituents of the fume would also include complex oxides of iron, titanium, silicon, and molybdenum. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 and F1.3, available from the "American Welding Society", 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353. Also, from AWS is F1.3 "Evaluating Contaminants in the Welding Environment - A Sampling Strategy Guide", which gives additional advice on sampling.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

IMPORTANT - This section covers the hazardous materials from which this product is manufactured. This data has been classified according to the criteria of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) as required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200). The fumes and gases produced during welding with normal use of this product are addressed in Section 8.

INGREDIENT	CAS NO.	EINECS[r]	% WEIGHT	GHS Classification(s)	GHS HAZARD STATEMENTS (See Section 16 for Complete Phrases)
ALUMINUM[(1)]	7429-90-5	231-072-3	0-0.1	**Powder (pyrophoric):** **- Pyr. Sol. 1[(2)]** **- Water-react. 2[(3)]** **Powder (Stabilized):** **- Flam. Sol. 1[(4)]** **- Water-react. 2[(3)]**	**H250** **H261** **H228** **H261**
COPPER[(5)]	7440-50-8	231-159-6	0.1-5	**NONE**	
IRON	7439-89-6	231-096-4	80-90	**NONE**	
MANGANESE	7439-96-5	231-105-1	0.1-10	**- Acute Tox. 4 (Inhalation)[(6)]** **- Acute Tox 4 (Oral)[(6)]** **- STOT RE 1[(8)]**	**H332** **H302** **H372**

SAFETY DATA SHEET

INGREDIENT	CAS NO.	EINECS[Γ]	% WEIGHT	GHS Classification(s)	GHS HAZARD STATEMENTS (See Section 16 for Complete Phrases)
MOLYBDENUM[(7)]	7439-98-7	231-107-2	0.1-1.9	- **STOT RE 2**[(8)] - **Eye Irrit. 2**[(9)] - **STOT SE 3**[(10)]	**H373** **H319** **H335**
(Amorphous Silica Fume)	69012-64-2	273-761-1	---	**NONE**	
SILICON	7440-21-3	231-130-8	0.1-5	**NONE**	
TITANIUM[(1)]	7440-32-6	231-142-3	0-0.2	**NONE**	
TITANIUM DIOXIDE [Fume constituent]	13463-67-7	236-675-5	Varies	- **Carc. 2**[(11)]	**H351**
ZIRCONIUM[(1)]	7440-67-7	231-176-9	0-0.1	- **Pyr. Sol. 1**[(2)] - **Water-react. 1**[(3)]	**H250** **H260**

--- Dashes indicate the ingredient is not present within the group of products **Γ** – European Inventory of Existing Chemical Substance Number **(1)** Present only in ER70S-2 **(2)** Pyrophoric solid (Category 1) **(3)** Substance or mixture which in contact with water emits flammable gases (Cat. 1, 2 and 3) **(4)** Flammable solid (Cat. 1 and 2) **(5)** Copper, if contained in the product, is clearly visible and only present as a surface coating **(6)** Acute toxicity (Cat. 1, 2, 3 and 4) **(7)** Present only in ER80S-D2 and EA-2 **(8)** Specific target organ toxicity (STOT) – repeated exposure (Cat. 1 and 2) **(9)** Serious eye damage/eye irritation (Cat. 1 and 2) **(10)** Specific target organ toxicity (STOT) – single exposure ((Cat. 1, 2) and Cat. 3 for narcotic effects and respiratory tract irritation, only) **(11)** Carcinogenicity (Cat. 1A, 1B and 2)

SECTION 4 – FIRST AID MEASURES

INGESTION: Not an expected route of exposure. Do not eat, drink, or smoke while welding; wash hands thoroughly before performing these activities. If symptoms develop, seek medical attention at once.
INHALATION during welding: If breathing is difficult, provide fresh air and contact physician. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.
SKIN CONTACT during welding: Remove contaminated clothing and wash the skin thoroughly with soap and water. If symptoms develop, seek medical attention at once.
EYE CONTACT during welding: Dust or fume from this product should be flushed from the eyes with copious amounts of clean, tepid water until victim is transported to an emergency medical facility. Do not allow victim to rub or keep eyes tightly closed. Obtain medical assistance at once.
Arc rays can injure eyes. If exposed to arc rays, move victim to dark room, remove contact lenses as necessary for treatment, cover eyes with a padded dressing and rest. Obtain medical assistance if symptoms persist.

Section 11 of this SDS covers the acute effects of overexposure to the various ingredients within the welding consumable. Section 8 of this SDS lists the exposure limits and covers methods for protecting yourself and your co-workers.

SECTION 5 – FIRE-FIGHTING MEASURES

Fire Hazards: Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded.

Welding arcs and sparks can ignite combustibles and flammable products. If there are flammable materials, including fuel or hydraulic lines, in the work area and the worker cannot move the work or the flammable material, a fire-resistant shield such as a piece of sheet metal or fire resistant blanket should be placed over the flammable material. If welding work is conducted within 35 feet or so of flammable materials, station a responsible person in the work zone to act as fire watcher to observe where sparks are flying and to grab an extinguisher or sound the alarm if needed.
Unused welding consumables may remain hot for a period of time after completion of a welding process. See American National Standard Institute (ANSI) Z49.1 for further general safety information on the use and handling of welding consumables and associated procedures.
Suitable Extinguishing Media: This product, as shipped, is essentially nonhazardous until welded; therefore, use a suitable extinguishing agent for a surrounding fire.
Unsuitable Extinguishing Media: None known.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

In the case of a release of solid welding consumable products, solid objects can be picked up and placed into a disposal container. If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Refer to recommendations in Section 8. Wear proper personal protective equipment while handling. Do not discard as general trash.

SECTION 7 - HANDLING AND STORAGE

HANDLING: No specific requirements in the form supplied. Handle with care to avoid cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and product labels.
STORAGE: Keep separate from acids and strong bases to prevent possible chemical reactions.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Read and understand the instructions and the labels on the packaging. Welding fumes do not have a specific OSHA PEL (Permissible Exposure Limit) or ACGIH TLV (Threshold Limit Value). The OSHA PEL for Particulates – Not Otherwise Regulated (PNOR) is 5 mg/m^3 – Respirable Fraction, 15 mg/m^3 – Total Dust. The ACGIH TLV for Particles – Not Otherwise Specified (PNOS) is 3 mg/m^3 – Respirable Particles, 10 mg/m^3 – Inhalable Particles. The individual complex compounds within the fume may have a lower OSHA PEL or ACGIH TLV than the OSHA PNOR and ACGIH PNOS. An Industrial Hygienist, the OSHA PELs for Air Contaminants (29 CFR 1910.1000), and the ACGIH TLVs should be consulted to determine the specific fume constituents present and their respective exposure limits. All exposure limits are in milligrams per cubic meter (mg/m^3).

INGREDIENT	CAS	EINECS	OSHA PEL	ACGIH TLV
ALUMINUM###	7429-90-5	231-072-3	5 R*, 15 (Dust)	1 R* {A4} 5 (Welding fumes, as Al)
COPPER	7440-50-8	231-159-6	0.1 (Fume), 1 (Dust)	0.2 (Fume), 1 (Dust)
IRON+	7439-89-6	231-096-4	5 R*	5 R* (Fe_2O_3) {A4}
IRON OXIDE	1309-37-1	215-168-2	10 (Oxide Fume)	5 R* (Fe_2O_3) {A4}
MANGANESE#	7439-96-5	231-105-1	5 CL ** (Fume) 1, 3 STEL*** ■	0.1 I* {A4} ♦ 0.02 R* ♦♦

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MOLYBDENUM	7439-98-7	231-107-2	5 R*	3 R*; 10 I* (Ele and Insol) 0.5 R* (Sol Cpnds) {A3}
(Amorphous Silica Fume)	69012-64-2	273-761-1	0.8	2 R*
SILICON+	7440-21-3	231-130-8	5 R*	3 R*
TITANIUM+	7440-32-6	231-142-3	5 R*	3 R*
TITANIUM DIOXIDE	13463-67-7	236-675-5	15 (Dust)	10 {A4}
ZIRCONIUM	7440-67-7	231-176-9	5 (Zr Cpnds) 5, 10 STEL***■(Zr Cpnds)	5, 10 STEL*** (Zr Cpnds) {A4}

R* - Respirable Fraction I* - Inhalable Fraction ** - Ceiling Limit *** - Short Term Exposure Limit + - As a nuisance particulate covered under "Particulates Not Otherwise Regulated" by OSHA or "Particulates Not Otherwise Classified" by ACGIH ++ - Crystalline silica is bound within the product as it exists in the package. However, research indicates silica is present in welding fume in the amorphous (noncrystalline) form #- Reportable material under Section 313 of SARA ### - Reportable material under Section 313 of SARA as dust or fume ■ - NIOSH REL TWA and STEL ■ ■ - AIHA Ceiling Limit of 1 mg/m^3 ♦ - Limit of 0.1 mg/m^3 is for Inhalable Mn in 2015 by ACGIH ♦♦ - Limit of 0.02 mg/m^3 is for Respirable Mn in 2015 by ACGIH Ele – Element Sol – Soluble Insol – Insoluble Inorg – Inorganic Cpnds – Compounds NOS – Not Otherwise Specified {A1} - Confirmed Human Carcinogen per ACGIH {A2} - Suspected Human Carcinogen per ACGIH {A3} - Confirmed Animal Carcinogen with Unknown Relevance to Humans per ACGIH {A4} - Not Classifiable as a Human Carcinogen per ACGIH {A5} - Not Suspected as a Human Carcinogen per ACGIH (noncrystalline form) EINECS – European Inventory of Existing Commercial Chemical Substances OSHA – U.S. Occupational Safety and Health Admininstration ACGIH – American Conference of Governmental Industrial Hygienists

VENTILATION: Use enough ventilation or local exhaust at the arc or both to keep the fumes and gases below the PEL/TLV in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.
RESPIRATORY PROTECTION: Use NIOSH approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below the regulatory limits.
EYE PROTECTION: Wear helmet or use face shield with filter lens for open arc welding processes. As a rule of thumb begin with Shade Number 14. Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to shield others from the weld arc flash.
PROTECTIVE CLOTHING: Wear hand, head and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark non-synthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.
PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: Not applicable
SPECIAL PRECAUTIONS (IMPORTANT): When welding with electrodes that require special ventilation (such as stainless or hard facing, or other products which require special ventilation, or on lead- or cadmium-plated steel and other metals or coatings like galvanized steel, which produce hazardous fumes) maintain exposure below the PEL/TLV. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV. Always use exhaust ventilation. Refer to the following sources for important additional information: American National Standard Institute (ANSI) Z49.1; Safety in Welding and Cutting published by the American Welding Society, 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353, and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, DC 20402.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, non-explosive and essentially nonhazardous until welded.
PHYSICAL STATE: Solid
APPEARANCE: Solid, round wire
COLOR: Gray or Copper (shiny metallic)
ODOR: Not Applicable
ODOR THRESHOLD: Not Applicable
pH: Not Applicable
MELTING POINT/FREEZING POINT: Not Available
INITIAL BOILING POINT AND BOILING RANGE: Not Available
FLASH POINT: Not Available
EVAPORATION RATE: Not Applicable
FLAMMABILITY (SOLID, GAS): Not Available
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: Not Available
VAPOR PRESSURE: Not Applicable
VAPOR DENSITY: Not Applicable
RELATIVE DENSITY: Not Available
SOLUBILITY(IES): Not Available
PARTITION COEFFICIENT: N-OCTANOL/WATER: Not Applicable
AUTO-IGNITION TEMPERATURE: Not Available
DECOMPOSITION TEMPERATURE: Not Available
VISCOSITY: Not Applicable
EXPLOSIVE PROPERTIES: Not Available
OXIDIZING PROPERTIES: Not Available

SECTION 10 – STABILITY AND REACTIVITY

GENERAL: Welding consumables applicable to this sheet are solid and nonvolatile as shipped. This product is only intended for use per the welding parameters it was designed for. When this product is used for welding, hazardous fumes may be created. Other factors to consider include the base metal, base metal preparation and base metal coatings. All of these factors can contribute to the fume and gases generated during welding. The amount of fume varies with the welding parameters.
STABILITY: This product is stable under normal conditions.
REACTIVITY: Contact with acids or strong bases may cause generation of gas.

SECTION 11 – TOXICOLOGICAL INFORMATION

Short-Term (Acute) Overexposure Effects: **Welding Fumes** - May result in discomfort such as dizziness, nausea or dryness or irritation of nose, throat or eyes. **Aluminum/Aluminum Oxide** - Irritation of the respiratory system. **Copper** - Metal fume fever characterized by metallic taste, tightness of chest and fever. Symptoms may last 24 to 48 hours following overexposure. **Iron, Iron Oxide** - None are known. Treat as nuisance dust or fume. **Manganese** - Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of the throat and aching of body. Recovery is generally complete within 48 hours of the overexposure. Molybdenum - Irritation of the eyes, nose and throat. **Molybdenum** - Irritation of the eyes, nose and throat. **Silica (Amorphous)** - Dust and fumes may cause irritation of the respiratory system, skin and eyes. **Titanium Dioxide** - Irritation of respiratory system. **Zirconium** - May cause irritation of the eyes, nose and throat due to mechanical effects.

Long-Term (Chronic) Overexposure Effects: **Welding Fumes** - Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis or "siderosis." Studies have concluded that there is sufficient evidence for ocular melanoma in welders. **Aluminum/Aluminum Oxide**- Pulmonary fibrosis and emphysema. **Copper** - Copper poisoning has been reported in the literature from exposure to high levels of copper. Liver damage can occur due to copper accumulating in the liver characterized by cell destruction and cirrhosis. High levels of copper may cause anemia and jaundice. High levels of copper may cause central nervous system damage characterized by nerve fiber separation and cerebral degeneration. **Iron, Iron Oxide Fumes** - Can cause siderosis (deposits of iron in lungs) which some researchers believe may affect pulmonary function. Lungs will clear in time when exposure to iron and its compounds ceases. Iron and magnetite (Fe3O4) are not regarded as fibrogenic materials. **Manganese** - Long-term overexposure to manganese compounds may affect the central nervous system. Symptoms may be similar to Parkinson's disease and can include slowness, changes in handwriting, gait impairment, muscle spasms and cramps and less commonly, tremor and behavioral changes. Employees who are overexposed to manganese compounds should be seen by a

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physician for early detection of neurologic problems. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. **Molybdenum** - Prolonged overexposure may result in loss of appetite, weight loss, loss of muscle coordination, difficulty in breathing and anemia. **Silica (Amorphous)** - Research indicates that silica is present in welding fume in the amorphous form. Long term overexposure may cause pneumoconiosis. Non-crystalline forms of silica (amorphous silica) are considered to have little fibrotic potential. **Titanium Dioxide** - Pulmonary irritation and slight fibrosis. **Zirconium** - May cause pulmonary fibrosis and pneumoconiosis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing impaired lung functions (asthma-like conditions). Persons with a pacemaker should not go near welding and cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. Respirators are to be worn only after being medically cleared by your company-designated physician.

EMERGENCY AND FIRST AID PROCEDURES: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. If irritation or flash burns develop after exposure, consult a physician.

CARCINOGENICITY: Titanium dioxide and welding fumes are classified as IARC[E] Group 2B carcinogens.

CALIFORNIA PROPOSITION 65: WARNING: These products contain or produce a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.)

INGREDIENT	CAS	IARC[E]	NTP[Z]	OSHA[H]	65[Θ]
ALUMINUM	7429-90-5	---	---	---	---
COPPER	7440-50-8	---	---	---	---
IRON	7439-89-6	---	---	---	---
IRON OXIDE	1309-37-1	3	---	---	---
MANGANESE	7439-96-5	---	---	---	---
MOLYBDENUM	7439-98-7	---	---	---	---
(Amorphous Silica fume)	69012-64-2	3	---	---	---
SILICON	7440-21-3	---	---	---	---
TITANIUM	7440-32-6	---	---	---	---
TITANIUM DIOXIDE	13463-67-7	2B	---	---	X
Welding Fumes	---	2B	---	---	---
ZIRCONIUM	7440-67-7	---	---	---	---

E – International Agency for Research on Cancer (1 – Carcinogenic to Humans, 2A – Probably Carcinogenic to Humans, 2B – Possibly Carcinogenic to Humans, 3 – Not Classifiable as to its Carcinogenicity to Humans, 4 --- Probably Not Carcinogenic to Humans) Z – US National Toxicology Program (K – Known Carcinogen, S – Suspected Carcinogen) H – OSHA Designated Carcinogen List Θ – California Proposition 65 (X – On Proposition 65 list) Σ – Chromium Metal and Chromium III Compounds ΣΣ – Chromium VI Ψ – Silica Crystalline α-Quartz --- Dashes indicate the ingredient is not listed with the IARC, NTP, OSHA or Proposition 65

SECTION 12 – ECOLOGICAL INFORMATION

Welding processes can release fumes directly to the environment. Welding wire can degrade if left outside and unprotected. Residues from welding consumables and processes could degrade and accumulate in the soil and groundwater.

SECTION 13 – DISPOSAL CONSIDERATIONS

Use recycling procedures if available. Discard any product, residue, packaging, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

SECTION 14 – TRANSPORT INFORMATION

No international regulations or restrictions are applicable. No special precautions are necessary.

SECTION 15 – REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label and the safety data sheet. Observe all local and federal rules and regulations. Take all necessary precautions to protect yourself and others.
United States EPA Toxic Substance Control Act: All constituents of these products are on the TSCA inventory list or are excluded from listing.

CERCLA/SARA TITLE III: Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs):

Ingredient name	**RQ(lb)**	**TPQ (lb)**
Products on this SDS are a solid solution in the form of a solid article.	--	--

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class
As shipped: Immediate In use: Immediate delayed

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potentially subject to annual SARA 312 reporting: Copper and Manganese. See Section 3 for weight percentage.

CANADIAN WHMIS CLASSIFICATION: Class D; Division 2, Subdivision A

CANADIAN CONTROLLED PRODUCTS REGULATION: This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

SECTION 16 – OTHER INFORMATION

The following Hazard Statements, provided in the OSHA Hazard Communication Standard (29 CFR Part 1910.1200) correspond to the columns labeled 'GHS Hazard Statements' within Section 3 of this safety data sheet. Take appropriate precautions and protective measures to eliminate or limit the associated hazard.

H228: Flammable solid
H250: Catches fire spontaneously if exposed to air

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H260: In contact with water releases flammable gases which may ignite spontaneously
H261: In contact with water releases flammable gases
H302: Harmful if swallowed
H319: Causes serious eye irritation
H332: Harmful if inhaled
H335: May cause respiratory irritation
H351: Suspected of causing cancer
H372: Causes damage to organs through prolonged or repeated exposure
H373: May cause damage to organs through prolonged or repeated exposure

For additional information please refer to the following sources:

USA: **American National Standard Institute (ANSI) Z49.1** "Safety in Welding and Cutting", **ANSI/American Welding Society (AWS) F1.5** "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", **ANSI/AWS F1.1** "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", **AWSF3.2M/F3.2** "Ventilation Guide for Weld Fume", American Welding Society, 8669 NW 36 Street, # 130, Miami, Florida 33166-6672, Phone: 800-443-9353 or 305-443-9353, . Safety and Health Fact Sheets available from AWS at www.aws.org.

OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.

NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

Canada: **CSA Standard CAN/CSA-W117.2-01** "Safety in Welding, Cutting and Allied Processes".

Hobart Brothers Company strongly recommends the users of this product study this SDS, the product label information and become aware of all hazards associated with welding. Hobart Brothers Company believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Hobart Brothers Company cannot make any expressed or implied warranty as to this information.

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: METHYL HYDRATE
Date of Revision: January 31, 2018
Product Code: H545
Other Name(s):
Distributed By:
Recommended Use and Restrictions on Use:

Manufactured By: Ostrem Chemical Co. Ltd.
2310 - 80th Avenue NW
Edmonton, Alberta, Canada T6P 1N2
www.ostrem.com

Phone: 780-440-1911
In Case of Emergency Only, Phone
CANUTEC: 613-996-6666

2. HAZARDS IDENTIFICATION

Classification of the Mixture:
Acute Toxicity, Oral - Category 3
Acute Toxicity, Dermal - Category 3
Acute Toxicity, Inhalation - Category 3
Specific Target Organ Toxicity (Single Exposure) - Category 1
Flammable Liquids - Category 2

Label Elements:

Hazard Pictogram(s):

Signal Word: DANGER

Hazard Statement(s):
Toxic if swallowed.
Toxic if in contact with skin.
Toxic if inhaled.
Causes damage to organs (eyes and central nervous system).
Highly flammable liquid and vapour.

Precautionary Statement(s):

Prevention:
Use only outdoors or in a well-ventilated area.
Do not breathe fumes or vapours.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Wear protective gloves, protective clothing, and eye/face protection.

Response:
IF SWALLOWED: Call a poison centre or physician.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
Call a poison centre or physician if you feel unwell.
Take off immediately all contaminated clothing and wash it before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a poison centre or physician.
If exposed or concerned: Call a poison centre or physician.

Storage:
Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

Physical/health hazards not otherwise classified:
not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Conc.	CAS #	Common Names
methanol	80 - 100%	67-56-1	methyl alcohol

4. FIRST-AID MEASURES

Necessary Measures:

IF SWALLOWED: Call a poison centre or physician.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
Call a poison centre or physician if you feel unwell.
Take off immediately all contaminated clothing and wash it before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a poison centre or physician.
If exposed or concerned: Call a poison centre or physician.

Most important symptoms, both acute and delayed:

Toxic if swallowed.
Toxic if in contact with skin.
Toxic if inhaled.
Causes damage to organs (eyes and central nervous system).

Indication of immediate medical attention and special treatment needed, if necessary:

not applicable

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use extinguishing media appropriate for surrounding fire.

Specific hazards arising from the chemical (e.g.: hazardous combustion products):

May liberate carbon monoxide, carbon dioxide.

Special protective equipment and precautions for firefighters:

As for surrounding fire. Firefighters should wear full protective clothing and self contained breathing equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear appropriate protective equipment. See section 8.

Environmental precautions:

Prevent from entering sewers, waterways or low areas.

Methods and materials for containment and cleaning up:

Isolate hazard area and restrict access. Small spills: soak up with inert absorbent material and scoop into containers. Large spills: prevent contamination of waterways. Dike and pump into suitable containers. Clean up residual with absorbent material, place in appropriate container and flush with water.

7. HANDLING AND STORAGE

Precautions for safe handling:

Use only outdoors or in a well-ventilated area.
Do not breathe fumes or vapours.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not ingest. Avoid contact with eyes, skin and clothing.

Conditions for safe storage, including any incompatibilities:

Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.
Keep out of reach of children. Store in a cool, dry area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters - Exposure limits:

Ingredient:	Limit:
methanol	ACGIH TWA: 200 ppm STEL: 250 ppm

Appropriate engineering controls:

Provide exhaust ventilation to keep airborne levels below recommended exposure limits.

Respiratory protection:

If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator.

Other protection:

Wear protective gloves, protective clothing, and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, colour etc.):	colourless liquid
Odour:	a pungent alcohol odour
Odour threshold:	not available
pH:	not applicable
Melting/Freezing point:	not available
Initial boiling point and range:	not available
Flash point:	12 C
Evaporation rate:	not available
Flammability (solid, gas):	not available
Upper/lower flammability or explosive limits:	not available
Vapour pressure:	not available
Vapour density:	not available
Relative density (specific gravity):	0.798
Solubility(ies):	complete
Partition co-efficient: n-octanol/water:	not available
Auto-ignition temperature:	not available
Decomposition temperature:	not available
Viscosity:	not available

10. STABILITY AND REACTIVITY

Reactivity:

This material is considered to be non-reactive under normal use conditions.

Chemical stability:

Stable.

Possibility of hazardous reactions:

not available

Conditions to avoid (e.g.: static discharge, shock or vibration):

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible materials:

Oxidizers

Hazardous decomposition products:

not available

11. TOXICOLOGICAL INFORMATION

POTENTIAL ACUTE HEALTH EFFECTS

Inhalation:	Toxic if inhaled.
Ingestion:	Toxic if swallowed.
Eye contact:	May cause eye irritation.
Skin contact:	Toxic if in contact with skin.
Skin absorption:	not available

POTENTIAL CHRONIC HEALTH EFFECTS

Inhalation: not available
Ingestion: not available
Eye contact: not available
Skin contact: not available
Skin absorption: not available

Mutagenicity: not available
Carcinogenicity: This information, if applicable, can be found in Section 2.
Reproductive toxicity: This information, if applicable, can be found in Section 2.
Sensitization of product: This information, if applicable, can be found in Section 2.
Specific Target Organ Toxicity - single exposure: This information, if applicable, can be found in Section 2.
Specific Target Organ Toxicity - repeated exposure: This information, if applicable, can be found in Section 2.

Toxicological Data:

Ingredient:	Data:
methanol	Oral LD50: 100 mg/kg (rat) Inhalation LC50: 5 mg/L (rat) Dermal LD50: 300 mg/kg (rabbit)

Other Toxicological Information on Ingredients:

12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial, where available): not available
Persistence and degradability: not available
Bioaccumulative potential: not available
Mobility in soil: not available
Other adverse effects: not available

Ecological Information on Ingredients: not available

13. DISPOSAL CONSIDERATIONS

Waste disposal: Disposal of all waste must be done according to local, provincial and federal regulations.

14. TRANSPORT INFORMATION

TDG classification: UN 1230; METHANOL; CLASS 3 (6.1); PG II

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

16. PREPARATION INFORMATION

Prepared by: Technical Services Department, Ostrem Chemical Co. Ltd., Ph.: 780-440-1911

Date of Preparation: January 30, 2017
Date of Revision: January 31, 2018

End of Document

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **METHYL HYDRATE**

Product Use : Shellac thinner or smokeless fuel. Do not use as a fire starter.

Chemical Family : Alcohol

Manufacturer part no. : MH1, MH4, MH1C, MH1/6C, MH4C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:

Refer to Supplier

Information Telephone # : (905) 625-9117 (Mon. - Fri., 8 AM - 4 PM)

24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS classification:

Class B2 (Flammable Liquids);
Class D1B (Materials Causing Immediate and Serious Toxic Effects, Toxic Material);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15. WHMIS symbols required on a supplier label:

Emergency Overview : Colourless liquid. Alcohol odour.
DANGER! Flammable liquid and vapour. Vapour may cause flash fire! Burns with colourless flame. POISON! May be fatal or cause blindness if swallowed in sufficient quantities. Harmful by inhalation and in contact with skin. May cause nausea, vomiting, headache and other central nervous system effects. Causes eye irritation. May cause respiratory irritation. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness. Prolonged or repeated contact with skin may cause irritation in some cases. May be an aspiration hazard. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness.

Skin : Direct skin contact may result in little or no irritation. May be absorbed and cause symptoms similar to those for inhalation.

Eyes : Contact with liquid may cause moderate irritation. May cause burning sensation, redness and tearing (watering).

Ingestion : May cause blindness if swallowed - cannot be made non-poisonous. May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness. May result in unconsciousness and possibly death. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Methyl alcohol (Methanol)	67-56-1	60.00 - 100.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting, unless directed to do so by qualified medical personnel. Never give anything by mouth to an unconscious person.

Notes For Physician : Immediate medical attention is required. Contains methanol. Administration of ethanol can slow the metabolism of methanol, thus reducing the potential for harmful effects.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Flammable liquid and vapour. Burns with colourless flame. Will ignite when exposed to heat, flame and other sources of ignition. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel to ignition source and flash back. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact. May be sensitive to static discharge. Vapours in the flammable range may be ignited by a static discharge of sufficient energy.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Water may be ineffective because it may not cool product below the flashpoint.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; formaldehyde; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not ingest. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Use proper bonding and grounding techniques when transferring liquid. Avoid contact with incompatible materials. Wash thoroughly after handling.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Strong oxidizing agents; Acids; Reactive metals; Alkali metals; Isocyanates.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Methyl alcohol (Methanol)	200 ppm (skin)	250 ppm (skin)	200 ppm (260 mg/m³)	N/Av

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists. A respiratory protection program that meets CSA Z94.4-02 requirements must be followed whenever workplace conditions warrant use of a respirator.

Skin protection : Wear impervious gloves, such as butyl rubber. Advice should be sought from glove suppliers. The following glove material(s) are not recommended: Natural Rubber; Neoprene; Nitrile rubber; Polyethylene; polyvinyl alcohol; Polyvinylchloride.

Eye / face protection : Chemical splash goggles are recommended. A full face shield may also be necessary. Refer to CSA Z94.3 or other appropriate standards.

Other protective equipment : Wear resistant clothing and boots. Other equipment may be required depending on workplace standards. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Appearance : colourless

Odour : Alcohol

Odour threshold : N/Av

pH : N/Av

Boiling point : 64.6°C

Specific gravity : 0.7925 @ 20°C

Melting/Freezing point : - 97.8°C

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : 96

Solubility in water : Soluble

Vapour density (Air = 1) : 1.11

Evaporation rate (n-Butyl acetate = 1) : 2.0

Volatile organic Compounds (VOC's) : N/Av

Volatiles (% by weight) : 100%

Flash point : 12°C

Flash point Method : Tag closed cup

Auto-ignition temperature : N/Av

Lower flammable limit (% by vol.) : 5.5%

Upper flammable limit (% by vol.) : 36.5%

Flame Projection Length : N/Ap
Flashback observed : N/Ap
Absolute pressure of container : N/Ap
Viscosity : N/Av
General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas.
Materials To Avoid And Incompatibility : Strong oxidizing agents; Acids; Reactive metals; Alkali metals; Isocyanates.
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, digestive system, central nervous system.
Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : Moderate eye irritant. Mild skin irritant.
Toxicological data : See below for toxicological data on the substance.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Methyl alcohol (Methanol)	> 5000 ppm/6H (4.1 mg/L/4H) (vapour)	5628 mg/kg (rat) The estimated human lethal dose is: 300 - 1000 mg/kg	> 393 mg/kg (Monkey) 15 800 mg/kg (rabbit)

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects : Not expected to cause reproductive effects.
Teratogenicity : Contains methanol, which may cause teratogenic effects at doses which are not maternally toxic.
Mutagenicity : Not expected to be mutagenic in humans.
Epidemiology : Not available.
Sensitization to material : Not expected to be a skin or respiratory sensitizer.
Synergistic materials : Methanol can increase the toxicity of other liver toxins (e.g. Carbon tetrachloride).
other important hazards : Causes central nervous system depression.
Conditions aggravated by overexposure : Pre-existing skin, eye, respiratory and central nervous system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Methyl alcohol (Methanol)	67-56-1	15 400 mg/L (Bluegill sunfish)	446.7 mg/L/28-day (Fathead minnow) (QSAR)	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Methyl alcohol (Methanol)	67-56-1	> 10 000 mg/L (Daphnia magna)	208 mg/L (QSAR)	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Methyl alcohol (Methanol)	67-56-1	22 000 mg/L/96hr (Green algae)	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : Methanol is readily biodegradable.

Bioaccumulation potential : See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Methyl alcohol (Methanol) (CAS 67-56-1)	- 0.82 to - 0.64	< 10 (common carp)

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Follow labeled warnings even after container is emptied. Do not cut, weld, drill or grind on or near this container.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1230	METHANOL	3(6.1)	II	
TDG Additional information	Document as Class 3 (6.1). May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

Danger. Flammable liquid and vapour. Vapours may cause flash fire. POISON! May be fatal or cause blindness if swallowed, cannot be made non-poisonous. Harmful by inhalation and in contact with skin. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness. Causes eye irritation. May be an aspiration hazard. Aspiration into lungs may be fatal. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

Precautions: Use in a well-ventilated area. Wear chemically resistant protective equipment during handling. Do not ingest. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Ground all equipment during handling. Avoid contact with incompatible materials. Wash thoroughly after handling. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention. For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. Get medical attention. For eye contact, flush with running water for at least 15 minutes. Get medical attention. If INGESTED call nearest Poison Control Centre or physician immediately. Do not induce vomiting unless instructed by medical personnel. Never give anything by mouth to an unconscious person.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CSA: Canadian Standards Association
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for:

Radiator Specialty Co. of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada, L4W 1H7
Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM)
Please direct all enquiries to Radiator Specialty.

Prepared by:

ICC The Compliance Center Inc.
http://www.thecompliancecenter.com

DISCLAIMER OF LIABILITY

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MSDS Preparation Date (mm/dd/yyyy)

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: 06/06/2016

Revision No. **:** 4

Revision Information **:** (M)SDS sections updated:
11. TOXICOLOGICAL INFORMATION;
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT

CANADA COLORS & CHEMICALS LTD
152 KENNEDY ROAD SOUTH
BRAMPTON, ONTARIO, L6W 3G4
CANADA
(905) 459-1232

PRODUCT: MINERAL SPIRITS REG. #10 **CODE: 616268**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER	CANADA COLORS & CHEMICALS LTD. 152 KENNEDY ROAD SOUTH BRAMPTON, ONTARIO CANADA L6W 3G4
PRODUCT NAME	MINERAL SPIRITS REG. #10
PRODUCT CODE	616268
CHEMICAL FORMULA	N.AP.
CHEMICAL FAMILY	ORGANIC.
MOLECULAR WEIGHT	N.AV.
MATERIAL USE	DILUENT. SOLVENT.
EMERGENCY PHONE NO	(416)-444-2112.

SECTION 02: HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION	NOT ASSESSED.
SIGNAL WORD	NOT ASSESSED.
HAZARD STATEMENT	NOT ASSESSED.
PRECAUTIONARY STATEMENT	NOT ASSESSED.
OTHER HAZARDS	NOT ASSESSED.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
STODDARD SOLVENT **	8052-41-3	100
**CONTAINS:	--	
ETHYLBENZENE	100-41-4	0.1-0.5
NAPHTHALENE	91-20-3	0.1-0.5
NONANE	111-84-2	1-<5
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)	95-63-6	1-<5
XYLENES	1330-20-7	0.1-0.9

SECTION 04: FIRST AID MEASURES

BY ROUTE OF ENTRY	EYE CONTACT:. FLUSH EYES WITH LARGE AMOUNTS OF RUNNING WATER FOR AT LEAST 15 MINUTES. HOLD EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYE AND LIDS WITH WATER. GET MEDICAL ATTENTION WITHOUT DELAY. IN CASE OF SKIN CONTACT.. FLUSH CONTAMINATED SKIN WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING. WASH SKIN WITH SOAP AND WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. IN CASE OF INGESTION, OBTAIN MEDICAL ATTENTION IMMEDIATELY. DO NOT INDUCE VOMITING. GUARD AGAINST ASPIRATION INTO LUNGS. PLACE VICTIM IN A STABLE SIDE POSITION AND KEEP WARM. DO NOT GIVE ANYTHING BY MOUTH TO A CONVULSING OR UNCONSCIOUS PERSON. IF VOMITING OCCURS KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. IF INHALED.. REMOVE VICTIM FROM FURTHER EXPOSURE AND RESTORE BREATHING, IF REQUIRED. SEEK MEDICAL ATTENTION.
NOTES TO PHYSICIAN:	THE MAIN HAZARD FOLLOWING ACCIDENTAL INGESTION IS ASPIRATION OF THE LIQUID INTO THE LUNGS PRODUCING CHEMICAL PNEUMONITIS. CARDIAC ARRYTHMIAS HAVE BEEN REPORTED WITH SOLVENT EXPOSURE. IF MORE THAN 2.0 ML/KG HAS BEEN INGESTED, VOMITING SHOULD BE INDUCED WITH SUPERVISION. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE VOMITING, GASTRIC LAVAGE WITH A CUFFED ENDOTRACHEAL TUBE SHOULD BE CONSIDERED.

SECTION 05: FIRE FIGHTING MEASURES

FLAMMABILITY	REFER TO FLASH POINT.
IF YES, UNDER WHICH CONDITIONS?	
EXTINGUISHING MEDIA	CARBON DIOXIDE, DRY CHEMICAL, ALCOHOL FOAM, WATER FOG. WATER FOG.

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SECTION 05: FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS.	VAPOUR FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN UPPER AN LOWER FLAMMABLE LIMITS. UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION. BURNING CAN PRODUCE,. CARBON MONOXIDE. CARBON DIOXIDE.
UNUSUAL FIRE AND EXPLOSION HAZARDS	VAPOURS ARE HEAVIER THAN AIR AND MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCES OF IGNITION AND FLASH BACK.
SPECIAL PROCEDURES.....	DO NOT ENTER CONFINED FIRE SPACE WITHOUT ADEQUATE PROTECTIVE CLOTHING AND AN APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. EXCLUDE AIR. DO NOT USE WATER EXCEPT AS A FOG. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER. USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS AND STRUCTURES. FIRE FIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT.

SECTION 06: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS.....	PRODUCT IS COMBUSTIBLE. REMOVE ALL SOURCES OF IGNITION AND GROUND ALL EQUIPMENT BEFORE USE. ISOLATE HAZARD AREA AND RESTRICT ACCESS. TRY TO WORK UP WIND OF SPILL. AVOID DIRECT CONTACT WITH MATERIAL. WEAR APPROPRIATE BREATHING APPARATUS (IF APPLICABLE) AND PROTECTIVE CLOTHING. STOP LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN LAND SPILLS; CONTAIN WATER SPILLS BY BOOMING. USE WATER FOG TO KNOCK DOWN VAPOURS; CONTAIN RUN-OFF. FOR LARGE SPILLS REMOVE BY MECHANICAL MEANS AND PLACE IN CONTAINERS. ABSORB RESIDUE OR SMALL SPILLS WITH ABSORBENT MATERIAL AND REMOVE TO NON-LEAKING CONTAINERS FOR DISPOSAL. RECOMMENDED MATERIALS: CLAY OR SAND. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE. AVOID DISCHARGE TO SEWERS AND WATERWAYS.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING.....	AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID BREATHING VAPOURS. DO NOT INGEST. WEAR PROTECTIVE EQUIPMENT DURING HANDLING. USE ADEQUATE VENTILATION. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. HOT SURFACES MAY BE SUFFICIENT TO IGNITE LIQUID EVEN IN THE ABSENCE OF SPARKS OR FLAMES. MAINTAIN PROPER GROUNDING AT ALL TIMES. VAPOURS MAY ACCUMULATE AND TRAVEL TO DISTANT IGNITION SOURCES AND FLASHBACK. EMPTY CONTAINERS ARE HAZARDOUS, MAY CONTAIN FLAMMABLE/EXPLOSIVE DUSTS, LIQUID RESIDUE OR VAPOURS. FOLLOW LABEL WARNINGS EVEN AFTER CONTAINER IS EMPTIED. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPOURS ARE GONE. NEVER USE PRESSURE TO EMPTY DRUMS - CONTAINER IS NOT A PRESSURE VESSEL. AIR-DRY CONTAMINATED CLOTHING IN A WELL VENTILATED AREA BEFORE LAUNDERING. WASH CONTAMINATED CLOTHING BEFORE RE-USE. HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICES.
CONDITIONS FOR SAFE STORAGE.....	STORE IN A DRY AND WELL-VENTILATED AREA. STORE IN A COOL AREA, AWAY FROM ALL SOURCES OF HEAT AND IGNITION.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
ETHYLBENZENE	SEE SECTION 11				
NAPHTHALENE	SEE SECTION 11				
NONANE	SEE SECTION 11				
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)	SEE SECTION 11				
XYLENES	SEE SECTION 11				

EXPOSURE LIMIT OF MATERIAL.....	STODDARD SOLVENT: (ACGIH-TWA), 100PPM.
ENGINEERING CONTROLS.....	GENERAL: HIGHLY RECOMMENDED FOR ALL INDOOR SITUATIONS TO CONTROL FUGITIVE EMISSIONS. ELECTRICAL AND MECHANICAL EQUIPMENT SHOULD BE EXPLOSION-PROOF. LOCAL: ALSO RECOMMENDED WHERE MECHANICAL

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SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS	VENTILATION IS INEFFECTIVE IN CONTROLLING AIRBORNE CONCENTRATIONS BELOW THE RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT. FOR PERSONNEL ENTRY INTO CONFINED SPACES (I.E. BULK STORAGE TANKS) A PROPER CONFINED SPACE ENTRY PROCEDURE MUST BE FOLLOWED INCLUDING VENTILATION AND TESTING OF TANK ATMOSPHERE. MAKE-UP AIR SHOULD ALWAYS BE SUPPLIED TO BALANCE AIR EXHAUSTED (EITHER GENERALLY OR LOCALLY).
SKIN AND BODY PROTECTION	IMPERVIOUS GLOVES. SHOULD BE WORN AT ALL TIMES WHEN HANDLING THIS MATERIAL. CONTACT GLOVE MANUFACTURER FOR SPECIFIC INFORMATION.
RESPIRATORY PROTECTION	FOR HIGH AIRBORNE CONCENTRATIONS, USE A NIOSH-APPROVED SUPPLIED-AIR RESPIRATOR, EITHER SELF-CONTAINED OR AIRLINE BREATHING APPARATUS, OPERATED IN POSITIVE PRESSURE MODE. IF EXPOSURE EXCEEDS OCCUPATIONAL EXPOSURE LIMITS, WEAR A NIOSH-APPROVED RESPIRATOR. USE NIOSH APPROVED RESPIRATOR FOR ORGANIC VAPOUR CARTIDGE IF VAPOR CONCENTRATION EXCEEDS PERMISSIBLE EXPOSURE LIMIT.
EYE/FACE PROTECTION	CHEMICAL SPLASH GOGGLES AND FACE SHIELD WHEN POSSIBILITY EXISTS FOR EYE AND FACE CONTACT DUE TO SPLASHING OR SPRAYING OF MATERIAL.
FOOTWEAR/TYPE	IMPERVIOUS FOOTWEAR.
CLOTHING/TYPE	WEAR IMPERVIOUS PROTECTIVE CLOTHING.
OTHER/TYPE	EYE BATH AND SAFETY SHOWER.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	LIQUID.
ODOUR	MILD HYDROCARBON ODOUR.
ODOUR THRESHOLD	N.AV.
PH	2.4.
MELTING POINT (C)	N.AV.
FREEZING POINT	N.AV.
BOILING POINT	150-205 (C).
FLASH POINT (C), METHOD	43 (C). (ASTM D-56).
EVAPORATION RATE	N.AV.
FLAMMABILITY (SOLIDS AND GASES)	FLAMMABLE.
UPPER FLAMMABLE LIMIT (% BY VOL.)	5.0.
LOWER FLAMMABLE LIMIT (% BY VOL.)	0.8.
VAPOUR PRESSURE	N.AV.
VAPOUR DENSITY (AIR=1)	N.AV.
SPECIFIC GRAVITY (WATER=1)	~0.79.
SOLUBILITY IN WATER (% W/W)	INSOLUBLE.
COEFFICIENT OF WATER/OIL DIST	N.AP.
AUTO IGNITION TEMPERATURE	260 (C).
DECOMPOSITION TEMPERATURE	N.AV.
VISCOSITY	0.5-1.2 (AT 20 C).

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY CONDITIONS?	AVOID EXCESSIVE HEAT, OPEN FLAMES AND ALL IGNITION SOURCES.
CHEMICAL STABILITY:	
YES	STABLE UNDER NORMAL CONDITIONS OF HANDLING AND STORAGE.
NO, WHICH CONDITIONS?	
POSSIBILITY OF HAZARDOUS REACTIONS	WILL NOT OCCUR.
SENSITIVITY TO STATIC DISCHARGE	YES.
SENSITIVITY TO IMPACT	N.AV.
COMPATABILITY WITH OTHER SUBSTANCES:	
YES	
REACTIVITY CONDITIONS	STRONG OXIDIZING AGENTS.
HAZARDOUS DECOMPOSITION PRODUCTS	CARBON MONOXIDE AND CARBON DIOXIDE ARE PRODUCED ON COMBUSTION.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
ETHYLBENZENE	SEE SECTION 11	SEE SECTION 11
NAPHTHALENE	SEE SECTION 11	SEE SECTION 11
NONANE	SEE SECTION 11	SEE SECTION 11
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)	SEE SECTION 11	SEE SECTION 11

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SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
XYLENES	SEE SECTION 11	SEE SECTION 11

LC 50 OF MATERIAL, SPECIES & ROUTE.	STODDARD SOLVENT: N.AV.
LD 50 OF MATERIAL, SPECIES & ROUTE.	STODDARD SOLVENT: LD50 >5000 MG/KG (ORAL); >3160 MG/KG (SKIN); BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
ROUTE OF ENTRY:	
INHALATION.....	VAPOURS ARE MODERATELY IRRITATING TO RESPIRATORY PASSAGES. IN RARE CASE MAY SENSITIZE HEART MUSCLE CAUSING HEART ARRHYTHMIA.
INGESTION.....	THE LIQUID WHEN ACCIDENTLY ASPIRATED INTO LUNGS CAN CAUSE A SEVERE INFLAMMATION OF THE LUNG.
SKIN CORROSION / IRRITATION.....	IRRITATING TO SKIN.
SKIN ABSORPTION.....	N.AV.
SERIOUS EYE DAMAGE / EYE IRRITATION	VAPOURS ARE MODERATELY IRRITATING TO THE EYES.
IRRITANCY OF MATERIAL.....	SEE ABOVE.
EFFECTS OF ACUTE EXPOSURE.....	SEE ABOVE.
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE	PREEXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.
SYNERGISTIC MATERIALS.....	NONE.
EFFECTS OF CHRONIC EXPOSURE.....	PROLONGED AND REPEATED CONTACT WITH SKIN CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. PROLONGED EXPOSURE TO HIGH VAPOUR CONCENTRATION CAN CAUSE HEADACHE, DIZZINESS, NAUSEA, AND CENTRAL NERVOUS SYSTEM DEPRESSION.
CARCINOGENICITY.....	NAPHTHALENE: CAUSES CANCER IN LABORATORY ANIMALS. ETHYLBENZENE IS CONSIDERED CARCINOGENIC.
REPRODUCTIVE TOXICITY.....	XYLENE MAY AFFECT FETAL DEVELOPMENT.
SENSITIZING CAPABILITY OF MATERIAL.	NONE.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL STATEMENT.....	DO NOT ALLOW PRODUCT OR RUNOFF FROM FIRE CONTROL TO ENTER STORM OR SANITARY SEWERS,LAKES,RIVERS,STREAMS,OR PUBLIC WATERWAYS. BLOCK OFF DRAINS AND DITCHES. SPILL AREA MUST BE CLEANED AND RESTORE TO ORIGINAL CONDITION OR TO THE SATISFACTION OF AUTHORITIES. HARMFUL.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL.....	DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, PROVINCIAL, AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14: TRANSPORT INFORMATION

UN NUMBER.....	1268.
TDG CLASSIFICATION.....	3.
PACKING GROUP.....	III.
SPECIAL SHIPPING INSTRUCTIONS.....	NOT REGULATED IF <450 L.

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION.....	B3, D2B.
HMIS.....	HEALTH:. 2. FLAMMABILITY:. 2. REACTIVITY:. 0.
CPR COMPLIANCE.....	THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WIH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION 16: OTHER INFORMATION

N.AP.=NOT APPLICABLE
N.AV.=NOT AVAILABLE

REPARED BY.....	Regulatory Affairs
PREPARATION DATE.....	OCT 06/2015

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL 1 0W-20
Product Description: Synthetic Base Stocks and Additives
Product Code: 201510101032, 481481
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **East Coast Lubes Pty Ltd (Queensland and Northern Territory)**
A.B.N. 37 117 203 611
Cnr North and Mort Streets
Toowoomba, Queensland 4350 Australia

24 Hour Emergency Telephone 1300 131 001
Supplier General Contact 1800 069 019

Supplier: **Southern Cross Lubes (Victoria and Tasmania)**
58-66 Ajax Road
Altona, Victoria 3018, Australia

24 Hour Emergency Telephone 1300 131 001
Product Technical Information
Supplier General Contact 1300 466 245
1300 552 861

Supplier: **Perkal Pty Ltd Trading as Statewide Oil (Western Australia)**
A.B.N. 43 009 283 363
14 Beete Street
Welshpool, Western Australia 6106 Australia

24 Hour Emergency Telephone (8:00am to 4:30pm Mon to Fri) 1300 919 904
Product Technical Information
Supplier General Contact (08) 9350 6777
(08) 9350 6777

Supplier: **Perkal Pty Ltd Trading as Statewide Oil (South Australia)**
A.B.N. 43 009 283 363
6-10 Streiff Rd
Wingfield, South Australia 5013 Australia

24 Hour Emergency Telephone (8:00am to 4:30pm Mon to Fri) 1300 919 904
Product Technical Information
Supplier General Contact (08) 8359 8995
(08) 8359 8995

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

Physical / Chemical Hazards:
No significant hazards.

Health Hazards:
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards:
No significant hazards.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*	GHS Hazard Codes
1-DECENE, HOMOPOLYMER HYDROGENATED	68037-01-4	30 - < 40%	H304
DISTILLATES, HEAVY, C18-50 - BRANCHED, CYCLIC AND LINEAR	848301-69-9	10 - < 20%	H304
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	30 - < 40%	H304

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Other ingredients determined not to be hazardous up to 100%.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be

minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

NOTE TO PHYSICIAN

None

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: 220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
1-DECENE, HOMOPOLYMER HYDROGENATED	Aerosols (thoracic fraction)	TWA	5 mg/m3			ExxonMobil
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3			ACGIH

Exposure limits/standards for materials that can be formed when handling this product:

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
Particulate
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Neoprene,Nitrile,Viton
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and

soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Colour: Amber
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.84
Flammability (Solid, Gas): N/A
Flash Point [Method]: 220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (601°F) [Estimated]
Decomposition Temperature: N/D
Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 ºC [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: [N/D at 40 °C] | 8.6 cSt (8.6 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -45°C (-49°F)

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

INCOMPATIBLE MATERIALS: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies. Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals. Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitising in test animals and humans.

IARC Classification:
The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--
1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY
Material -- Not expected to be harmful to aquatic organisms.

MOBILITY
Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADG) : Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

AS1940 COMBUSTIBLE CLASS: C2

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, KECI, PICCS, TCSI, TSCA

Special Cases:

Inventory	Status
IECSC	Restrictions Apply

SECTION 16 OTHER INFORMATION

KEY TO ABBREVIATIONS AND ACRONYMS:

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: No components information was modified.
Section 09: Viscosity information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: Special Cases Table information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most

current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly of indirectly hold any interest.

DGN: 7076427DAU (1024310)

Prepared by: Exxon Mobil Corporation
EMBSI, Clinton NJ USA
Contact Point: See Section 1 for Local Contact number

End of (M)SDS

SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION

Product identifier: MOLYSLIP 'G' GEAR OIL SUPPLEMENT
Product number: 3422-3429
Product use: MoS_2 in Oil for Gears and other Industrial Uses

Supplier name and address:

Molyslip (Canada) Inc.
1145 Bellamy Road N., Unit #20
Scarborough, Ontario, Canada
M1H 1H5
T: (416) 438-5523
F: (416) 438-5513

Manufacturer's name and address:

Refer to Supplier

Emergency Telephone #: 613-996-6666 (CANUTEC)

Canadian Regulatory Information – Section 9
Hazard Rating

Health	1
Fire	0
Reactivity	0

Revision Date January 04, 2016

SECTION 2 - CHEMICAL COMPOSITION/HAZARDOUS INGREDIENTS

Ingredient	% Wt /Wt	TLV TWA ACGIH	C.A.S.	LD/50	LC/50
Distillates (Petroleum), Solvent Dewaxed Heavy Paraffinic	1-5	5 mg/m^3	64742-65-0	Not Available	Not Available
Molybdenum Disulfide Rat Inhalation	1-5	10 mg/m^3	1317-33-5	Not Available	>2820 MG/M3/4H
Solvent Refined Heavy Paraffinic Distillate	3-7	5 mg/m^3	64741-88-4	Not Available	Not Available
Solvent Refined Residual Oil	60-100	Not Available	64742-01-4	Not Available	Not Available

SECTION 3 – PHYSICAL DATA

Physical State	Liquid
Appearance & Odour	Grayish green
PH (As Is)	Not Available
Specific Gravity (Water =1) @ 20°C	0.92
Boiling Point	Not Available
Vapour Pressure (mm Hg)	0.10 @ 20°C
Vapour Density (Air = 1)	Not Available
Freezing Point	Not Available
Evaporation Rate (Butyl Acetate = 1)	0
Volatiles (%) By Volume	Not Available
Solubility in Water (%)	NIL
Coefficient of Water/Oil Dist	Not Available
Odour Threshold (ppm)	Not Available
VOC	0 G/L

SECTION 4 - FIRE & EXPLOSION DATA

Flammability	Not Flammable per WHMIS
If Yes, Under Which Conditions	Temperatures at or above flashpoint
Extinguishing Media	Dry Chemical, Carbon Dioxide, Water Spray
Special Procedures	Firefighters should wear the usual protective gear Use self-contained breathing apparatus Use water to cool fire-exposed containers and to protect personnel
Flash Point, Method	Closed Cup 176.7°C (350°F)
Autoignition Temperature	Not Available
Upper Flammable Limit (% Vol)	Not Available
Lower Flammable Limit (% Vol)	Not Available
Explosion Data	
Sensitivity to Static Discharge	Not Available
Sensitivity to Impact	Not Available
Rate of Burning	Not Available
Explosive Power	Container may explode if exposed to high heat
Hazardous Combustion Products	Oxides of Carbon (CO, CO_2) Oxides of Sulphur
T.D.G. Flammability Class	Not Applicable

SECTION 5 – REACTIVITY DATA

Chemical Stability	Product is stable in non-emergency conditions
No, Which Conditions	None Known
Hazardous Polymerization	Will not occur
Compatibility with Other Substances	
No, Which Ones	Strong Oxidizers
Reactivity, Under Which Conditions	Contact with incompatible substances
Hazardous Products of Decomposition	See Hazardous Products of Combustion – Section 4

SECTION 6 - TOXICOLOGICAL PROPERTIES

Route of Entry	Eye contact, skin contact, inhalation, ingestion and skin absorption
Effects of Acute Exposure	
Eye Contact	Slight irritant
Skin Contact	May cause moderate irritation
Skin Absorption	May be absorbed through the skin
Inhalation	May be harmful if inhaled Vapors may cause respiratory tract irritation
Ingestion	Harmful if swallowed
Effects of Chronic Exposure	None Known
LD_{50} Of Material, Species & Route	Not Available
LC_{50} Of Material, Species & Route	Not Available
Exposure Limit of Material	Not Available for mixture, see Section 2A
Irritancy of Material	See Effects of Acute Exposure
Sensitizing Capability of Material	Not Available
Carcinogenic Effects	Not Available
Reproductive Effects	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Synergistic Materials	Not Available

SECTION 7 – PREVENTATIVE MEASURES

Personal Protection	
Gloves/Type	Impermeable gloves
Respiratory/Type	If TLV is exceeded, use an approved air supplied respirator
Eye/Type	Wear splash-proof chemical goggles
Footwear/Type	Safety boots per local regulations
Clothing/Type	Wear adequate protective clothes Impervious apron
Other/Type	Eye wash facility should be in close proximity Emergency shower should be in close proximity
Ventilation Requirements	Local exhaust and mechanical ventilation recommended

SECTION 7 – PREVENTATIVE MEASURES (CONT.)

Leak/Spill	Dike area to prevent spreading Prevent runoff into drains, sewers and other waterways Absorb with inert material Ventilate area Use non-sparking tools Wear protective equipment Place in a closed container for disposal
Waste Disposal	In accordance with municipal, provincial and federal regulations Follow company policies and procedures
Handling Procedures and Equipment	Maintain a good personal hygiene Handle and open container with care This product must be manipulated by qualified personnel Use adequate ventilation Empty containers containing residue may cause a hazard Avoid contact with eyes, skin and clothing Wash contaminated clothing before reuse Avoid breathing vapors or mists Wash thoroughly after using, particularly before eating or smoking
Storage Needs	Store in a cool and well ventilated area Store away from incompatible materials Keep container closed Store at ambient temperatures
Special Shipping Instructions	Not regulated

SECTION 8 - FIRST AID MEASURES

Skin contact	Remove contaminated clothing – Wash affected area with warm water and soap – Seek medical attention if irritation occurs or persists
Eye contact	Flush eyes with water for at least 15 minutes Consult a physician if irritation persists
Inhalation	Remove victim to fresh air - If not breathing qualified personnel should administer artificial respiration - Get medical attention
Ingestion	Do NOT induce vomiting Obtain immediate medical attention

SECTION 9 - ADDITIONAL INFORMATION

C.E.P.A.	
CAS Nomenclature	Not Applicable
C.A.S. Registration Number	Mixture
Domestic Substances List	This product appears on the domestic substance list Appears on the U.S. TSCA Inventory
National Pollutants Release Inventory	Does not appear
W.H.M.I.S.	
Classification	D2 sub B
Reporting Quantity	Not Applicable
T.D.G.R.	
Proper Shipping Name	Not Regulated
UN/PIN #	Not Applicable
Class	Not Applicable
Packing Group	Not Applicable
IMO Classification	Refer to transporter
ICAO (Air) Class	Refer to airline
Qty Permitted on Passenger Air Craft	Refer to airline
Qty Permitted on Cargo Air Craft	Refer to airline
Special Shipping Instructions	In Case of Emergency Contact Canutec 1-613-996-6666
Essential Information	The information contained herein is based upon publicly available information and is considered true and accurate. This company makes no warranties express or implied as to the accuracy or adequacy of this information. This information is offered solely for the user's consideration, investigation and verification. It is the user's responsibility whether any use of this information and data is in accordance with applicable federal, provincial/state or local laws and regulations. The manufacturer's original MSDS is available by contacting the sales order department.
Data Prepared By	Conform-Action Data Systems A division of 2843471 Canada Inc. 1975 Hymus Blvd. Suite 230 Dorval, QC H9P 1J8 1-800-990-5093

Additional notes or references:

Abbreviations:

ACGIH:	American Conference of Governmental Industrial Hygienists
IMO:	International Maritime Organization
ICAO:	International Civil Aviation Organization
mg/m^3:	Milligrams per cubic metre
PEL:	Permissible Exposure Limit
TLV:	Threshold Limit Value
WHMIS:	Workplace Hazardous Materials Information System

References:

1. CANUTEC, Dangerous Goods Guide to Initial Emergency Response, 1996.
2. Extract from the Canada Gazette Part II, Regulations respecting the Handling, Offering for Transport and Transportation of Dangerous Goods.
3. Extract from the Canada Gazette Part II, Controlled Products Regulations: Hazardous Products Act.
4. Environment Canada, Domestic Substances List.
5. American Conference of Governmental Industrial Hygienists (ACGIH), 1996 Threshold Limit Values For Chemicals and Physical Agents and Biological Exposure Indices.
6. Canadian Centre for Occupational Health and Safety, CCINFO-DISK.

SAFETY DATA SHEET

Issuing Date: 30-Apr-2015 **Revision Date:** 30-Apr-2015 **Version** 1

1. IDENTIFICATION

Product Name	Mr. Clean Antibacterial Summer Citrus
Product ID:	99801497_RET_NG
Product Type:	Finished Product - Consumer (Retail) Use Only
Recommended Use	Hard Surface Cleaner
Restrictions on Use	Use only as directed on label.
Manufacturer	PROCTER & GAMBLE - Fabric and Home Care Division Ivorydale Technical Centre 5289 Spring Grove Avenue Cincinnati, Ohio 45217-1087 USA Procter & Gamble Inc. P.O. Box 355, Station A Toronto, ON M5W 1C5 1-800-331-3774
E-mail Address	pgsds.im@pg.com
Emergency Telephone	Transportation (24 HR) CHEMTREC - 1-800-424-9300 (U.S./ Canada) or 1-703-527-3887 Mexico toll free in country: 800-681-9531

2. HAZARD IDENTIFICATION

"Consumer Products", as defined by the US Consumer Product Safety Act and which are used as intended (typical consumer duration and frequency), are exempt from the OSHA Hazard Communication Standard (29 CFR 1910.1200). This SDS is being provided as a courtesy to help assist in the safe handling and proper use of the product.

This product is classifed under 29CFR 1910.1200(d) and the Canadian Hazardous Products Regulation as follows:.

Hazard Category	
Eye Damage / Irritation	Category 2B
Signal Word	WARNING
Hazard Statements	Causes eye irritation
Hazard pictograms	None
Precautionary Statements - Prevention	Wash hands thoroughly after handling

Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF SWALLOWED:
Drink 1 or 2 glasses of water

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients are listed according to 29CFR 1910.1200 Appendix D and the Canadian Hazardous Products Regulation

Chemical Name	Synonyms	Trade Secret	CAS-No	Weight %
Alcohols, C9-11, ethoxylated	-	No	68439-46-3	1 - 5
Sodium carbonate	-	No	497-19-8	1 - 5

4. FIRST AID MEASURES

First aid measures for different exposure routes

Eye contact
Rinse with plenty of water. Get medical attention immediately if irritation persists.

Skin contact
Rinse with plenty of water. Get medical attention if irritation develops and persists.

Ingestion
Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

Inhalation
Move to fresh air. If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed
None under normal use conditions.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO_2, alcohol-resistant foam or water spray.

Unsuitable Extinguishing Media
None.

Special hazard
None known.

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific hazards arising from the chemical
None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment. Do not get in eyes, on skin, or on clothing.

Advice for emergency responders Use personal protective equipment as required.

Methods and materials for containment and cleaning up

Methods for containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines No exposure limits noted for ingredient(s).

Exposure controls

Engineering Measures **Distribution, Workplace and Household Settings:**
Ensure adequate ventilation

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction

Personal Protective Equipment

Eye Protection **Distribution, Workplace and Household Settings:**
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Use appropriate eye protection

Hand Protection **Distribution, Workplace and Household Settings:**
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):

Protective gloves

Skin and Body Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Wear suitable protective clothing

Respiratory Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
In case of insufficient ventilation wear suitable respiratory equipment

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C	liquid
Appearance	orange yellow liquid
Odor	Perfume
Odor threshold	No information available

Property	Values	Note
pH value	10.3	
Melting/freezing point	0 °C / 32 °F	
Boiling point/boiling range	100 °C / 212 °F	
Flash point	> 93.3 °C / > 200 °F	ASTM D 93 PMCC Product is an aqueous solution containing <= 24% alcohol and> 50% water
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limit	No information available	
Lower Flammability Limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	1.019 g/cm^3	
Water solubility	completely soluble	
Solubility in other solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	.
Decomposition temperature	No information available	.
Viscosity of Product	No information available	
VOC Content (%)	Products comply with US state and federal regulations for VOC content in consumer products.	

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions.

Stability Stable under normal conditions.

Hazardous polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

Conditions to Avoid None under normal processing.

Materials to avoid None in particular.

Hazardous Decomposition Products None under normal use.

11. TOXICOLOGICAL INFORMATION

Product Information

Information on likely routes of exposure

Inhalation	No known effect.
Skin contact	No known effect.
Ingestion	No known effect.
Eye contact	Irritating to eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity	No known effect.
Skin corrosion/irritation	No known effect.
Serious eye damage/eye irritation	Irritating to eyes.
Skin sensitization	No known effect.
Respiratory sensitization	No known effect.
Germ cell mutagenicity	No known effect.
Neurological Effects	No known effect.
Reproductive toxicity	No known effect.
Developmental toxicity	No known effect.
Teratogenicity	No known effect.
STOT - single exposure	No known effect.
STOT - repeated exposure	No known effect.
Target Organ Effects	No known effect.
Aspiration hazard	No known effect.
Carcinogenicity	No known effect.

JAP Component Information

Chemical Name	CAS-No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium carbonate	497-19-8	2800 mg/kg bw	> 2000 mg/kg bw (US EPA 16 CFR 1500.40)	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not expected to be hazardous to the environment.

Persistence and degradability	No information available.
Bioaccumulative potential	No information available.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste from Residues / Unused Products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.
California Hazardous Waste Codes (non-household setting)	331

14. TRANSPORT INFORMATION

DOT Not regulated

IMDG Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	CAS-No	Hazardous Substances RQs	Extremely Hazardous Substances RQs	CERCLA/SARA 302 TPQ
Sodium hydroxide	1310-73-2	1000 lb	-	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CAS-No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide	1310-73-2	1000 lb	-	-	X

California Proposition 65
This product is not subject to warning labeling under California Proposition 65.

U.S. State Regulations (RTK)

Chemical Name	CAS-No	Pennsylvania
Sodium hydroxide	1310-73-2	X

International Inventories

United States
All intentionally-added components of this product(s) are listed on the US TSCA Inventory.

Canada
This product is in compliance with CEPA for import by P&G.

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act

FIFRA
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

EPA Registration number: 3573-63
CAUTION
Causes eye irritation

16. OTHER INFORMATION

Issuing Date: 30-Apr-2015
Revision Date: 30-Apr-2015
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Muffler Cement

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 02/08/2017 Revision date: 02/08/2017 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixtures

Product name : Muffler Cement

Product code : 450

1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Muffler Cement

1.3. Supplier

Kleen-Flo Tumbler ind. Ltd.
75 Advance Boulevard
L6T 4N1 Brampton - CANADA
T 905-793-4311

1.4. Emergency telephone number

Emergency number : CANUTEC (613) 996-6666

Guidelines for SDS Use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal foreseeable conditions. This SDS is designed to provide additional valuable safety and handling information.

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Irrit. 2A	H319

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :

GHS07

Signal word (GHS-CA) : Warning

Hazard statements (GHS-CA) : H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS-CA) : P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves, eye protection, face protection
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P302+P352 - IF ON SKIN: Wash with plenty of water
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P330 - Rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-CA)

40% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Sodium silicate	(CAS No) 1344-09-8	45-70

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion : Harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Treat for surrounding material.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use water jet.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Methods and materials for containment and cleaning up

For containment : Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container.

Other information : Spilled material may present a slipping hazard.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear chemically resistant protective gloves.

Eye protection:

Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Paste
Colour	:	Grey
Odour	:	Odourless
Odour threshold	:	No data available
pH	:	9 - 11.3
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	> 230 °C / 446 °F
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable
Vapour pressure	:	24 mm Hg at 25 °C
Vapour pressure at 50 °C	:	No data available
Relative vapour density at 20 °C	:	0.6 (air = 1)
Relative density	:	1.7
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Viscosity, kinematic	:	Thick viscous paste
Explosive limits	:	No data available

9.2. Other information

VOC (%) : 30 – 35 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : Stable under normal storage conditions.
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.
Conditions to avoid : Heat.
Incompatible materials : None known.
Hazardous decomposition products : May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Oral: Harmful if swallowed.
Acute toxicity (dermal) : Not classified.
Acute toxicity (inhalation) : Not classified.

Muffler Cement	
LD50 oral rat	1 - 2.2 g/kg
LD50 dermal rabbit	No data available
LC50 inhalation rat	No data available
Unknown acute toxicity (GHS-CA)	40% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

Sodium silicate (1344-09-8)	
LD50 oral rat	1960 mg/kg

Skin corrosion/irritation : Causes skin irritation.
pH: 9 - 11.3
Serious eye damage/irritation : Causes serious eye irritation.
pH: 9 - 11.3
Respiratory or skin sensitization : Not classified.
Germ cell mutagenicity : Not classified.
Carcinogenicity : Not classified.
Reproductive toxicity : Not classified.
STOT-single exposure : Not classified.
STOT-repeated exposure : Not classified.
Aspiration hazard : Not classified.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.
Symptoms/injuries after inhalation : May cause respiratory tract irritation.
Symptoms/injuries after skin contact : Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/injuries after ingestion : Harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Sodium silicate (1344-09-8)	
LC50 fish 1	301 - 478 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
LC50 fish 2	3185 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])

12.2. Persistence and degradability

Muffler Cement	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Muffler Cement	
Bioaccumulative potential	Not established.

Sodium silicate (1344-09-8)	
BCF fish 1	(no bioaccumulation expected)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

Not regulated for transport

14.2. Transport information/DOT

No additional information available

14.3. Air and sea transport

No additional information available

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Date of issue : 02/08/2017
Revision date : 02/08/2017

Other information : None.
Prepared by : Kleen-Flo Tumbler Ind. Ltd.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Ciment Pour Silencieux

Fiche de données de sécurité

conformément à la Loi sur les produits dangereux (11 février 2015)

Date d'émission: 02/08/2017 Date de révision: 02/08/2017 Version: 1.0

SECTION 1: Identification

1.1. Identificateur de produit

Forme du produit : Mélanges

Nom du produit : Ciment Pour Silencieux

Code du produit : 450

1.2. Usage recommandé et restrictions d'utilisation

Utilisations recommandées & restrictions : Ciment Pour Silencieux

1.3. Fournisseur

Les Entreprises Kleen-Flo Tumbler Limitée
75 Advance Boulevard
L6T 4N1 Brampton – Canada
T 905-793-4311

1.4. Numéro d'appel d'urgence

Numéro d'urgence : CANUTEC (613) 996-6666

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

SECTION 2: Identification des dangers

2.1. Classification de la substance ou du mélange

Classification (GHS-CA)

Toxicité aiguë - catégorie 4 (orale)	H302
Corrosif/irritant pour la peau, Catégorie 2	H315
Lésions oculaires graves/irritation oculaire, Catégorie 2A	H319

2.2. Éléments d'étiquetage SGH, y compris conseils de prudence

Étiquetage GHS-CA

Pictogrammes de danger (GHS-CA) :

GHS07

Mention d'avertissement (GHS-CA) : Attention

Mentions de danger (GHS-CA) :
H302 - Nocif en cas d'ingestion
H315 - Provoque une irritation cutanée
H319 - Provoque une sévère irritation des yeux

Conseils de prudence (GHS-CA) :
P264 - Se laver les mains soigneusement après manipulation
P270 - Ne pas manger, boire ou fumer en manipulant ce produit
P280 - Porter des gants de protection, un équipement de protection des yeux, un équipement de protection du visage
P301+P312 - EN CAS D'INGESTION: Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise
P302+P352 - EN CAS DE CONTACT AVEC LA PEAU: Laver abondamment à l'eau
P305+P351+P338 - EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer
P330 - Rincer la bouche
P332+P313 - En cas d'irritation cutanée: consulter un médecin
P337+P313 - Si l'irritation oculaire persiste: consulter un médecin
P362+P364 - Enlever les vêtements contaminés et les laver avant réutilisation
P501 - Éliminer le contenu/récipient dans un centre de collecte de déchets dangereux ou spéciaux, conformément à la réglementation locale, régionale, nationale et/ou internationale

2.3. Autres dangers

Pas d'informations complémentaires disponibles

2.4. Toxicité aiguë inconnue (GHS-CA)

40% du mélange consiste(nt) en composants de toxicité inconnue (Oral)

SECTION 3: Composition/information sur les ingrédients

3.1. Substances

Non applicable

3.2. Mélanges

Nom	Identificateur de produit	%
Acide silicique, sel de sodium	(n° CAS) 1344-09-8	45-70

SECTION 4: Premiers soins

4.1. Description des premiers secours

Premiers soins après inhalation : S'il y a difficulté à respirer, transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Consulter un médecin en cas de malaise.

Premiers soins après contact avec la peau : En cas de contact, rincer immédiatement et abondamment avec de l'eau. Retirer les vêtements/souliers contaminés. Laver les vêtements avant de les porter à nouveau. Si une irritation cutanée se développe et persiste, consulter un médecin.

Premiers soins après contact oculaire : En cas de contact, rincer immédiatement et abondamment avec de l'eau pendant au moins 15 minutes. Le cas échéant, retirer les lentilles de contact si elles peuvent être facilement enlevées. Si l'irritation persiste, consulter un médecin.

Premiers soins après ingestion : Si le produit a été ingéré, ne PAS provoquer le vomissement à moins que ceci ait été demandé par du personnel médical. Ne jamais administrer quoi que ce soit par voie orale à une personne inconsciente. Rincer la bouche. Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise.

4.2. Symptômes et effets les plus importants, aigus ou retardés

Symptômes/lésions après inhalation : Peut causer l'irritation des voies respiratoires.

Symptômes/lésions après contact avec la peau : Provoque une irritation cutanée. Les symptômes peuvent inclure des rougeurs, des œdèmes, une délipidation, des dessèchements et une gerçure de la peau.

Symptômes/lésions après contact oculaire : Provoque une sévère irritation des yeux. Les symptômes peuvent inclure un inconfort ou des douleurs, un clignement excessif des paupières et une production excessive de larmes, avec une rougeur prononcée et un gonflement de la conjonctive.

Symptômes/lésions après ingestion : Nocif en cas d'ingestion. Peut causer un malaise gastro-intestinal, des nausées ou des vomissements.

4.3. Nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire

Autre avis médical ou traitement : Les symptômes peuvent ne pas apparaître immédiatement. En cas d'accident ou de malaise, consulter immédiatement un médecin (si possible, lui montrer l'étiquette ou la fiche signalétique).

SECTION 5: Mesures à prendre en cas d'incendie

5.1. Agents extincteurs appropriés

Moyens d'extinction appropriés : Traiter pour les matériaux environnants.

5.2. Agents extincteurs inappropriés

Agents d'extinction non appropriés : Ne pas utiliser un jet d'eau.

5.3. Dangers spécifiques du produit dangereux

Danger d'incendie : Les produits de combustion peuvent inclure, sans s'y limiter : oxydes de carbone.

5.4. Équipements de protection spéciaux et précautions spéciales pour les pompiers

Protection en cas d'incendie : Rester en amont du vent par rapport à l'incendie. Porter un habit pare feu complet incluant un équipement de respiration (SCBA).

SECTION 6: Mesures à prendre en cas de déversement accidentel

6.1. Précautions individuelles, équipement de protection et procédures d'urgence

Mesures générales : Porter les vêtements protecteurs recommandés dans la section 8. Isoler la zone de danger et interdire l'accès au personnel non protégé et non autorisé.

6.2. Méthodes et matériaux pour le confinement et le nettoyage

Pour la rétention : Contenir et/ou absorber le déversement avec une substance inerte (par ex. du sable ou de la vermiculite) puis placer ensuite dans un conteneur adapté. Ne pas laisser s'écouler dans les égouts ni dans les cours d'eau. Utiliser l'équipement de protection individuelle (EPI) approprié.

Procédés de nettoyage : Déblayer la substance avec une pelle et la placer dans un conteneur de récupération.

Autres informations : Risque de glissade sur la matière renversée.

6.3. Référence aux autres sections

Pour plus d'informations, se reporter à la section 8 : "Contrôle de l'exposition-protection individuelle"

SECTION 7: Manutention et stockage

7.1. Précautions à prendre pour une manipulation sans danger

Précautions à prendre pour une manipulation sans danger : Éviter le contact avec la peau et les yeux. Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols. Ne pas avaler. Manipuler et ouvrir le récipient avec prudence. Ne pas manger, ne pas boire et ne pas fumer pendant l'utilisation.

7.2. Conditions nécessaires pour assurer la sécurité du stockage, tenant compte d'éventuelles incompatibilités

Conditions de stockage : Conserver hors de la portée des enfants. Maintenir le récipient fermé de manière étanche. Conserver dans un endroit sec, frais et très bien ventilé.

SECTION 8: Contrôles de l'exposition/protection individuelle

8.1. Paramètres de contrôle

Pas d'informations complémentaires disponibles

8.2. Contrôles techniques appropriés

Contrôles techniques appropriés : Aérer/ventiler les lieux pour maintenir l'exposition aux poussières en suspension, émanations chimiques, fumée, etc, sous les limites permises.

Contrôle de l'exposition de l'environnement : Maintenir les niveaux sous les seuils de la protection environnementale de la communauté.

8.3. Mesures de protection individuelle/équipements de protection individuelle

Protection des mains:

Porter des gants résistant aux produits chimiques.

Protection oculaire:

Porter des lunettes de protection contre les poussières/les éclaboussures (correctement ajustées), ainsi qu'une protection faciale (écran facial).

Protection de la peau et du corps:

Porter un vêtement de protection approprié

Protection des voies respiratoires:

En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Le choix de l'appareil de protection respiratoire doit être fondé sur les niveaux d'expositions prévus ou connus, les dangers du produit et les limites d'utilisation sans danger de l'appareil de protection respiratoire retenu.

Autres informations:

Ne pas manger, fumer ou boire là où la substance est manipulée, traitée ou stockée. Se laver les mains minutieusement avant de manger ou de fumer. À manipuler selon les pratiques de sécurité et d'hygiène industrielles établies.

SECTION 9: Propriétés physiques et chimiques

9.1. Informations sur les propriétés physiques et chimiques essentielles

État physique	:	Solide
Apparence	:	Pâte
Couleur	:	Gris(e)
Odeur	:	Inodore
Seuil olfactif	:	Aucune donnée disponible
pH	:	9 - 11,3
Vitesse d'évaporation relative (acétate de butyle=1)	:	Aucune donnée disponible
Vitesse d'évaporation relative (éther=1)	:	Aucune donnée disponible
Point de fusion	:	Aucune donnée disponible
Point de congélation	:	Non applicable
Point d'ébullition	:	> 230 °C / 446 °F
Point d'éclair	:	Aucune donnée disponible
Température d'auto-inflammation	:	Aucune donnée disponible
Température de décomposition	:	Aucune donnée disponible
Inflammabilité (solide, gaz)	:	Ininflammable
Pression de la vapeur	:	24 mm Hg at 25 °C
Pression de vapeur à 50 °C	:	Aucune donnée disponible
Densité relative de la vapeur à 20 °C	:	0,6 (air = 1)
Densité relative	:	1,7
Solubilité	:	Aucune donnée disponible

Coefficient de partage n-octanol/eau	:	Aucune donnée disponible
Viscosité, cinématique	:	Pâte épaisse et visqueuse
Limites d'explosivité	:	Aucune donnée disponible

9.2. Autres informations

COV (%)	:	30 – 35 %

SECTION 10: Stabilité et réactivité

10.1. Réactivité

Réactivité	:	Aucun dans les conditions normales d'utilisation.
Stabilité chimique	:	Stable dans les conditions normales d'entreposage.
Possibilité de réactions dangereuses	:	Aucun dans les conditions normales d'utilisation.
Conditions à éviter	:	Chaleur.
Matières incompatibles	:	Aucun connu.
Produits de décomposition dangereux	:	Peut inclure, sans s'y limiter : oxydes de carbone.

SECTION 11: Données toxicologiques

11.1. Informations sur les effets toxicologiques

Toxicité Aiguë (voie orale)	:	Oral: Nocif en cas d'ingestion.
Toxicité Aiguë (voie cutanée)	:	Non classé
Toxicité aigüe (inhalation)	:	Non classé

Ciment Pour Silencieux	
DL50 orale rat	1 - 2,2 g/kg
DL50 cutanée lapin	Aucune donnée disponible
CL50 inhalation rat	Aucune donnée disponible
Toxicité aiguë inconnue (GHS-CA)	40% du mélange consiste(nt) en composants de toxicité inconnue (Oral)

Acide silicique, sel de sodium (1344-09-8)	
DL50 orale rat	1960 mg/kg

Corrosion cutanée/irritation cutanée	:	Provoque une irritation cutanée. pH: 9 - 11,3
Lésions oculaires graves/irritation oculaire	:	Provoque une sévère irritation des yeux. pH: 9 - 11,3
Sensibilisation respiratoire ou cutanée	:	Non classé
Mutagénicité sur les cellules germinales	:	Non classé
Cancérogénicité	:	Non classé
Toxicité pour la reproduction	:	Non classé
Toxicité spécifique pour certains organes cibles (exposition unique)	:	Non classé
Toxicité spécifique pour certains organes cibles (exposition répétée)	:	Non classé
Danger par aspiration	:	Non classé
Autres informations	:	Voies d'exposition possibles : ingestion, inhalation, peau et yeux.
Symptômes/lésions après inhalation	:	Peut causer l'irritation des voies respiratoires.
Symptômes/lésions après contact avec la peau	:	Provoque une irritation cutanée. Les symptômes peuvent inclure des rougeurs, des œdèmes, une délipidation, des dessèchements et une gerçure de la peau.
Symptômes/lésions après contact oculaire	:	Provoque une sévère irritation des yeux. Les symptômes peuvent inclure un inconfort ou des douleurs, un clignement excessif des paupières et une production excessive de larmes, avec une rougeur prononcée et un gonflement de la conjonctive.
Symptômes/lésions après ingestion	:	Nocif en cas d'ingestion. Peut causer un malaise gastro-intestinal, des nausées ou des vomissements.

SECTION 12: Données écologiques

12.1. Toxicité

Écologie - général	:	Peut entraîner des effets néfastes à long terme pour l'environnement aquatique.

Acide silicique, sel de sodium (1344-09-8)	
CL50 poisson 1	301 - 478 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

Acide silicique, sel de sodium (1344-09-8)	
CL50 poissons 2	3185 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])

12.2. Persistance et dégradabilité

Ciment Pour Silencieux	
Persistance et dégradabilité	Non établi.

12.3. Potentiel de bioaccumulation

Ciment Pour Silencieux	
Potentiel de bioaccumulation	Non établi.

Acide silicique, sel de sodium (1344-09-8)	
BCF poissons 1	(aucune bioaccumulation prevue)

12.4. Mobilité dans le sol

Pas d'informations complémentaires disponibles

12.5. Autres effets néfastes

Pas d'informations complémentaires disponibles

SECTION 13: Données sur l'élimination

13.1. Méthodes d'élimination

Recommandations relatives à l'élimination du produit ou de l'emballage : Ces matériaux doivent être éliminés dans le respect de toutes les réglementations locales, régionales, provinciales et fédérales. Il est recommandé d'éviter ou réduire autant que possible la production de déchets.

SECTION 14: Informations relatives au transport

14.1. Description sommaire pour l'expédition

Conformément aux exigences de TMD

Transport des marchandises dangereuses (TMD)

Non réglementé pour le transport

14.2. Informations relatives au transport/DOT (Ministère des transports des États-Unis)

Pas d'informations complémentaires disponibles

14.3. Transport aérien et maritime

Pas d'informations complémentaires disponibles

SECTION 15: Informations relatives à la réglementation

15.1. Directives nationales

Tous les composants de ce produit figurent aux inventaires canadiens LIS (Liste intérieure des substances) et LES (Liste extérieure des substances) (ou en sont exclus).

15.2. Réglementations internationales

Pas d'informations complémentaires disponibles

SECTION 16: Autres informations

Date d'émission : 02/08/2017
Date de révision : 02/08/2017

Autres informations : Aucun(e).
Préparé par : Les Entreprises Kleen-Flo Tumbler Limitée

Clause de non-responsabilité : nous croyons que les affirmations, les informations techniques et les recommandations contenues dans la présente sont véridiques, mais elles sont données sans garantie d'aucune sorte. Les informations contenues dans ce document s'appliquent à cette substance spécifique comme fournie. Elles peuvent ne pas être valables pour cette substance si elle est utilisée en combinaison avec toute autre substance. Il est de la responsabilité de l'utilisateur de s'assurer de la pertinence et de l'intégralité de cette information quant à l'usage particulier qu'il en fera.

SAFETY DATA SHEET

Nashua 357 Spray Adhesive

Section 1. Identification

Product code / Name : **Nashua 357 Spray Adhesive**

Product description : Premium Web Spray Adhesive

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Adhesive

Uses advised against : Not applicable

Supplier/Manufacturer : Berry Global, Inc.
2320 Bowling Green Road
Franklin, KY 42134

Email : regulatoryaffairs@berryglobal.com

Emergency telephone number (with hours of operation) : Chemtrec 24 Hour Emergency Response Number +1-800-424-9300 CCN22955
+1-800-248-7659 M-F 8AM-5PM

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 12.6%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Hazardous ingredients Name	%	CAS number
acetone	≥10 - ≤25	67-64-1
methyl acetate	≤10	79-20-9
heptane	≤3	142-82-5
Non-hazardous ingredients Name	**%**	**CAS number**
propane	10 - 25	74-98-6
butane	10 - 25	106-97-8
Dimethyl Ether	3 - 5	115-10-6
4-chloro-α,α,α-trifluorotoluene	3 - 5	98-56-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

Environmental precautions : Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
acetone	**ACGIH TLV (United States, 3/2016).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 750 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 2400 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
methyl acetate	**ACGIH TLV (United States, 3/2016).** TWA: 200 ppm 8 hours. TWA: 606 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 757 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 200 ppm 8 hours. TWA: 610 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 760 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 610 mg/m³ 10 hours. STEL: 250 ppm 15 minutes. STEL: 760 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 200 ppm 8 hours. TWA: 610 mg/m³ 8 hours.
heptane	**ACGIH TLV (United States, 3/2016).** TWA: 400 ppm 8 hours. TWA: 1640 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm 8 hours. TWA: 1600 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2000 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 85 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 440 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 500 ppm 8 hours. TWA: 2000 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Physical state : Liquid. [Aerosol. Liquefied compressed gas.]

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 67.05°C (152.7°F)

Flash point : Open cup: -104.4°C (-155.9°F)

Evaporation rate : Not applicable.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Lower: 2.2%
Upper: 11.4%

Vapor pressure : Not available.

Vapor density : Not applicable.

Relative density : Not available.

Solubility : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Section 9. Physical and chemical properties

Auto-ignition temperature : 385.69°C (726.2°F)

Decomposition temperature : Not available.

Viscosity : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 22.82 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LD50 Oral	Rat	5800 mg/kg	-
methyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
heptane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	103 g/m³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
methyl acetate	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Section 11. Toxicological information

Carcinogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
acetone	Category 3	Not applicable.	Narcotic effects
methyl acetate	Category 3	Not applicable.	Narcotic effects
heptane	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

Aspiration hazard

Name	Result
heptane	ASPIRATION HAZARD - Category 1

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not applicable.

Potential delayed effects : Not applicable.

Long term exposure

Potential immediate effects : Not applicable.

Potential delayed effects : Not applicable.

Potential chronic health effects

No known significant effects or critical hazards.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not applicable.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
methyl acetate	Acute LC50 320000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
heptane	Acute LC50 375000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours

Persistence and degradability

Not applicable.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
acetone	-0.23	-	low
methyl acetate	0.18	-	low
heptane	4.66	552	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not applicable.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Do not puncture or incinerate container. Dispose of according to all federal, state and local applicable regulations.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetone (I); 2-Propanone (I)	67-64-1	Listed	U002

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN1950	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS	Aerosols, flammable
Transport hazard class(es)	2.1 	2.1 	2.1 	2 	2.1 	2.1 
Packing group	-	-	-	-	-	-
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	**Reportable quantity** 20394 lbs / 9258.9 kg [4632.5 gal / 17535.8 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.	-	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Tunnel code** (D)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

Section 15. Regulatory information

U.S. Federal regulations

Clean Air Act (CAA) 112 regulated flammable substances: propane; butane; dimethyl ether

TSCA : All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

SARA 302/304

Section 15. Regulatory information

Composition/information on ingredients

No ingedients were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Sudden release of pressure
Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
acetone	24.517	Yes.	No.	No.	Yes.	No.
methyl acetate	8.381	Yes.	No.	No.	Yes.	No.
heptane	2.354	Yes.	No.	No.	Yes.	No.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
Class B-5: Flammable aerosol.
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : The following components are listed: Volatile organic compounds; Propane; Butane (all isomers); Dimethylether; Volatile organic compounds; Heptane (all isomers)

CEPA Toxic substances : The following components are listed: Volatile organic compounds; Volatile organic compounds

Canada inventory : All components are listed or exempted.

International lists

National inventory

Australia : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan : **Japan inventory (ENCS)**: All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.

Malaysia : Not determined.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Section 16. Other information

History

Date of issue/Date of revision : 4/10/2017

Date of previous issue : 3/28/2017

Version : 1.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

Section 16. Other information

Indicates information that has changed from previously issued version.

Notice to reader

All statements, technical information and recommendations set forth herein are based on information or tests which Berry Global believes to be reliable as of the date of this Safety Data Sheet. NOTHING CONTAINED IN THIS SAFETY DATA SHEET IS A REPRESENTATION, GUARANTEE OR WARRANTY OF ANY KIND. Berry Global does not assume any liability with respect to the accuracy and/or completeness of the information provided herein. Recipients of this information should be familiar with the regulatory requirements applicable to this product and their intended use of it and they should make their own determination as to the information's suitability and completeness for their particular application(s). The data in this Safety Data Sheet pertains only to the specific material referred to herein and does not relate to use in combination with any other material or in any process.

1. Identification of the substance/mixture and of the company/undertaking

Product name 483-15 Nason Ful-Thane 2K Urethane Catalyst

Product code 483-15

Recommended use of the chemical
Hardener for professional use

Restrictions on use
The product is only for industrial and/or professional use, not for any private consumer use.

Information on the Manufacturer/Supplier/Distributor

Producer/Supplier	Axalta Coating Systems Australia Pty Limited
Street/Box	15 - 23 Melbourne Road, Riverstone NSW 2765, Australia

Product Information

Telephone	+61 (0)2 8818 4300
	http://www.axalta.com.au

Emergency Information

Emergency telephone number	1800 089 766
	AU Poisons Information Centre: 131 126
Medical Emergency Phone	1800 674 415
Transportation Emergency Phone	1800 089 766

2. Hazards identification

Classified as HAZARDOUS according to the GHS criteria under Australian Work Health Safety (WHS) Act 2011.
Classified as DANGEROUS GOODS according to the Australian Dangerous Goods (ADG) Code

GHS-Classification

Flammable liquids	Category 4
Respiratory sensitisation	Category 1
Skin sensitisation	Category 1
Target Organ Systemic Toxicant - Single exposure	Category 3

Endpoints which are “not classified”, “cannot classified” and “not applicable” are not shown.

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements

Contains isocyanates. May produce an allergic reaction.
Combustible liquid.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.

Precautionary statements

Keep away from open flames/hot surfaces. - No smoking.
Avoid breathing dust/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of inadequate ventilation wear respiratory protection.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation or rash occurs: Get medical advice/ attention.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
Contains isocyanates. See information supplied by the manufacturer. Contains: hexamethylene-di-isocyanate. May produce an allergic reaction.

Special hazard instructions for humans and environment
Do not breathe gas/fumes/vapour/spray. Avoid contact with skin. Wear suitable gloves.
Restricted to professional users.

3. Composition/information on ingredients

Chemical nature
Mixture of synthetic resins and solvents

Hazardous components

CAS-No.	Chemical name	Concentration	GHS Hazardous
28182-81-2	Hexamethylene diisocyanate, oligomers	80 - 90%	√
123-86-4	n-butyl acetate	3 - 5%	√
95-63-6	1,2,4-trimethylbenzene	1 - 3%	√
64742-95-6	solvent naphtha (petroleum), light arom. (<0,1% benzene)	1 - 3%	√
822-06-0	hexamethylene-di-isocyanate	0.1 - 0.3%	√

Non-regulated ingredients 0.1 - 1.0%

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this safety data sheet (SDS) or product label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact my cause skin sensitization.

Indication of Immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in “Composition, Information on Ingredients” section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self-contained breathing apparatus for firefighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

Additional information
Hazchem Code: 3Y

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep in a well-ventilated place. Keep away from sources of ignition. Comply with safety directives (see chapters 7 and 8). Do not inhale vapours.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

Methods for cleaning up
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts), concentrated (d : 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts), water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to local regulations (see section 13).

7. Handling and storage

Handling
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Preparation may charge electrostatically: always use grounded leads when transferring from one container to another.
Operators should wear antistatic footwear and clothing. No sparking tools should be used. Avoid skin and eye contact. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8. Comply with the health and safety at work laws. If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Never use pressure to empty container: container is not a pressure vessel. Always keep in containers of same material as the original one.

Storage

Requirements for storage areas and containers
Storage temperature: +5 to +35ºC. Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Additional information on storage conditions
Precautions should be taken to avoid exposure to atmospheric humidity or water. Humid air and/or water will produce carbon dioxide which will pressurize the container. Open drum carefully as content may be under pressure.

8. Exposure controls/personal protection

Additional technical information on the plant
Provide adequate ventilation.Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided. During spray operations, use spray booth fitted to airflow requirements of AS/NZS 4114.

National occupational exposure limits

CAS-No.	Chemical name	Values	Control Parameters	Basis
28182-81-2	Hexamethylene diisocyanate, oligomers	STEL	0.07 mg/m3	NOHSC:1003(2003)
		TWA	0.02 mg/m3	NOHSC:1003(2003)
123-86-4	n-butyl acetate	STEL	950 mg/m3	NOHSC:1003(2003)
			200 ppm	NOHSC:1003(2003)
		TWA	713 mg/m3	NOHSC:1003(2003)
			150 ppm	NOHSC:1003(2003)
95-63-6	1,2,4-trimethylbenzene	TWA	123 mg/m3	NOHSC:1003(2003)
			25 ppm	NOHSC:1003(2003)
64742-95-6	solvent naphtha (petroleum), light arom. (<0,1% benzene)			no exposure standard allocated
822-06-0	hexamethylene-di-isocyanate	STEL	0.07 mg/m3	NOHSC:1003(2003)
		TWA	0.02 mg/m3	NOHSC:1003(2003)

Protective equipment

Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
For spraying: air-fed respirator. For operations other than spraying: in well ventilated areas, air-fed respirators could be replaced by a combination of charcoal filter and particulate filter mask.

Hand protection
The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Chemical name	Glove material	Glove thickness	Break through time
n-butyl acetate	Viton (R) ®	0.7 mm	10 MIN
	Nitrile rubber	0.33 mm	30 MIN
solvent naphtha (petroleum), light arom. (<0,1% benzene)	Viton (R) ®	0.7 mm	30 MIN

The protective glove should be checked in each case for their work specific suitability (e.g. mechanical stability, product compatibility, and anti-static properties). When the intended use is for spray application a nitrile glove of the chemical resistance group 3 (e.g. Dermatril® glove) is to be used. After contamination, the glove has to be changed. If immersing the hands into the product is not avoidable (e.g. maintenance work) a butyl or fluorocarbon rubber glove should be used. When skin exposure may occur to materials specified in section 3 of this SDS, advice should be sought from the glove supplier as to appropriate type to use with this product and the permeation breakthrough times. Care should be taken when working with sharp edged articles as these can easily damage the gloves and make them ineffective. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Damaged gloves or those showing signs of wear should be replaced immediately.

Eye protection
Wear protective eyewear for protection against solvent spatter.

Skin and body protection
Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use organic solvents!

Environmental exposure controls
Do not let product enter drains.
For ecological information refer to section 12.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form: liquid; **Colour:** ; **Odour:** Odour is not perceptible.; **Odor Threshold :** No data available;

Important health, safety and environmental information

Property	Value	Method
pH	pH cannot be measured due to less solubility in water.	
Melting point/freezing point	Not applicable.	
Boiling point/boiling range	160 °C	
Flash point	65 °C	DIN 53213/ISO 1523
Evaporation rate	Slower than Ether	
Flammability (solid, gas)	not relevant as product is liquid	
Lower explosion limit	No data available	
Upper explosion limit	No data available	
Vapour pressure	1.0 hPa	
Vapour density	No data available	
Relative density	1.13 g/cm^3	20 °C - DIN 53217/ISO 2811
Solubility(ies)		
Water solubility	nil	
Solubility in other solvents	No data available	

Partition coefficient: n-octanol/water	This product is a mixture. For ingredient details see section 12	
Auto-ignition temperature	415 °C	DIN 51794 based on organic solvent content
Decomposition temperature	This product is a mixture. For further information see section 10.	
Viscosity (23 °C)	Not applicable.	ISO 2431 - 1993
Explosive properties	Not explosive	
Oxidizing properties	not oxidizing	

Other data

Solvent separation test	< 3%	ADR/RID
Content of volatile components (including water)	10.0 %	Basis Vapour pressure >= 0.01 kPa
organic solvent content	10.0 %	Basis Vapour pressure >= 0.01 kPa

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage and handling conditions (see section 7).

Materials to avoid
Keep away from oxidizing agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Mixture reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition: 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation

hexamethylene-di-isocyanate	Category 1

Skin sensitisation

Hexamethylene diisocyanate, oligomers	Category 1
hexamethylene-di-isocyanate	Category 1

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure

- **Inhalation**

  Respiratory system hexamethylene-di-isocyanate, 1,2,4-trimethylbenzene

  Central nervous system 1,2,4-trimethylbenzene

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies: This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Components of the product may be absorbed into the body through the skin.

12. Ecological information

Ecotoxicity effects
There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.
The data in this section is consistent with data from chemical safety reports available at the date of revision.

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility in soil
No information available.

Other adverse effects
No information available.

13. Disposal considerations

Incinerate or otherwise dispose of waste material in accordance with local regulations. The product should not be allowed to enter drains, water courses or the soil. Do not incinerate in closed containers.

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. If recycling is not practicable, dispose of in compliance with local regulations.

14. Transport information

Transport in accordance with the requirements of the Carriage of Dangerous Goods by Road and Rail (Classifications, Packaging and Labeling), ADG for road, IMDG for sea and ICAO/IATA for air transport.

ADG (Land transport)

Proper shipping name:	RESIN SOLUTION
UN number:	1866
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Environmental hazards:	none
Packing group:	III
Hazchem:	3Y

IMDG (Sea transport)

Proper shipping name:	RESIN SOLUTION
UN number:	1866
Hazard Class:	3

Subsidiary Hazard Class:	Not applicable.
Environmental hazards:	none
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

ICAO/IATA (Air transport)

Proper shipping name:	RESIN SOLUTION
UN number:	1866
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Environmental hazards:	none
Packing group:	III

Matters needing attention for transportation

Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

Symbol and indication of hazard.

Xn	Harmful
Contains	Hexamethylene diisocyanate, oligomers 80 - 90%.

R-phrase(s)

R10	Flammable.
R20	Harmful by inhalation.
R37	Irritating to respiratory system.
R43	May cause sensitisation by skin contact.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S23	Do not breathe gas/fumes/vapour/spray.
S24	Avoid contact with skin.
S37	Wear suitable gloves.

Contains isocyanates. See information supplied by the manufacturer.

National regulatory information

- Standard for the Uniform Scheduling of Medicines and Poisons
  - Schedule 6
- Information about Other Regulations.
  - Not applicable

Restricted to professional users.

16. Other information

Sources of key data used to compile the datasheet
1. Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals, December 2011
2. Guidance on the Classification of Hazardous Chemicals Under The WHS Regulations, April 2012
3. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
4. Australian Dangerous Goods Code, 7.3 (National Road Transport Commission)
5. Standard for the Uniform Schedule of Medicines and Poisons (SUSMP), No. 9
6. Labelling of Workplace Hazardous Chemicals Code of Practice, March 2015

Further information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Report version

Version	Changes
3.1	8, 9

Revision Date: 2016-07-20
B13162989

End of Safety Data Sheet

SAFETY DATA SHEET

1. Identification

Product identifier	**Natural Degreaser™ Citrus-Based Degreaser**
Other means of identification	
Product code	14005
Recommended use	General purpose degreaser
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/eye protection/face protection. Avoid release to the environment.

Response	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Collect spillage.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Dipropylene glycol monopropyl ether (dpmp)		29911-27-1	60 - 70
Dipropylene glycol monomethyl ether acetate		88917-22-0	20 - 30
d-Limonene		5989-27-5	5 - 10
Carbon dioxide		124-38-9	3 - 5
Dipentene		68956-56-9	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	If ingestion of a large amount does occur, call a poison control center immediately. Rinse mouth.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many vapors are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
d-Limonene (CAS 5989-27-5)	TWA	165.5 mg/m3 30 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Viton®. Polyvinyl chloride (PVC).

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Water-white.

Odor Citrus.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -139.9 °F (-95.5 °C) estimated

Initial boiling point and boiling range 304 °F (151.1 °C) estimated

Flash point 150 °F (65.6 °C) Tag Closed Cup

Evaporation rate Slow.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 0.7 % estimated

Flammability limit - upper (%) 5.4 % estimated

Vapor pressure 2076.9 hPa estimated

Vapor density > 1 (air = 1)

Relative density 0.95 estimated

Solubility (water) Negligible.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 401 °F (205 °C) estimated

Decomposition temperature Not available.

Viscosity (kinematic) Not available.

Percent volatile	96.4 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous decomposition products	Aldehydes. Ketones. Organic acids. Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Swallowing small amounts during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. May cause gastrointestinal irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity May cause an allergic skin reaction. May cause respiratory irritation.

Product	Species	Test Results
Natural Degreaser™ Citrus-Based Degreaser		
Acute		
Dermal		
LD50	Rabbit	2305 mg/kg estimated
Inhalation		
LC50	Rat	24 mg/l, 4 Hours estimated
Oral		
LD50	Rat	2147 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

d-Limonene (CAS 5989-27-5)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Product		Species	Test Results
Natural Degreaser™ Citrus-Based Degreaser			
Aquatic			
Fish	LC50	Fish	8.5631 mg/l, 96 hours estimated
Acute			
Crustacea	EC50	Daphnia	159.6211 mg/l, 48 hours estimated

Components		Species	Test Results
Dipropylene glycol monomethyl ether acetate (CAS 88917-22-0)			
Aquatic			
Acute			
Crustacea	LC50	Water flea (Daphnia magna)	2701 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	151 mg/l, 96 hours
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)	111 mg/l, 96 hours
Dipropylene glycol monopropyl ether (dpmp) (CAS 29911-27-1)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 100 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 100 mg/l, 96 hours
d-Limonene (CAS 5989-27-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	0.619 - 0.796 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
Dipropylene glycol monomethyl ether acetate	0.61 OECD 107
Dipropylene glycol monopropyl ether (dpmp)	0.87 OECD 107
d-Limonene	4.232

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products If discarded, this product is considered a RCRA ignitable waste, D001. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1950

UN proper shipping name Aerosols, flammable, Limited Quantity

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	Yes
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY, MARINE POLLUTANT
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Carbon dioxide (CAS 124-38-9)

US. Massachusetts RTK - Substance List

Carbon dioxide (CAS 124-38-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon dioxide (CAS 124-38-9)

US. Rhode Island RTK

None.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s)) 97 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as a General Purpose Degreaser (aerosol). This product is compliant for use in all 50 states.

VOC content (CA) 9.7 %

VOC content (OTC) 9.7 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-28-2015

Prepared by Allison Cho

Version #	01
Further information	CRC # 598E
HMIS® ratings	Health: 1 Flammability: 3 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 1 Flammability: 3 Instability: 0
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

DISTRIBUTED BY: **Josef Gas.**

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFIER:	**NITROGEN**		
Product Name(s):	NITROGEN, COMPRESSED	Formula:	N2
Synonym(s):	NITROGEN	Chemical Family:	ELEMENT
PRODUCT USE(S):	Purging and filling of electronic devices, high-voltage compression cables. Blanketing atmosphere, de-aeration of oxygen sensitive materials.	W.H.M.I.S. Classification Class(es):	A

HAZARDOUS INGREDIENTS:

INGREDIENT PARAMETERS	C.A.S. / P.I.N. NUMBER(S)	CONC. % VOL./VOL.	L.D. 50 (Species & Route)	L.C. 50 (Species & Route)
NITROGEN	7727379/1066	APPR. 100	NOT APPL.	NOT APPL.

PHYSICAL DATA

PHYSICAL STATE:	Gas @ N.T.P.
ODOUR AND APPEARANCE:	Colourless and Odourless
ODOUR THRESHOLD:	NONE
SPECIFIC GRAVITY (air=1):	0.808 (@ Boiling Point)
VAPOUR PRESSURE:	Container Rated Pressure
VAPOUR DENSITY:	0.967
EVAPORATION RATE:	Rapid
BOILING POINT:	-195.8°C (-320.4°F)
FREEZING POINT:	-209.8°C (-345.7°F)
pH:	Not Applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION:	Not Applicable
SOLUBILITY IN WATER:	0.023 (vol./vol.)
% VOLATILES:	100

FOR TRANSPORT EMERGENCY CALL COLLECT CANUTEC TEL: 1-613-996-6666

FIRE OR EXPLOSION HAZARDS

CONDITIONS OF FLAMMABILITY:	NONE. Nitrogen will not support or sustain combustion of other materials.
MEANS OF EXTINCTION:	Cool containers with water spray. Extinguish surrounding fires
FLASH POINT:	NONE
UPPER FLAMMABLE LIMIT: NONE	LOWER FLAMMABLE LIMIT:NONE
AUTOIGNITION TEMPERATURE:	NONE
HAZARDOUS COMBUSTION PRODUCTS:	NONE
SENSITIVITY TO MECHANICAL IMPACT:	NONE
SENSITIVITY TO STATIC DISCHARGE:	NONE
SPECIAL PROCEDURES:	Evacuate areas where a leak or a spill is present Use SCBA if in an enclosed area. Container may rupture if subjected to localized heating.

REACTIVITY DATA

CONDITIONS OF CHEMICAL UNSTABILITY:	NONE
INCOMPATIBILITY:	NONE
CONDITIONS OF REACTIVITY:	NONE
HAZARDOUS DECOMPOSITION PRODUCTS:	NONE

TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN (CONTACT):	NO
SKIN (ABSORPTION):	NO
EYE CONTACT:	YES
INHALATION:	YES
INGESTION:	NO

EFFECTS OF ACUTE EXPOSURE:
May displace air in enclosed spaces. If oxygen concentration falls below 18% symptoms of asphyxia may develop. Symptoms may include: nausea, dizziness, unconsciousness, convulsions, coma and death.

EFFECTS OF CHRONIC EXPOSURE:	NONE KNOWN
EXPOSURE LIMITS:	Maintain minimum 18% oxygen level.
IRRITANCY:	NONE
SENSITIZATION:	NONE
CARCINOGENICITY:	NONE
REPRODUCTIVE TOXICITY:	NONE
TERATOGENICITY:	NONE
MUTAGENICITY:	NONE
TOXIC SYNERGISTIC PRODUCTS:	NONE

FIRST AID

EYE:	Nitrogen may harm the unprotected eye if delivered at pressures higher than atmospheric. Obtain medical attention if damages are suspected.
INGESTION:	Not applicable
INHALATION:	Move victim to fresh air if possible. Administer C.P.R. if breathing has stopped. If breathing is difficult give oxygen. Obtain medical attention.
SKIN:	Not applicable

PREVENTIVE MEASURES

PERSONAL PROTECTION

EYE:	Safety glasses or goggles to protect from accidental deliveries (leaks) under pressure.
HAND:	Not applicable.
FEET:	Safety footwear where applicable.
CLOTHING:	Long sleeves, trousers recommended.
RESPIRATOR:	Not applicable where oxygen concentration is kept above 18%.

ENGINEERING CONTROLS: Provide ventilation. Keep oil, grease, and combustible materials away.

SPILL AND LEAK PROCEDURE:
Leave danger area. Try to stop the leak at source if without risk. Gas will dissipate depending on the site/area. Try to stop the leak at source if without risk. Verify oxygen concentration prior to re-entry.

WASTE DISPOSAL:
No wastes may be generated other than empty containers. Return empty containers as the case may be. Disposal of waste containers must be done in accordance with Federal, Provincial and Municipal regulations.

HANDLING PROCEDURES & EQUIPMENT:
Use in ventilated areas. Keep away from Oil, Grease, Combustible, Flammable materials.
Use appropriate carts for moving containers. Secure container when in use. Close the container valve when NOT in use, or when empty. Keep away from heat, flames, sparks.

STORAGE REQUIREMENTS:
Store in well ventilated areas. Keep away from sources of ignition. Keep containers upright. Store at temperatures below 52^{o}C.

SPECIAL SHIPPING INFORMATION:
Transport upright in well-ventilated vehicle. Do not transport in trunk of enclosed vehicle. Commercial (cylinders) quantities may NOT be transported in passenger compartments. Secure containers during transportation and ensure that valve protection is in place.

T.D.G. SHIPPING NAME:	Nitrogen Compressed	T.D.G. CLASSIFICATION CLASS(ES):	2.2
T.D.G. P.I.N. / U.N. :	1066		

PREPARED BY: **Josef Gas**
TEL: (416) 658-1212

EFFECTIVE DATE: JANUARY 1 2016

NITROGEN, COMPRESSED
Safety Data Sheet

1. IDENTIFICATION

Product identifier
Product Name NITROGEN, COMPRESSED

Other means of identification
Safety data sheet number LIND-P086
UN/ID no. UN1066
Trade name Lasline N2 4.8; Lasline N2 5.0; Gourmet N; Grade 6.0, VOC Free, Emission Grade, Zero 0.2

Recommended use of the chemical and restrictions on use
Recommended Use Industrial and professional use. Food and Beverage. Calibration/test gas.
Uses advised against Consumer use

Details of the supplier of the safety data sheet
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500
Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359

Emergency telephone number
Company Phone Number +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. HAZARDS IDENTIFICATION

Gases under pressure	Compressed gas
Simple asphyxiants	Yes / Category 1

Label elements

Signal word **Warning**

Hazard Statements
Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Use and store only outdoors or in a well ventilated place
Use a backflow preventive device in piping
Use only with equipment rated for cylinder pressure
Close valve after each use and when empty

Precautionary Statements - Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention/advice.

Precautionary Statements - Storage
Protect from sunlight when ambient temperature exceeds 52°C/125°F

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure Gas

Chemical Name	Common names/synonyms	CAS No.	Volume %	Chemical Formula
NITROGEN	Not available	7727-37-9	>99	N_2

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Skin contact None under normal use. Get medical attention if symptoms occur.

Eye contact None under normal use. Get medical attention if symptoms occur.

Ingestion Not an expected route of exposure.

Self-protection of the first aider RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Most important symptoms and effects, both acute and delayed

Symptoms Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media None.

Specific extinguishing methods
Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

Specific hazards arising from the chemical
Non-flammable gas. Cylinders may rupture under extreme heat.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Monitor oxygen level. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Environmental precautions

Environmental precautions Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location.

Methods for cleaning up Return cylinder to Messer or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar,etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers. Use only with equipment rated for cylinder pressure.

For additional recommendations consult CGA P-76 Hazards of Oxygen-Deficient Atmospheres.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregrated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage.

Incompatible materials None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
NITROGEN 7727-37-9	: See Appendix F: Minimal Oxygen Content	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Provide general ventilation, local exhaust ventilation, process enclosure or other engineering controls to maintain airborne levels below recommended exposure limits and to maintain oxygen levels above 19.5%. Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders.

Respiratory protection Use positive pressure airline respirator with escape cylinder or self contained breathing apparatus for oxygen-deficient atmospheres (<19.5%).

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Gas
Appearance	Colorless
Odor	Odorless
Odor threshold	Not applicable
pH	Not applicable
Melting/freezing point	Not applicable
Boiling point / boiling range	-196 °C / -321 °F
Evaporation rate	Not applicable
Flammability (solid, gas)	Non-flammable gas
Lower flammability limit:	Not applicable
Upper flammability limit:	Not applicable
Flash point	Not applicable
Autoignition temperature	Not available

Decomposition temperature	Not available
Water solubility	Slightly soluble
Partition coefficient	Not available
Kinematic viscosity	Not applicable

Component Level Information:

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m³@20°C	Critical Temperature
NITROGEN	28.01	-196 °C	Above critical temperature	0.97	1.153	-146.9 °C

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None under recommended storage and handling conditions (see Section 7).

Incompatible materials
None known.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Product is a simple asphyxiant.

Skin contact Not available

Eye contact Not available

Ingestion Not an expected route of exposure.

Information on toxicological effects

Symptoms Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<=19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.
Irritation	Not classified.
Sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
Reproductive toxicity	Not classified.
Developmental Toxicity	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Chronic toxicity	None known.
Aspiration hazard	Not applicable.

Numerical measures of toxicity

Product Information	
Oral LD50	Not available
Dermal LD50	Not available
Inhalation LC50	Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity
No known effect.

Persistence and degradability
Not applicable.

Bioaccumulation
No known effect.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes	Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

14. TRANSPORT INFORMATION

TDG

UN/ID no.	UN1066
Proper shipping name	Nitrogen, compressed
Hazard Class	2.2
Description	UN1066, Nitrogen, compressed, 2.2

IATA

UN/ID no.	UN1066
Proper shipping name	Nitrogen, compressed
Hazard Class	2.2
ERG Code	2L
Special Provisions	A69

IMDG

UN/ID no.	UN1066
Proper shipping name	Nitrogen, compressed
Hazard Class	2.2
EmS-No.	F-C, S-V

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

16. OTHER INFORMATION

NFPA **Health hazards** 0 **Flammability** 0 **Instability** 0 **Physical and Chemical Properties** Simple asphyxiant

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA Recommended Hazard Ratings for Compressed Gases, 4th Edition.

Issue Date	07-Apr-2017
Revision Date	27-Sep-2021
Revision Note:	SDS sections updated; 3

LIND-P086

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

End of Safety Data Sheet

AZOTE, COMPRIMÉ
Fiche de données de sécurité

1. IDENTIFICATION

Identificateur de produit
Nom du produit AZOTE, COMPRIMÉ

Autres moyens d'identification
Numéro de la fiche signalétique LIND-P086
N° ID/ONU UN1066
Nom commercial Lasline N2 4.8; Lasline N2 5.0; Gourmet N; Grade 6.0, VOC Free, Emission Grade, Zero 0.2

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation
Utilisation recommandée Utilisation industrielle et professionnelle. Alimentaire. Gaz d'étalonnage.
Utilisations contre-indiquées Utilisation par le consommateur

Coordonnées du fournisseur de la fiche de données de sécurité
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Téléphone: 905-501-2500
Email: service@messer-ca.com
Site Web: www.messer-ca.com

Service à la clientèle: 888-256-7359

Numéro d'appel d'urgence
Numéro de téléphone de l'entreprise +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. IDENTIFICATION DES DANGERS

Gaz sous pression	Gaz comprimé
Asphyxiants simples	Oui / Catégorie 1

Éléments d'étiquetage

Mot indicateur **Avertissement**

Mentions de danger
Contient un gaz sous pression; peut exploser sous l'effet de la chaleur

Peut remplacer l'oxygène et causer une suffocation rapide

Conseils de prudence - Prévention
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
Utiliser et stocker seulement en plein air ou dans un endroit bien ventilé
Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie
Utiliser uniquement avec un équipement prévu pour la pression de la bouteille
Fermer le robinet après chaque utilisation et lorsque la bouteille est vide

Conseils de prudence - Réponse
EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Consulter un médecin.

Conseils de prudence - Entreposage
Protéger du rayonnement solaire lorsque la température ambiante dépasse 52 °C /125 °F

HNOC (danger non classé autrement)
Non applicable

3. COMPOSITION/INFORMATIONS SUR LES COMPOSANTS

Gaz pur

Nom chimique	Common names/synonyms	No. CAS	% en volume	Formule Chimique
AZOTE	Non disponible	7727-37-9	>99	N_2

4. PREMIERS SOINS

Description des premiers soins

Conseils généraux Montrer cette fiche technique de santé-sécurité au médecin en consultation.

Inhalation Transporter la victime à l'air frais et la garder au repos dans une position où elle peut confortablement respirer. En cas de difficultés respiratoires, donner de l'oxygène. Pratiquer la respiration artificielle si la victime ne respire plus. Obtenir immédiatement des soins médicaux.

Contact avec la peau Aucun en utilisation appropriée. Faire appel à une assistance médicale si des symptômes apparaissent.

Contact avec les yeux Aucun en utilisation appropriée. Faire appel à une assistance médicale si des symptômes apparaissent.

Ingestion Pas une voie d'exposition prévue.

Équipement de protection individuelle pour les intervenants en premiers soins LE PERSONNEL D'INTERVENTION D'URGENCE DEVRAIT ÊTRE ÉQUIPÉ D'UN APPAREIL RESPIRATOIRE AUTONOME.

Les plus importants symptômes et effets, aigus ou retardés

Symptômes Asphyxiant simple. Peut causer une suffocation en déplaçant l'oxygène dans l'air. Une exposition à une atmosphère à faible teneur en oxygène (moins de 19,5 %) peut causer des vertiges, de la somnolence, des nausées, des vomissements, une salivation excessive,

une diminution de la vivacité d'esprit, une perte de conscience et la mort. Une exposition à des atmosphères contenant de 8 à 10 % ou moins d'oxygène entraînera une perte de conscience sans avertissement et si rapide que les personnes ne peuvent s'aider ou se protéger elles-mêmes. Un manque d'oxygène suffisant peut causer une grave blessure ou la mort.

Indication des éventuels besoins médicaux immédiats et traitements particuliers nécessaires

Note aux médecins Traiter en fonction des symptômes.

5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés
Utiliser des mesures d'extinctions appropriées aux circonstances locales et à l'environnement immédiat.

Moyens d'extinction inappropriés Aucune.

Méthodes d'extinction particulières
Continuer à refroidir les bouteilles exposées à un feu jusqu'à ce que les flammes soient éteintes. Les bombonnes endommagées ne doivent être manipulées que par des spécialistes.

Dangers particuliers associés au produit chimique
Gaz non inflammable. Les bouteilles peuvent se rompre sous une chaleur extrême.

Équipement de protection et précautions pour les pompiers
Comme pour tout incendie, porter un respirateur à air comprimé, NIOSH (approuvé ou équivalent), ainsi qu'une combinaison complète de protection.

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTAL

Précautions individuelles, équipement de protection et procédures d'urgence

Précautions personnelles Évacuer le personnel vers des endroits sécuritaires. Vérifier que la ventilation est adéquate, en particulier dans des zones confinées. Vérifier la teneur en oxygène. Porter un appareil respiratoire autonome lors de l'entrée dans un secteur, sauf s'il a été démontré que l'atmosphère est sûre.

Précautions pour le protection de l'environnement

Précautions pour le protection de l'environnement Empêcher la propagation des vapeurs par les égouts, les systèmes de ventilation et les zones confinées.

Méthodes et matériel de confinement et de nettoyage

Méthodes de confinement Couper le débit de gaz ou déplacer la bouteille à l'extérieur si cela peut être fait sans risque. Si le contenant ou le robinet fuit, composer le numéro de téléphone d'urgence approprié indiqué à la Section 1 ou appeler la succursale de Messer la plus proche.

Méthodes de nettoyage Retourner les contenants de gaz et d'air comprimé au distributeur agréé ou au point de collecte pour une élimination adéquate.

7. MANUTENTION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger

Conseils sur la manutention sécuritaire

Protéger les bouteilles des dommages physiques; ne pas traîner, rouler, glisser ou laisser tomber. Lors du déplacement des bouteilles, même sur une courte distance, utiliser un

chariot conçu pour le transport de bouteilles. Ne jamais tenter de soulever une bouteille par le chapeau de protection du détendeur. Ne jamais insérer un objet (par ex., une clé, un tournevis, un levier, etc.) dans les ouvertures du chapeau du détendeur. Utiliser une clé à courroie réglable pour retirer les chapeaux trop serrés ou rouillés. N'utiliser qu'avec une ventilation adéquate. Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie. Fermer le robinet après chaque utilisation et lorsque la bouteille est vide. Si l'utilisateur éprouve des difficultés à faire fonctionner le robinet de la bouteille, cesser l'utilisation et appeler le fournisseur. Vérifier que le système de gaz complet a été vérifié pour détecter les fuites avant de l'utiliser.

Ne jamais mettre des bouteilles à gaz dans le coffre d'une voiture ou dans des lieux non ventilés d'un véhicule de tourisme. Ne jamais tenter de remplir de nouveau une bouteille de gaz comprimé sans le consentement écrit du propriétaire. Ne jamais amorcer un arc sur une bouteille de gaz comprimé ou faire d'une bouteille une partie d'un circuit électrique.

Uniquement des personnes expérimentées et adéquatement formées devraient manipulées des gas sous pression. Toujours entreposer et manipuler les bouteilles de gaz comprimé conformément à la publicacion CGA-P1 « Safe Handling of Compressed Gases in Containers » (Manutention sécuritaire des gaz comprimés dans des contenants), de la Compressed Gas Association. Utiliser uniquement avec un équipement prévu pour la pression de la bouteille.

Pour d'autres recommendations, consulter ICGA P-76 Dangers dans les atmosphères déficientes en oxygène.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Conditions d'entreposage Entreposer dans un endroit frais, sec et bien ventilé d'une construction non combustible éloigné des zones de circulation intense et des sorties d'urgence. Garder à des températures inférieures à 52 °C / 125 °F. Les bouteilles doivent être entreposées en position verticale avec le chapeau de protection du détendeur en place et bien attachées pour éviter toute chute. Les bouteilles pleines et vides doivent être séparées. Utiliser un système d'inventaire « premier entré, premier sorti » pour éviter d'entreposer les bouteilles pleines pour une durée excessive. Les contenants devraient être régulièrement vérifiés pour déterminer leur état général et détecter les fuites.

Matières incompatibles Aucun à notre connaissance.

8. CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition

Nom chimique	ACGIH TLV	OSHA PEL	NIOSH IDLH
AZOTE 7727-37-9	: See Appendix F: Minimal Oxygen Content	Aucune.	None

ACGIH TLV : Conférence américaine des hygiénistes industriels gouvernementaux - valeur limite d'exposition. OSHA PEL : Administration de la sécurité et de la santé professionnelle - limites d'exposition admissibles. NIOSH IDLH : Dangereux immédiatement pour la santé ou la vie

Contrôles techniques appropriés

Mesures d'ingénierie Assurer une ventilation générale, une ventilation par aspiration à la source, une enceinte d'isolement ou autres mesures d'ingénierie afin de maintenir les niveaux de concentration de particules en suspension dans l'air sous les limites d'exposition recommandées et de maintenir les niveaux d'oxygène au-dessus de 19,5 %. Les détecteurs d'oxygènes devraient être utilisés lorsque des gaz asphyxiants pourraient être libérés. Les systèmes sous pression devraient être régulièrement vérifiés pour détecter les fuites.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection des yeux/du visage Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques).

Protection de la peau et du corps	Des gants de travail et des souliers de sécurité sont recommandés lors de la manutention de bouteilles.
Protection respiratoire	Utiliser un respirateur à adduction d'air à pression positive avec bouteille d'évacuation d'urgence ou un appareil respiratoire autonome pour des atmosphères à faible teneur en oxygène (moins de 19,5 %).
Considérations générales sur l'hygiène	Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle.

9. PHYSICAL AND CHEMICAL PROPERTIES

Informations sur les propriétés physiques et chimiques essentielles

État physique	Gaz
Aspect	Incolore
Odeur	Sans odeur
Seuil olfactif	Non applicable
pH	Non applicable
Point de fusion/congélation	Non applicable
Point d'ébullition / intervalle d'ébullition	-196 °C / -321 °F
Taux d'évaporation	Non applicable
Inflammabilité (solide, gaz)	Gaz non inflammable
Limite inférieure d'inflammabilité:	Sans objet
Limite supérieure d'inflammabilité:	Non applicable
Point d'éclair	Non applicable
Température d'auto-inflammation	Non disponible
Température de décomposition	Non disponible
Solubilité dans l'eau	Légèrement soluble
Coefficient de partage	Non disponible
Viscosité cinématique	Non applicable

Information sur les composants

Nom chimique	Masse moléculaire	Point/gamme d'ébullition	Pression de vapeur	Densité de vapeur (air =1)	Densité du gaz kg/m³ à 20 °C	Température critique
AZOTE	28.01	-196 °C	Au-dessus de la température critique	0.97	1.153	-146.9 °C

10. STABILITÉ ET RÉACTIVITÉ

Réactivité
Non réactif dans des conditions normales

Stabilité chimique
Stable dans des conditions normales.

Données sur les risques d'explosion

Sensibilité aux chocs	Aucune.
Sensibilité aux décharges électrostatiques	Aucune.

Possibilité de réactions dangereuses
Aucun dans des conditions normales de traitement.

Conditions à éviter
Aucun dans les conditions de stockage et de manutention recommandées (Voir section 7).

Matières incompatibles
Aucun à notre connaissance.

Produits de décomposition dangereux
Aucun à notre connaissance.

11. DONNÉES TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Inhalation	Le produit est un asphyxiant simple.
Contact avec la peau	Non disponible
Contact avec les yeux	Non disponible
Ingestion	Voie d'exposition peu probable.

Informations sur les effets toxicologiques

Symptômes	Asphyxiant simple. Peut causer une suffocation en déplaçant l'oxygène dans l'air. Une exposition à une atmosphère à faible teneur en oxygène (moins de 19,5 %) peut causer des vertiges, de la somnolence, des nausées, des vomissements, une salivation excessive, une diminution de la vivacité d'esprit, une perte de conscience et la mort. Une exposition à des atmosphères contenant de 8 à 10 % ou moins d'oxygène entraînera une perte de conscience sans avertissement et si rapide que les personnes ne peuvent s'aider ou se protéger elles-mêmes. Un manque d'oxygène suffisant peut causer une grave blessure ou la mort.

Effets retardés et immédiats et effets chroniques d'une exposition de courte et de longue durée

Corrosion cutanée/irritation cutanée	Non répertorié.
Lésions oculaires graves/irritation oculaire	Non répertorié.
Irritation	Non répertorié.
Sensibilisation	Non répertorié.
Mutagénicité sur les cellules germinales	Non répertorié.
Cancérogénicité	Ce produit ne contient aucun agent cancérogène ou potentiellement cancérogène inscrit par l'OSHA, le CIRC ou le NTP.
Toxicité pour la reproduction	Non répertorié.
Toxicité pour le développement	Non répertorié.
STOT - exposition unique	Non répertorié.
STOT - exposition répétée	Non répertorié.
Toxicité chronique	Aucun à notre connaissance.
Danger par aspiration	Non applicable.

Mesures numériques de la toxicité

Informations sur le produit	
DL50 par voie orale	Non disponible
DL50 par voie cutanée	Non disponible
CL50 par inhalation	Non disponible

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Pas d'effet connu.

Persistance et dégradabilité
Non applicable.

Bioaccumulation
Pas d'effet connu.

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets

Élimination des déchets Ne pas tenter d'éliminer les résidus ou les quantités inutilisées. Retourner à Messer, dans le contenant d'expédition CORRECTEMENT ÉTIQUETÉ, AVEC TOUS LES BOUCHONS DE SORTIE DU ROBINET ET PROTECTEURS DE ROBINET EN PLACE, pour une élimination adéquate.

14. INFORMATIONS RELATIVES AU TRANSPORT

TMD

N° ID/ONU	UN1066
Nom officiel d'expédition	AZOTE COMPRIMÉ
Classe de danger	2.2
Désignation	UN1066, AZOTE COMPRIMÉ, 2.2

IATA

N° ID/ONU	UN1066
Nom officiel d'expédition	AZOTE COMPRIMÉ
Classe de danger	2.2
Code ERG	2L
Dispositions particulières	A69

IMDG

N° ID/ONU	UN1066
Nom officiel d'expédition	AZOTE COMPRIMÉ
Classe de danger	2.2
EmS-N°	F-C, S-V

15. INFORMATIONS SUR LE RÉGLEMENTATION

Inventaires internationaux

TSCA	Est conforme à (aux)
LIS/LES	Est conforme à (aux)
EINECS/ELINCS	Est conforme à (aux)

Légende :
TSCA - États-Unis - Article 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES – liste intérieure des substances/liste extérieure des substances pour le Canada
EINECS/ELINCS - Inventaire européen des substances chimiques commercialisées existantes /Liste européenne des substances chimiques modifiées

16. AUTRES INFORMATIONS

NFPA **Risques pour la santé** 0 **Inflammabilité** 0 **Instabilité** 0 **Propriétés physiques et chimiques** Asphyxiant simple

Note : Les classes sont assignées conformément aux directives de la Compressed Gas Association (CGA) telles que publiées dans la brochure P-19-2019 de la CGA, « CGA Recommended Hazard Ratings for Compressed Gases » (Classes de danger recommandées par la CGA pour les gaz comprimés), 4e édition.

Date d'émission	07-avr.-2017
Date de révision	27-sept.-2021
Revision Note:	Sections de la FS mises à jour; 3

LIND-P086

Avis de non-responsabilité

Pour les conditions, y compris les limites de la responsabilité, veuillez consulter la convention d'achat en vigueur entre l'acheteur et Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. ou Messer Canada Inc. (ou l'une ou l'autre de leurs sociétés affiliées et filiales).

AVIS DE NON-RESPONSABILITÉ DE GARANTIES EXPRESSES ET TACITES

Bien que les précautions raisonnables aient été prises pour préparer ce document, nous ne présentons aucune recommandation et n'accordons aucune garantie que les renseignements fournis sont exacts ou complets, et nous n'assumons aucune responsabilité concernant l'appropriation à l'usage de ces renseignements ou les conséquences de leur utilisation. Il relève de la responsabilité de chaque utilisateur de s'assurer que les renseignements conviennent à l'usage projeté.

Fin de la fiche signalétique

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: OVERAL SSPR 6PK GLOSS ORANGE

Revision Date: 8/6/2018

Product Identifier: V2414830

Supercedes Date: 6/15/2018

Recommended Use: Topcoat/Aerosols

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Rust-Oleum Canada (ROCA)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada
Emergency Phone: 800-387-3625

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
38% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Eye Irritation, category 2	H319	Causes serious eye irritation.

Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

GHS LABEL PRECAUTIONARY STATEMENTS

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local, regional and national regulations.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P264	Wash hands thoroughly after handling.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P272	Contaminated work clothing should not be allowed out of the workplace.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

P321 For specific treatment see label

GHS SDS PRECAUTIONARY STATEMENTS

P363 Wash contaminated clothing before reuse.

3. Composition / Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.%	GHS Symbols	GHS Statements
Acetone	67-64-1	20	GHS02-GHS07	H225-319-332-336
Propane	74-98-6	18	GHS04	H280
n-Butyl Acetate	123-86-4	8.7	GHS02-GHS07	H226-336
n-Butane	106-97-8	8.3	GHS04	H280
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	6.8	GHS08	H304
Dimethyl Carbonate	616-38-6	5.8	GHS02	H225
1-Methoxy-2-Propyl Acetate	108-65-6	4.4	GHS02	H226
Xylenes (o-, m-, p- isomers)	1330-20-7	2.9	GHS02-GHS07	H226-315-319-332
Solvent Naphtha, Light Aromatic	64742-95-6	1.8	GHS07-GHS08	H304-332
Propylene Glycol Monobutyl Ether	5131-66-8	1.5	GHS07	H302-315-319
Ethylbenzene	100-41-4	0.7	GHS02-GHS07-GHS08	H225-304-332-351-373
Titanium Dioxide	13463-67-7	0.5	Not Available	Not Available
Ethylene Glycol Monobutyl Ether	111-76-2	0.2	GHS07	H302-312-315-319-332
Methyl ethyl ketoxime	96-29-7	0.1	GHS05-GHS06-GHS08	H302-312-317-318-331-351

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): No Information

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of flammable aerosols. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Acetone	67-64-1	20.0	250 ppm	500 ppm	1000 ppm	N.E.
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
n-Butyl Acetate	123-86-4	10.0	50 ppm	150 ppm	150 ppm	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	10.0	N.E.	N.E.	N.E.	N.E.
Dimethyl Carbonate	616-38-6	10.0	N.E.	N.E.	N.E.	N.E.
1-Methoxy-2-Propyl Acetate	108-65-6	5.0	N.E.	N.E.	N.E.	N.E.
Xylenes (o-, m-, p- isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Solvent Naphtha, Light Aromatic	64742-95-6	5.0	N.E.	N.E.	N.E.	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	N.E.	100 ppm	N.E.
Titanium Dioxide	13463-67-7	1.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Ethylene Glycol Monobutyl Ether	111-76-2	1.0	20 ppm	N.E.	50 ppm	N.E.
Methyl ethyl ketoxime	96-29-7	1.0	10 ppm	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.775	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	-37 - 537	**Explosive Limits, vol%:**	0.9 - 13.0
Flammability:	Supports Combustion	**Flash Point, °C:**	-96
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
67-64-1	Acetone	5800 mg/kg Rat	>15700 mg/kg Rabbit	50.1 mg/L Rat
123-86-4	n-Butyl Acetate	10768 mg/kg Rat	>17600 mg/kg Rabbit	> 21 mg/L Rat
106-97-8	n-Butane	N.E.	N.E.	658 mg/L Rat
64742-49-0	Naphtha, Petroleum, Hydrotreated Light	>5000 mg/kg Rat	>3160 mg/kg Rabbit	>4951 mg/L Rat
616-38-6	Dimethyl Carbonate	13000 mg/kg Rat	>5000 mg/kg Rabbit	140 mg/L Rat
108-65-6	1-Methoxy-2-Propyl Acetate	8532 mg/kg Rat	>5000 mg/kg Rabbit	N.E.
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
64742-95-6	Solvent Naphtha, Light Aromatic	8400 mg/kg Rat	>2000 mg/kg Rabbit	N.E.
5131-66-8	Propylene Glycol Monobutyl Ether	1900 mg/kg Rat	N.E.	N.E.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	2500 mg/kg	N.E.
111-76-2	Ethylene Glycol Monobutyl Ether	470 mg/kg Rat	1,060 mg/kg Rabbit	11 mg/L
96-29-7	Methyl ethyl ketoxime	930 mg/kg Rat	1100 mg/kg Rabbit	>4.8 mg/L Rat

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems. Do not incinerate closed containers. This product as supplied is a USEPA defined ignitable hazardous waste. Dispose of unusable product as a hazardous waste (D001) in accordance with local, state, and federal regulation.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Gas under pressure, Carcinogenicity, Respiratory or Skin Sensitization, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4
Ethylene Glycol Monobutyl Ether	111-76-2

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

Health: 2* **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X

NFPA RATINGS

Health: 2 **Flammability:** 4 **Instability** 0

Maximum Incremental Reactivity 0.94

SDS REVISION DATE: 8/6/2018

REASON FOR REVISION:
Substance Regulatory CAS Number Changed
Substance Hazardous Flag Changed
Substance Hazard Threshold % Changed
Substance and/or Product Properties Changed in Section(s):
08 - Exposure Controls/Personal Protection
15 - Regulatory Information
Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The manufacturer believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. The manufacturer makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

OXYGEN
Safety Data Sheet

1. IDENTIFICATION

Product identifier
Product Name OXYGEN

Other means of identification
Safety data sheet number LIND-P097
UN/ID no. UN1072
Trade name Gourmet O

Recommended use of the chemical and restrictions on use
Recommended Use Industrial and professional use. Food and Beverage. Medical.
Uses advised against Consumer use

Details of the supplier of the safety data sheet
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500
Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359

Emergency telephone number
Company Phone Number +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. HAZARDS IDENTIFICATION

Oxidizing gases	Category 1
Gases under pressure	Compressed gas

Label elements

Signal word **Danger**

Hazard Statements
May cause or intensify fire; oxidizer
Contains gas under pressure; may explode if heated

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Keep and store away from clothing and other combustible materials
Keep valves and fittings free from oil and grease
Use and store only outdoors or in a well ventilated place
Use a backflow preventive device in piping
Use only equipment of compatible materials of construction and rated for cylinder pressure
Use only with equipment cleaned for oxygen service
Open valve slowly
Close valve after each use and when empty

Precautionary Statements - Response
In case of fire: Stop leak if safe to do so.

Precautionary Statements - Storage
Protect from sunlight when ambient temperature exceeds 52°C/125°F

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance

Chemical Name	Common names/synonyms	CAS No.	Volume %	Chemical Formula
OXYGEN	Not available	7782-44-7	>99	O_2

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Move victim to fresh air. Seek immediate medical attention/advice.

Skin contact None under normal use. Get medical attention if symptoms occur.

Eye contact None under normal use. Get medical attention if symptoms occur.

Ingestion Not an expected route of exposure.

Most important symptoms and effects, both acute and delayed

Symptoms Oxygen is not acutely toxic under normal pressure. Oxygen is more toxic when inhaled at elevated pressures. Depending upon pressure and duration of exposure, pure oxygen at elevated pressures may cause cramps, dizziness, difficulty breathing, convulsions, edema and death.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media None.

Specific extinguishing methods
Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

Specific hazards arising from the chemical
May cause or intensify fire; oxidizer. Will support and accelerate combustion of combustible materials (wood, paper, oil, debris, etc). Cylinders may rupture under extreme heat.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Monitor oxygen level. Eliminate all ignition sources if safe to do so.

Environmental precautions

Environmental precautions Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location.

Methods for cleaning up Return cylinder to Messer or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep valves and fittings free from oil and grease Use only equipment of compatible materials of construction Open valve slowly "NO SMOKING" signs should be posted in storage and use areas. Separate flammable gas cylinders from oxygen and other oxidizers by a minimum distance of 20 ft. or by a 5 ft. high barrier with a minimum fire resistance rating of a half an hour. Dry product is non-corrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they include volume and lose their protective role (rust formation). Concentrations of SO_2, Cl_2, salt, etc. in the moisture enhances the rusting of metals in air. Carbon steels and low alloy steels are acceptable for use at lower pressures. For high pressure applications stainless steels are acceptable as are copper and its alloys, nickel and its alloys, brass bronze, silicon alloys, Monel®, Inconel®, and beryllium. Lead and silver or lead tin alloys are good gasket materials. Teflon®, Teflon® composites, or Kel-F® are preferred non-metallic gasket materials. Oxygen should not be used as a substitute for compressed air in pneumatic equipment since they generally contain flammable lubricants. Equipment able to use oxygen must be "cleaned for oxygen service". Check with the equipment supplier to verify oxygen compatibility for the service conditions.

Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. Never insert an object (e.g. wrench, screwdriver,

pry bar,etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use only with equipment rated for cylinder pressure. Use a backflow preventive device in piping. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Ensure the complete gas system has been checked for leaks before use.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers.

For additional recommendations, consult Compressed Gas Association's publications G-4.1, G-4.3, G-4.4, G-4.9, P-2.5, P-45, P-70 and NFPA 55.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregrated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage. Do not store near combustible materials.

Incompatible materials Reducing agents. Combustible material. Organic material. Oil. Grease.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Ventilation systems. Use local exhaust in combination with general ventilation as necessary to keep oxygen concentrations above 19.5% and below 23.5%. Consider installation of leak detection systems in areas of use and storage. Systems under pressure should be regularly checked for leakages.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders. Gloves must be clean and free from grease or oil.

Respiratory protection No special protective equipment required.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Gas
Appearance	Colorless
Odor	Odorless

Odor threshold	Not available
pH	Not applicable
Melting/freezing point	-218.8 °C / -361.8 °F
Boiling point / boiling range	-183 °C / -297 °F
Evaporation rate	Not applicable
Flammability (solid, gas)	See Section 5.
Lower flammability limit:	Not applicable
Upper flammability limit:	Not applicable
Flash point	Not applicable
Autoignition temperature	Not available
Decomposition temperature	Not available
Oxidizing properties	May cause or intensify fire; oxidizer
Water solubility	Slightly soluble
Partition coefficient	0.65
Kinematic viscosity	Not applicable

Component Level Information:

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m³@20°C	Critical Temperature
OXYGEN	31.99	-182.9 °C	Above critical temperature	1.11	1.331	-118.6 °C

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
May cause or intensify fire; oxidizer. Will support and accelerate combustion of combustible materials (wood, paper, oil, debris, etc).

Conditions to avoid
None under recommended storage and handling conditions (see Section 7).

Incompatible materials
Reducing agents. Combustible material. Organic material. Oil. Grease.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Not available

Skin contact Not available

Eye contact Not available

Ingestion Not an expected route of exposure.

Information on toxicological effects

Symptoms Oxygen is not acutely toxic under normal pressure. Oxygen is more toxic when inhaled at elevated pressures. Depending upon pressure and duration of exposure, pure oxygen at elevated pressures may cause cramps, dizziness, difficulty breathing, convulsions, edema and death.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Not classified.
Sensitization Not classified.
Germ cell mutagenicity Not classified.
Carcinogenicity This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
Reproductive toxicity Not classified.
STOT - single exposure Not classified.
STOT - repeated exposure Not classified.
Aspiration hazard Not applicable.

Numerical measures of toxicity

Product Information
Oral LD50 Not available
Dermal LD50 Not available
Inhalation LC50 Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Will not bioconcentrate.

Persistence and degradability
Not available.

Bioaccumulation
Will not bioconcentrate.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

14. TRANSPORT INFORMATION

TDG
UN/ID no. UN1072
Proper shipping name Oxygen, compressed
Hazard Class 2.2
Subsidiary class 5.1
Description UN1072, Oxygen, compressed, 2.2 (5.1)

IATA

UN/ID no.	UN1072
Proper shipping name	Oxygen, compressed
Hazard Class	2.2
Subsidiary hazard class	5.1
ERG Code	2X

IMDG

UN/ID no.	UN1072
Proper shipping name	Oxygen, compressed
Hazard Class	2.2
Subsidiary hazard class	5.1
EmS-No.	F-C, S-W
Special Provisions	355

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

16. OTHER INFORMATION

NFPA **Health hazards** 0 **Flammability** 0 **Instability** 0 **Physical and Chemical Properties** OX

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA Recommended Hazard Ratings for Compressed Gases, 4th Edition.

Revision Date	29-Jul-2021
Revision Note:	SDS sections updated; 1; 3; 9

LIND-P097

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

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End of Safety Data Sheet

OXYGÈNE COMPRIMÉ
Fiche de données de sécurité

1. IDENTIFICATION

Identificateur de produit
Nom du produit OXYGÈNE COMPRIMÉ

Autres moyens d'identification
Numéro de la fiche signalétique LIND-P097
N° ID/ONU UN1072
Nom commercial Gourmet O

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation
Utilisation recommandée Utilisation industrielle et professionnelle. Alimentaire. Médical.
Utilisations contre-indiquées Utilisation par le consommateur

Coordonnées du fournisseur de la fiche de données de sécurité
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Téléphone: 905-501-2500
Email: service@messer-ca.com
Site Web: www.messer-ca.com

Service à la clientèle: 888-256-7359

Numéro d'appel d'urgence
Numéro de téléphone de l'entreprise +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. IDENTIFICATION DES DANGERS

Gaz comburants	Catégorie 1
Gaz sous pression	Gaz comprimé

Éléments d'étiquetage

Mot indicateur **Danger**

Mentions de danger
Peut provoquer ou aggraver un incendie ; comburant
Contient un gaz sous pression; peut exploser sous l'effet de la chaleur

Conseils de prudence - Prévention
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
Tenir/stocker à l'écart des vêtements et autres matières combustibles
Tenir les soupapes et les accessoires exempts d'huile et de graisse
Utiliser et stocker seulement en plein air ou dans un endroit bien ventilé
Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie
Utiliser uniquement un équipement en matériaux compatibles et prévu pour la pression de la bouteille
Utiliser uniquement un équipement nettoyé pour le service avec oxygène
Ouvrir lentement le robinet
Fermer le robinet après chaque utilisation et lorsque la bouteille est vide

Conseils de prudence - Réponse
En cas d'incendie : obturer la fuite si cela peut se faire sans danger.

Conseils de prudence - Entreposage
Protéger du rayonnement solaire lorsque la température ambiante dépasse 52 °C /125 °F

HNOC (danger non classé autrement)
Non applicable

3. COMPOSITION/INFORMATIONS SUR LES COMPOSANTS

Substance simple

Nom chimique	Common names/synonyms	No. CAS	% en volume	Formule Chimique
OXYGÈNE	Non disponible	7782-44-7	>99	O_2

4. PREMIERS SOINS

Description des premiers soins

Conseils généraux Montrer cette fiche technique de santé-sécurité au médecin en consultation.

Inhalation Déplacer la victime à l'air frais. Consulter immédiatement un médecin.

Contact avec la peau Aucun en utilisation appropriée. Faire appel à une assistance médicale si des symptômes apparaissent.

Contact avec les yeux Aucun en utilisation appropriée. Faire appel à une assistance médicale si des symptômes apparaissent.

Ingestion Pas une voie d'exposition prévue.

Les plus importants symptômes et effets, aigus ou retardés

Symptômes L'oxygène n'est pas extrêmement toxique sous une pression normale. L'oxygène est plus toxique lorsqu'il est inhalé à des pressions élevées. Selon la pression et la durée de l'exposition, l'oxygène pur à des pressions élevées peut causer des crampes, des vertiges, des difficultés à respirer, des convulsions, un œdème et un décès.

Indication des éventuels besoins médicaux immédiats et traitements particuliers nécessaires

Note aux médecins Traiter en fonction des symptômes.

5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés
Utiliser des mesures d'extinctions appropriées aux circonstances locales et à l'environnement immédiat.

Moyens d'extinction inappropriés Aucune.

Méthodes d'extinction particulières
Continuer à refroidir les bouteilles exposées à un feu jusqu'à ce que les flammes soient éteintes. Les bombonnes endommagées ne doivent être manipulées que par des spécialistes.

Dangers particuliers associés au produit chimique
Peut provoquer ou aggraver un incendie ; comburant. Alimentera et accélérera la combustion des matières combustibles (bois, papier, huile, débris, etc.). Les bouteilles peuvent se rompre sous une chaleur extrême.

Équipement de protection et précautions pour les pompiers
Comme pour tout incendie, porter un respirateur à air comprimé, NIOSH (approuvé ou équivalent), ainsi qu'une combinaison complète de protection.

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTAL

Précautions individuelles, équipement de protection et procédures d'urgence

Précautions personnelles	Évacuer le personnel vers des endroits sécuritaires. Vérifier que la ventilation est adéquate, en particulier dans des zones confinées. Vérifier la teneur en oxygène. Éliminer toutes les sources d'ignition si cela est faisable sans danger.

Précautions pour le protection de l'environnement

Précautions pour le protection de l'environnement	Empêcher la propagation des vapeurs par les égouts, les systèmes de ventilation et les zones confinées.

Méthodes et matériel de confinement et de nettoyage

Méthodes de confinement	Couper le débit de gaz ou déplacer la bouteille à l'extérieur si cela peut être fait sans risque. Si le contenant ou le robinet fuit, composer le numéro de téléphone d'urgence approprié indiqué à la Section 1 ou appeler la succursale de Messer la plus proche.
Méthodes de nettoyage	Retourner les contenants de gaz et d'air comprimé au distributeur agréé ou au point de collecte pour une élimination adéquate.

7. MANUTENTION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger

Conseils sur la manutention sécuritaire	Tenir les soupapes et les accessoires exempts d'huile et de graisse Utiliser uniquement un équipement en matériaux compatibles Ouvrir lentement le robinet Des panneaux « DÉFENSE DE FUMER » doivent être affichés dans les endroits d'entreposage et d'utilisation. Prévoir une distance de séparation minimale de 6 m (20 pi) entre les bouteilles de gaz inflammables et les boutielles d'oxygène et autres comburants ou une barrière de 1,5 m (5 pi) de haut avec une durée de résistance au feu minimale d'une demi-heure Le produit sec n'est pas corrosif et peut être utilisé avec tous les matériaux. L'humidité entraîne l'hydratation des oxydes métalliques qui sont formés avec l'air, de sorte qu'ils prennent du volume et perdent leur rôle protecteur (formation de rouille). Des concentrations de SO_2, de Cl_2, de sel, etc. dans l'humidité augmentent la formation de rouille des métaux dans l'air. Les aciers au carbone et les aciers faiblement alliés sont acceptables pour utilisation à de basses pressions. Pour des applications à pression élevée, des aciers inoxydables sont acceptables, tout comme le cuivre et ses alliages, le nickel et ses alliages, le laiton, le bronze, les alliages de silicium, le Monel®, l'Inconel® et le béryllium. Le plomb et l'argent ou des alliages de plomb et d'étain sont de bons matériaux

de joint d'étanchéité. Le Teflon®, des composites de Teflon® ou le Kel-F® sont des matériaux de joint d'étanchéité non métalliques préférés. L'oxygène ne devrait pas être utilisé pour remplacer l'air comprimé dans l'équipement pneumatique qui contient généralement des lubrifiants inflammables. L'équipement conçu pour être utilisé avec l'oxygène doit être « nettoyé pour une utilisation avec l'oxygène ». Consulter le fournisseur de l'équipement pour vérifier si les conditions d'utilisation sont compatibles avec l'oxygène.

Protéger les bouteilles des dommages physiques; ne pas traîner, rouler, glisser ou laisser tomber. Lors du déplacement des bouteilles, même sur une courte distance, utiliser un chariot conçu pour le transport de bouteilles. Ne jamais tenter de soulever une bouteille par le chapeau de protection du détendeur. Ne jamais insérer un objet (par ex., une clé, un tournevis, un levier, etc.) dans les ouvertures du chapeau du détendeur. Utiliser une clé à courroie réglable pour retirer les chapeaux trop serrés ou rouillés. N'utiliser qu'avec une ventilation adéquate. Utiliser uniquement avec un équipement prévu pour la pression de la bouteille. Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie. Fermer le robinet après chaque utilisation et lorsque la bouteille est vide. Si l'utilisateur éprouve des difficultés à faire fonctionner le robinet de la bouteille, cesser l'utilisation et appeler le fournisseur.

Ne jamais mettre des bouteilles à gaz dans le coffre d'une voiture ou dans des lieux non ventilés d'un véhicule de tourisme. Ne jamais tenter de remplir de nouveau une bouteille de gaz comprimé sans le consentement écrit du propriétaire. Ne jamais amorcer un arc sur une bouteille de gaz comprimé ou faire d'une bouteille une partie d'un circuit électrique. Vérifier que le système de gaz complet a été vérifié pour détecter les fuites avant de l'utiliser.

Uniquement des personnes expérimentées et adéquatement formées devraient manipulées des gas sous pression. Toujours entreposer et manipuler les bouteilles de gaz comprimé conformément à la publicacion CGA-P1 « Safe Handling of Compressed Gases in Containers » (Manutention sécuritaire des gaz comprimés dans des contenants), de la Compressed Gas Association.

Pour d'autres recommandations, consulter les brochures G-4.1, G-4.3, G-4.4, G-4.9, P-2.5, P-45, P-70 de la Compressed Gas Association et NFPA 55.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Conditions d'entreposage

Entreposer dans un endroit frais, sec et bien ventilé d'une construction non combustible éloigné des zones de circulation intense et des sorties d'urgence. Garder à des températures inférieures à 52 °C / 125 °F. Les bouteilles doivent être entreposées en position verticale avec le chapeau de protection du détendeur en place et bien attachées pour éviter toute chute. Les bouteilles pleines et vides doivent être séparées. Utiliser un système d'inventaire « premier entré, premier sorti » pour éviter d'entreposer les bouteilles pleines pour une durée excessive. Les contenants devraient être régulièrement vérifiés pour déterminer leur état général et détecter les fuites. Ne pas entreposer près de matières combustibles.

Matières incompatibles

Agents réducteurs. Matière combustible. Matière organique. Huile. Graisse.

8. CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition

Sous sa forme commerciale, ce produit ne contient aucune matière dangereuse avec des limites d'exposition professionnelles établies par les organismes de réglementation particuliers à une région

Contrôles techniques appropriés

Mesures d'ingénierie

Systèmes de ventilation. Utiliser une ventilation par aspiration à la source de pair avec une ventilation générale, si nécessaire, pour maintenir les concentrations d'oxygène au-dessous de 23,5 %. Considérer l'installation de systèmes de détection des fuites dans les zones

d'utilisation et de stockage. Les systèmes sous pression devraient être régulièrement vérifiés pour détecter les fuites.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection des yeux/du visage Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques).

Protection de la peau et du corps Des gants de travail et des souliers de sécurité sont recommandés lors de la manutention de bouteilles. Les gants doivent être propres et exempts de graisse ou d'huile.

Protection respiratoire Ne nécessite pas d'équipement protecteur spécial.

Considérations générales sur l'hygiène Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle.

9. PHYSICAL AND CHEMICAL PROPERTIES

Informations sur les propriétés physiques et chimiques essentielles

État physique	Gaz
Aspect	Incolore
Odeur	Sans odeur
Seuil olfactif	Non disponible
pH	Non applicable
Point de fusion/congélation	-218.8 °C / -361.8 °F
Point d'ébullition / intervalle d'ébullition	-183 °C / -297 °F
Taux d'évaporation	Non applicable
Inflammabilité (solide, gaz)	Voir la Section 5.
Limite inférieure d'inflammabilité:	Not applicable
Limite supérieure d'inflammabilité:	Not applicable
Point d'éclair	Non applicable
Température d'auto-inflammation	Non disponible
Température de décomposition	Non disponible
Propriétés comburantes	Peut provoquer ou aggraver un incendie ; comburant
Solubilité dans l'eau	Légèrement soluble
Coefficient de partage	0.65
Viscosité cinématique	Non applicable

Information sur les composants

Nom chimique	Masse moléculaire	Point/gamme d'ébullition	Pression de vapeur	Densité de vapeur (air =1)	Densité du gaz kg/m³ à 20 °C	Température critique
OXYGÈNE	31.99	-182.9 °C	Au-dessus de la température critique	1.11	1.331	-118.6 °C

10. STABILITÉ ET RÉACTIVITÉ

Réactivité
Non réactif dans des conditions normales

Stabilité chimique
Stable dans des conditions normales.

Données sur les risques d'explosion

Sensibilité aux chocs	Aucune.
Sensibilité aux décharges électrostatiques	Aucune.

Possibilité de réactions dangereuses
Peut provoquer ou aggraver un incendie ; comburant. Alimentera et accélérera la combustion des matières combustibles (bois,

papier, huile, débris, etc.).

Conditions à éviter
Aucun dans les conditions de stockage et de manutention recommandées (Voir section 7).

Matières incompatibles
Agents réducteurs. Matière combustible. Matière organique. Huile. Graisse.

Produits de décomposition dangereux
Aucun à notre connaissance.

11. DONNÉES TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Inhalation	Non disponible
Contact avec la peau	Non disponible
Contact avec les yeux	Non disponible
Ingestion	Voie d'exposition peu probable.

Informations sur les effets toxicologiques

Symptômes	L'oxygène n'est pas extrêmement toxique sous une pression normale. L'oxygène est plus toxique lorsqu'il est inhalé à des pressions élevées. Selon la pression et la durée de l'exposition, l'oxygène pur à des pressions élevées peut causer des crampes, des vertiges, des difficultés à respirer, des convulsions, un œdème et un décès.

Effets retardés et immédiats et effets chroniques d'une exposition de courte et de longue durée

Irritation	Non répertorié.
Sensibilisation	Non répertorié.
Mutagénicité sur les cellules germinales	Non répertorié.
Cancérogénicité	Ce produit ne contient aucun agent cancérogène ou potentiellement cancérogène inscrit par l'OSHA, le CIRC ou le NTP.
Toxicité pour la reproduction	Non répertorié.
STOT - exposition unique	Non répertorié.
STOT - exposition répétée	Non répertorié.
Danger par aspiration	Non applicable.

Mesures numériques de la toxicité

Informations sur le produit

DL50 par voie orale	Non disponible
DL50 par voie cutanée	Non disponible
CL50 par inhalation	Non disponible

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Ne mènera pas à une bioconcentration.

Persistance et dégradabilité
Non disponible.

Bioaccumulation
Ne mènera pas à une bioconcentration.

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets

Élimination des déchets Ne pas tenter d'éliminer les résidus ou les quantités inutilisées. Retourner à Messer, dans le contenant d'expédition CORRECTEMENT ÉTIQUETÉ, AVEC TOUS LES BOUCHONS DE SORTIE DU ROBINET ET PROTECTEURS DE ROBINET EN PLACE, pour une élimination adéquate.

14. INFORMATIONS RELATIVES AU TRANSPORT

TMD

N° ID/ONU	UN1072
Nom officiel d'expédition	OXYGÈNE COMPRIMÉ
Classe de danger	2.2
Classe subsidiaire	5.1
Désignation	UN1072, OXYGÈNE COMPRIMÉ, 2.2 (5.1)

IATA

N° ID/ONU	UN1072
Nom officiel d'expédition	OXYGÈNE COMPRIMÉ
Classe de danger	2.2
Classe de danger subsidiaire	5.1
Code ERG	2X

IMDG

N° ID/ONU	UN1072
Nom officiel d'expédition	OXYGÈNE COMPRIMÉ
Classe de danger	2.2
Classe de danger subsidiaire	5.1
EmS-N°	F-C, S-W
Dispositions particulières	355

15. INFORMATIONS SUR LE RÉGLEMENTATION

Inventaires internationaux

TSCA	Est conforme à (aux)
LIS/LES	Est conforme à (aux)
EINECS/ELINCS	Est conforme à (aux)

Légende :
TSCA - États-Unis - Article 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES – liste intérieure des substances/liste extérieure des substances pour le Canada
EINECS/ELINCS - Inventaire européen des substances chimiques commercialisées existantes /Liste européenne des substances chimiques modifiées

16. AUTRES INFORMATIONS

NFPA **Risques pour la santé** 0 **Inflammabilité** 0 **Instabilité** 0 **Propriétés physiques et chimiques** OX

Note : Les classes sont assignées conformément aux directives de la Compressed Gas Association (CGA) telles que publiées dans la brochure P-19-2019 de la CGA, « CGA Recommended Hazard Ratings for Compressed Gases » (Classes de danger recommandées par la CGA pour les gaz comprimés), 4e édition.

Date de révision	29-juil.-2021
Revision Note:	Sections de la FS mises à jour; 1; 3; 9

LIND-P097

Avis de non-responsabilité

Pour les conditions, y compris les limites de la responsabilité, veuillez consulter la convention d'achat en vigueur entre l'acheteur et Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. ou Messer Canada Inc. (ou l'une ou l'autre de leurs sociétés affiliées et filiales).

AVIS DE NON-RESPONSABILITÉ DE GARANTIES EXPRESSES ET TACITES

Bien que les précautions raisonnables aient été prises pour préparer ce document, nous ne présentons aucune recommandation et n'accordons aucune garantie que les renseignements fournis sont exacts ou complets, et nous n'assumons aucune responsabilité concernant l'appropriation à l'usage de ces renseignements ou les conséquences de leur utilisation. Il relève de la responsabilité de chaque utilisateur de s'assurer que les renseignements conviennent à l'usage projeté.

Fin de la fiche signalétique

OXYGEN, REFRIGERATED LIQUID

Safety Data Sheet

1. IDENTIFICATION

Product identifier

Product Name OXYGEN, REFRIGERATED LIQUID

Other means of identification

Safety data sheet number LIND-P098
UN/ID no. UN1073
Synonyms Liquid Oxygen; Oxygen Liquid, LOX

Recommended use of the chemical and restrictions on use

Recommended Use Industrial and professional use. Medical.
Uses advised against Consumer use

Details of the supplier of the safety data sheet

Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500
Email: service@messer-ca.com
Website: www.messer-ca.com

Customer Service: 888-256-7359

Emergency telephone number

Company Phone Number +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. HAZARDS IDENTIFICATION

Oxidizing gases	Category 1
Gases under pressure	Refrigerated liquefied gas

Label elements

Signal word **Danger**

Hazard Statements

May cause or intensify fire; oxidizer
Contains refrigerated gas; may cause cryogenic burns or injury

Combustibles in contact with liquid oxygen may explode on ignition or impact

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Keep and store away from clothing and other combustible materials
Keep valves and fittings free from oil and grease
Use and store only outdoors or in a well ventilated place
Wear cold insulating gloves, face shield, and eye protection
Use a backflow preventive device in piping
Use only with equipment of compatible materials of construction and rated for cylinder pressure
Use only with equipment cleaned for oxygen service
Do NOT change or force fit connections
Avoid spills. Do not walk on or roll equipment over spills
Close valve after each use and when empty
Always keep container in upright position

Precautionary Statements - Response
IF ON SKIN:. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.
In case of fire: Stop leak if safe to do so.

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure Gas

Chemical Name	CAS No.	Volume %	Chemical Formula
OXYGEN	7782-44-7	>99	O_2

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Move victim to fresh air. Seek immediate medical attention/advice.

Skin contact For dermal contact or suspected frostbite, remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physican should see the patient promptly if contact with the product has resulted in blistering of the dermal surface or in deep tissue freezing.

Eye contact If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.

Ingestion Not an expected route of exposure.

Most important symptoms and effects, both acute and delayed

Symptoms Oxygen is not acutely toxic under normal pressure. Oxygen is more toxic when inhaled at elevated pressures. Depending upon pressure and duration of exposure, pure oxygen at elevated pressures may cause cramps, dizziness, difficulty breathing, convulsions, edema and death. Direct contact with liquid can cause severe frostbite.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media None.

Specific extinguishing methods
Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

Specific hazards arising from the chemical
May cause or intensify fire; oxidizer. Combustibles in contact with liquid oxygen may explode on ignition or impact. Will support and accelerate combustion of combustible materials (wood, paper, oil, debris, etc). Cylinders may rupture under extreme heat. Cryogenic liquids and vapors will rapidly freeze water. Do not direct water at source of leak or safety devices; icing may occur.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Avoid spills. Do not walk on or roll equipment over spills. Monitor oxygen level. Eliminate all ignition sources if safe to do so. Use personal protection recommended in Section 8.

Other Information Liquid spill will vaporize and expand rapidly forming an oxygen enriched vapor cloud that may obscure visibility. When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

Environmental precautions

Environmental precautions Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Messer location. If system leak, close source valves and safely vent pressure before attempting any repairs.

Methods for cleaning up Return Portable Cryogenic Container to Messer or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Liquid oxygen cannot be handled in carbon or low alloy steel, 18-8 and 18-10 stainless steel are acceptable as are copper and its alloys, brass bronze, silicon alloys, Monel®, Inconel®, and beryllium. Teflon®, Teflon® composites, or Kel-F® are preferred non-metallic gasket materials. Oxygen should not be used as a substitute for compressed air in pneumatic equipment since they generally contain flammable lubricants. Equipment able to use oxygen must be "cleaned for oxygen service". Check with the equipment supplier to verify oxygen compatibility for the service conditions. Keep valves and fittings free from oil and grease Use only equipment of compatible materials of construction Do

NOT change or force fit connections Open valve slowly "NO SMOKING" signs should be posted in storage and use areas. Separate flammable gas cylinders from oxygen and other oxidizers by a minimum distance of 20 ft. or by a 5 ft. high barrier with a minimum fire resistance rating of a half an hour.
Cryogenic liquids must be handled and stored only in containers, systems and piping specifically designed for them and constructed of compatible materials for the product. Containers, systems, and piping must be equipped with pressure relief devices to prevent excessive pressure buildup due to vaporization of the liquid as it warms. System vents should be piped to a safe location exterior of the building.
Liquid product is delivered into stationary vacuum jacketed vessels at the customer's location or in portable vacuum-jacketed "liquid" cylinders requiring special handling methods. Consult manufacturer's instructions. Under normal conditions, portable cryogenic containers will periodically vent product to limit pressure buildup. Ensure that the container is in a well– ventilated area.

Never allow any unprotected part ot the body to touch uninsulated pipes or vessels that contain cold fluids. The extremely cold metal will cause moist flesh to stick fast and tear when one attempts to withdraw from it.

Protect cylinders from physical damage; do not drag, roll, slide or drop. Never attempt to lift a cylinder by its valve protection cap. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar,etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association publication CGA-P1, Safe Handling of Compressed Gases in Containers.

For additional recommendations, consult Compressed Gas Association's publications G-4.1, G-4.3, G-4.4, G-4.9, P-2.5, P-45, P-70 and NFPA 55.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregrated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage. Do not store near combustible materials.

Incompatible materials

Combustible materials. Organic material. Reducing agents. Oil. Grease.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls

Use local exhaust in combination with general ventilation as necessary to keep oxygen concentrations above 19.5% and below 23.5%. Consider installation of leak detection

systems in areas of use and storage. Systems under pressure should be regularly checked for leakages.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). If there is potential for exposure to liquid, wear Goggles face-shield over either safety glasses with side shields or safety goggles.

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders. Gloves must be clean and free from grease or oil. Wear loose fitting, cold insulating gloves and suitable clothing to prevent skin contact with liquid, cold gas and cold equipment or piping.

Respiratory protection No special protective equipment required.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Refrigerated liquefied gas
Appearance	Pale blue
Odor	Odorless
Odor threshold	No information available
pH	Not applicable
Melting/freezing point	-218.8 °C / -361.8 °F
Boiling point / boiling range	-183 °C / -297 °F
Evaporation rate	Not applicable
Flammability (solid, gas)	Non-flammable gas
Lower flammability limit:	Not applicable
Upper flammability limit:	Not applicable
Flash point	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
Oxidizing properties	May cause or intensify fire; oxidizer
Water solubility	Slightly soluble
Partition coefficient	No data available
Kinematic viscosity	Not applicable

Component Level Information:

Chemical Name	Molecular weight	Boiling point/range	Vapor Pressure	Vapor density (air =1)	Gas Density kg/m³@20°C	Critical Temperature
OXYGEN	31.99	-182.9 °C	Above critical temperature	1.11	1.331	-118.6 °C

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions

May cause or intensify fire; oxidizer. Will support and accelerate combustion of combustible materials (wood, paper, oil, debris, etc).

Conditions to avoid
None under recommended storage and handling conditions (see Section 7).

Incompatible materials
Combustible materials. Organic material. Reducing agents. Oil. Grease.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No data available
Skin contact	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected skin. Contact with evaporating liquid may cause cold burns/frostbite.
Eye contact	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected eyes. Contact with evaporating liquid may cause cold burns/frostbite.
Ingestion	Not an expected route of exposure.

Information on toxicological effects

Symptoms	Oxygen is not acutely toxic under normal pressure. Oxygen is more toxic when inhaled at elevated pressures. Depending upon pressure and duration of exposure, pure oxygen at elevated pressures may cause cramps, dizziness, difficulty breathing, convulsions, edema and death.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	Not classified.
Sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
Reproductive toxicity	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Chronic toxicity	Prolonged inhalation of high oxygen concentrations (>75%) may affect coordination, attention, and cause tiredness of respiratory irritation.
Target Organ Effects	None known.
Aspiration hazard	Not applicable.

Numerical measures of toxicity

Product Information	
Oral LD50	No information available
Dermal LD50	No information available
Inhalation LC50	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
No known acute aquatic toxicity.

Persistence and degradability
No information available.

Bioaccumulation
Will not bioconcentrate.

Other adverse effects
Can cause frost damage to vegetation.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Messer for proper disposal.

14. TRANSPORT INFORMATION

TDG

UN/ID no.	UN1073
Proper shipping name	Oxygen, refrigerated liquid
Hazard Class	2.2
Subsidiary class	5.1
Description	UN1073, Oxygen, refrigerated liquid, 2.2 (5.1)

IATA Forbidden by Passenger Air

IMDG

UN/ID no.	UN1073
Proper shipping name	Oxygen, refrigerated liquid
Hazard Class	2.2
Subsidiary hazard class	5.1
EmS-No.	F-C, S-W

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

16. OTHER INFORMATION

NFPA **Health hazards** 3 **Flammability** 0 **Instability** 0 **Physical and Chemical Properties** OX

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2019, CGA

Recommended Hazard Ratings for Compressed Gases, 4th Edition.

Revision Date	03-May-2021
Revision Note:	SDS sections updated; 1; 4; 5; 6; 7; 8

LIND-P098

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. or Messer Canada Inc. (or any of their affiliates and subsidiaries) and the purchaser.

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End of Safety Data Sheet

OXYGÈNE LIQUIDE RÉFRIGÉRÉ

Fiche de données de sécurité

1. IDENTIFICATION

Identificateur de produit
Nom du produit OXYGÈNE LIQUIDE RÉFRIGÉRÉ

Autres moyens d'identification
Numéro de la fiche signalétique LIND-P098
N° ID/ONU UN1073
Synonymes Oxygène Liquide, LOX

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation
Utilisation recommandée Utilisation industrielle et professionnelle. Médical.
Utilisations contre-indiquées Utilisation par le consommateur

Coordonnées du fournisseur de la fiche de données de sécurité
Messer Canada Inc.
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Téléphone: 905-501-2500
Email: service@messer-ca.com
Site Web: www.messer-ca.com

Service à la clientèle: 888-256-7359

Numéro d'appel d'urgence
Numéro de téléphone de l'entreprise +1 905-501-0802
FOR TRANSPORTATION EMERGENCIES ONLY: CANUTEC +1 613-996-6666 OR +1-888-226-8832

2. IDENTIFICATION DES DANGERS

Gaz comburants	Catégorie 1
Gaz sous pression	Gaz liquéfié réfrigéré

Éléments d'étiquetage

Mot indicateur **Danger**

Mentions de danger
Peut provoquer ou aggraver un incendie ; comburant

Contient un gaz réfrigéré; peut causer des brûlures ou blessures cryogéniques
Les matières combustibles en contact avec l'oxygène liquide peuvent exploser en cas d'inflammation ou de choc mécanique

Conseils de prudence - Prévention
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
Tenir/stocker à l'écart des vêtements et autres matières combustibles
Tenir les soupapes et les accessoires exempts d'huile et de graisse
Utiliser et stocker seulement en plein air ou dans un endroit bien ventilé
Porter des gants isolants contre le froid, un équipement de protection des yeux et du visage
Utiliser un dispositif de prévention d'écoulement de retour dans la tuyauterie
Utiliser uniquement un équipement en matériaux compatibles et prévu pour la pression de la bouteille
Utiliser uniquement un équipement nettoyé pour le service avec oxygène
NE PAS changer les raccords ni les forcer l'un dans l'autre
Éviter de renverser. Ne pas marcher ou rouler l'équipement sur le produit déversé
Fermer le robinet après chaque utilisation et lorsque la bouteille est vide
Toujours maintenir le récipient en position verticale

Conseils de prudence - Réponse
EN CAS DE CONTACT AVEC LA PEAU :. Dégeler les parties gelées avec de l'eau tiède. Ne pas frotter les zones touchées.
Consulter immédiatement un médecin.
En cas d'incendie : obturer la fuite si cela peut se faire sans danger.

HNOC (danger non classé autrement)
Non applicable

3. COMPOSITION/INFORMATIONS SUR LES COMPOSANTS

Gaz pur

Nom chimique	No. CAS	% en volume	Formule Chimique
OXYGÈNE	7782-44-7	>99	O_2

4. PREMIERS SOINS

Description des premiers soins

Conseils généraux Montrer cette fiche technique de santé-sécurité au médecin en consultation.

Inhalation Déplacer la victime à l'air frais. Consulter immédiatement un médecin.

Contact avec la peau En cas de contact avec la peau ou de gelure suspectée, retirer les vêtements contaminés et rincer les endroits touchés avec de l'eau tiède. NE PAS UTILISER D'EAU CHAUDE. Le patient devrait consulter un médecin si le contact avec le produit a causé la formation d'ampoules ou le gel des tissus profonds.

Contact avec les yeux Si on suspecte des gelures, rincer les yeux avec de l'eau froide pendant 15 minutes et obtenir des soins médicaux immédiatement.

Ingestion Pas une voie d'exposition prévue.

Les plus importants symptômes et effets, aigus ou retardés

Symptômes L'oxygène n'est pas extrêmement toxique sous une pression normale. L'oxygène est plus toxique lorsqu'il est inhalé à des pressions élevées. Selon la pression et la durée de l'exposition, l'oxygène pur à des pressions élevées peut causer des crampes, des vertiges,

des difficultés à respirer, des convulsions, un œdème et un décès. Un contact avec le produit peut causer des gelures.

Indication des éventuels besoins médicaux immédiats et traitements particuliers nécessaires

Note aux médecins Traiter en fonction des symptômes.

5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés
Utiliser des mesures d'extinctions appropriées aux circonstances locales et à l'environnement immédiat.

Moyens d'extinction inappropriés Aucune.

Méthodes d'extinction particulières
Continuer à refroidir les bouteilles exposées à un feu jusqu'à ce que les flammes soient éteintes. Les bombonnes endommagées ne doivent être manipulées que par des spécialistes.

Dangers particuliers associés au produit chimique
Peut provoquer ou aggraver un incendie ; comburant. Les matières combustibles en contact avec l'oxygène liquide peuvent exploser en cas d'inflammation ou de choc mécanique. Alimentera et accélérera la combustion des matières combustibles (bois, papier, huile, débris, etc.). Les bouteilles peuvent se rompre sous une chaleur extrême. Cryogenic liquids and vapors will rapidly freeze water. Ne pas diriger d'eau vers la source de la fuite ou les dispositifs de sécurité; il peut se produire un givrage.

Équipement de protection et précautions pour les pompiers
Comme pour tout incendie, porter un respirateur à air comprimé, NIOSH (approuvé ou équivalent), ainsi qu'une combinaison complète de protection.

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTAL

Précautions individuelles, équipement de protection et procédures d'urgence

Précautions personnelles Évacuer le personnel vers des endroits sécuritaires. Vérifier que la ventilation est adéquate, en particulier dans des zones confinées. Éviter de renverser. Ne pas marcher ou rouler l'équipement sur le produit déversé. Vérifier la teneur en oxygène. Éliminer toutes les sources d'ignition si cela est faisable sans danger. Utiliser la protection individuelle recommandée à la section 8.

Autres informations Liquid spill will vaporize and expand rapidly forming an oxygen enriched vapor cloud that may obscure visibility. Lors d'un contact avec des liquides réfrigérés/cryogéniques, de nombreux produits deviennent fragiles et risquent de se briser sans avertissement.

Précautions pour le protection de l'environnement

Précautions pour le protection de l'environnement Empêcher la propagation des vapeurs par les égouts, les systèmes de ventilation et les zones confinées.

Méthodes et matériel de confinement et de nettoyage

Méthodes de confinement Couper le débit de gaz ou déplacer la bouteille à l'extérieur si cela peut être fait sans risque. Si le contenant ou le robinet fuit, composer le numéro de téléphone d'urgence approprié indiqué à la Section 1 ou appeler la succursale de Messer la plus proche. If system leak, close source valves and safely vent pressure before attempting any repairs.

Méthodes de nettoyage Retourner le contenant cryogénique portatif à Messer ou à un distributeur agréé.

7. MANUTENTION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger

Conseils sur la manutention sécuritaire

L’oxygène liquide ne peut être manipulé dans du carbone ou de l’acier faiblement allié. Les aciers inoxydables 18-8 et 18-10 sont acceptables, tout comme le cuivre et ses alliages, le laiton et le bronze, les alliages de silicium, le Monel®, l’Inconel® et le béryllium. Le Teflon®, des composites de Teflon® ou le Kel-F® sont des matériaux de joint d’étanchéité non métalliques préférés. L’oxygène ne devrait pas être utilisé pour remplacer l’air comprimé dans l’équipement pneumatique qui contient généralement des lubrifiants inflammables. L’équipement conçu pour être utilisé avec l'oxygène doit être « nettoyé pour une utilisation avec l'oxygène ». Consulter le fournisseur de l'équipement pour vérifier si les conditions d'utilisation sont compatibles avec l'oxygène. Tenir les soupapes et les accessoires exempts d'huile et de graisse Utiliser uniquement un équipement en matériaux compatibles NE PAS changer les raccords ni les forcer l'un dans l'autre Ouvrir lentement le robinet Des panneaux « DÉFENSE DE FUMER » doivent être affichés dans les endroits d’entreposage et d’utilisation. Prévoir une distance de séparation minimale de 6 m (20 pi) entre les bouteilles de gaz inflammables et les boutielles d’oxygène et autres comburants ou une barrière de 1,5 m (5 pi) de haut avec une durée de résistance au feu minimale d’une demi-heure
Cryogenic liquids must be handled and stored only in containers, systems and piping specifically designed for them and constructed of compatible materials for the product. Containers, systems, and piping must be equipped with pressure relief devices to prevent excessive pressure buildup due to vaporization of the liquid as it warms. System vents should be piped to a safe location exterior of the building.
L’azote liquide est livré au client dans des récipients à vide isolant fixes ou dans des bouteilles « à liquide » à vide isolant portatives qui nécessitent des procédés de manutention spéciaux. Consulter les directives du fabricant.

Ne jamais laisser une partie non protégée du corps toucher des tuyaux ou contenants non isolés qui contiennent des fluides froids. La peau humide collera au métal froid et se déchirera lorsqu'on tentera de la décoller.

Protéger les bouteilles des dommages physiques; ne pas traîner, rouler, glisser ou laisser tomber. Ne jamais tenter de soulever une bouteille par le chapeau de protection du détendeur. Lors du déplacement des bouteilles, même sur une courte distance, utiliser un chariot conçu pour le transport de bouteilles. Ne jamais insérer un objet (par ex., une clé, un tournevis, un levier, etc.) dans les ouvertures du chapeau du détendeur. Utiliser une clé à courroie réglable pour retirer les chapeaux trop serrés ou rouillés. N'utiliser qu'avec une ventilation adéquate. Utiliser un dispositif de prévention d’écoulement de retour dans la tuyauterie. Fermer le robinet après chaque utilisation et lorsque la bouteille est vide. Si l’utilisateur éprouve des difficultés à faire fonctionner le robinet de la bouteille, cesser l’utilisation et appeler le fournisseur. Vérifier que le système de gaz complet a été vérifié pour détecter les fuites avant de l'utiliser.

Ne jamais mettre des bouteilles à gaz dans le coffre d’une voiture ou dans des lieux non ventilés d’un véhicule de tourisme. Ne jamais tenter de remplir de nouveau une bouteille de gaz comprimé sans le consentement écrit du propriétaire. Ne jamais amorcer un arc sur une bouteille de gaz comprimé ou faire d’une bouteille une partie d’un circuit électrique.

Uniquement des personnes expérimentées et adéquatement formées devraient manipulées des gas sous pression. Toujours entreposer et manipuler les bouteilles de gaz comprimé conformément à la publicacion CGA-P1 « Safe Handling of Compressed Gases in Containers » (Manutention sécuritaire des gaz comprimés dans des contenants), de la Compressed Gas Association.

Pour d’autres recommandations, consulter les brochures G-4.1, G-4.3, G-4.4, G-4.9, P-2.5, P-45, P-70 de la Compressed Gas Association et NFPA 55.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Conditions d’entreposage

Entreposer dans un endroit frais, sec et bien ventilé d’une construction non combustible éloigné des zones de circulation intense et des sorties d’urgence. Garder à des températures inférieures à 52 °C / 125 °F. Les bouteilles doivent être entreposées en position verticale avec le chapeau de protection du détendeur en place et bien attachées pour éviter toute chute. Les bouteilles pleines et vides doivent être séparées. Utiliser un

système d'inventaire « premier entré, premier sorti » pour éviter d'entreposer les bouteilles pleines pour une durée excessive. Les contenants devraient être régulièrement vérifiés pour déterminer leur état général et détecter les fuites. Ne pas entreposer près de matières combustibles.

Matières incompatibles Matières combustibles. Matière organique. Agents réducteurs. Huile. Graisse.

8. CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition Sous sa forme commerciale, ce produit ne contient aucune matière dangereuse avec des limites d'exposition professionnelles établies par les organismes de réglementation particuliers à une région

Contrôles techniques appropriés

Mesures d'ingénierie Utiliser une ventilation par aspiration à la source de pair avec une ventilation générale, si nécessaire, pour maintenir les concentrations d'oxygène au-dessous de 23,5 %. Considérer l'installation de systèmes de détection des fuites dans les zones d'utilisation et de stockage. Les systèmes sous pression devraient être régulièrement vérifiés pour détecter les fuites.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection des yeux/du visage Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques). S'il y a un risque d'éclaboussures, porter: Lunettes de protection chimique Écran facial

Protection de la peau et du corps Des gants de travail et des souliers de sécurité sont recommandés lors de la manutention de bouteilles. Les gants doivent être propres et exempts de graisse ou d'huile. Porter des gants isolants contre le froid lors de la manutention d'un liquide.

Protection respiratoire Ne nécessite pas d'équipement protecteur spécial.

Considérations générales sur l'hygiène Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle. Éviter tout contact avec les yeux, la peau ou les vêtements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Informations sur les propriétés physiques et chimiques essentielles

État physique	Gaz liquéfié réfrigéré
Aspect	Bleu pâle
Odeur	Sans odeur
Seuil olfactif	Aucun renseignement disponible
pH	Non applicable
Point de fusion/congélation	-218.8 °C / -361.8 °F
Point d'ébullition / intervalle d'ébullition	-183 °C / -297 °F
Taux d'évaporation	Non applicable
Inflammabilité (solide, gaz)	Gaz non inflammable
Limite inférieure d'inflammabilité:	Sans objet
Limite supérieure d'inflammabilité:	Non applicable
Point d'éclair	Non applicable
Température d'auto-inflammation	Donnée non disponible
Température de décomposition	Donnée non disponible
Propriétés comburantes	Peut provoquer ou aggraver un incendie ; comburant
Solubilité dans l'eau	Légèrement soluble
Coefficient de partage	Donnée non disponible
Viscosité cinématique	Non applicable

Information sur les composants

Nom chimique	Masse moléculaire	Point/gamme d'ébullition	Pression de vapeur	Densité de vapeur (air =1)	Densité du gaz kg/m³ à 20 °C	Température critique
OXYGÈNE	31.99	-182.9 °C	Au-dessus de la	1.11	1.331	-118.6 °C

			température critique			

10. STABILITÉ ET RÉACTIVITÉ

Réactivité
Non réactif dans des conditions normales

Stabilité chimique
Stable dans des conditions normales.

Données sur les risques d'explosion

Sensibilité aux chocs	Aucune.
Sensibilité aux décharges électrostatiques	Aucune.

Possibilité de réactions dangereuses
Peut provoquer ou aggraver un incendie ; comburant. Alimentera et accélérera la combustion des matières combustibles (bois, papier, huile, débris, etc.).

Conditions à éviter
Aucun dans les conditions de stockage et de manutention recommandées (Voir section 7).

Matières incompatibles
Matières combustibles. Matière organique. Agents réducteurs. Huile. Graisse.

Produits de décomposition dangereux
Aucun à notre connaissance.

11. DONNÉES TOXICOLOGIQUES

Informations sur les voies d'exposition probables

Inhalation	Donnée non disponible
Contact avec la peau	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected skin. Le contact avec le liquid s'évapore peut causer des brûlures par le froid/gelures
Contact avec les yeux	Direct contact with extremely cold liquid will cause severe and immediate burns to unprotected eyes. Le contact avec le liquid s'évapore peut causer des brûlures par le froid/gelures
Ingestion	Voie d'exposition peu probable.

Informations sur les effets toxicologiques

Symptômes	L'oxygène n'est pas extrêmement toxique sous une pression normale. L'oxygène est plus toxique lorsqu'il est inhalé à des pressions élevées. Selon la pression et la durée de l'exposition, l'oxygène pur à des pressions élevées peut causer des crampes, des vertiges, des difficultés à respirer, des convulsions, un œdème et un décès.

Effets retardés et immédiats et effets chroniques d'une exposition de courte et de longue durée

Irritation	Non répertorié.
Sensibilisation	Non répertorié.

Mutagénicité sur les cellules germinales	Non répertorié.
Cancérogénicité	Ce produit ne contient aucun agent cancérogène ou potentiellement cancérogène inscrit par l'OSHA, le CIRC ou le NTP.
Toxicité pour la reproduction	Non répertorié.
STOT - exposition unique	Non répertorié.
STOT - exposition répétée	Non répertorié.
Toxicité chronique	Une inhalation prolongée de concentrations élevées d'oxygène (supérieures à 75 %) peut toucher la coordination et l'attention, et causer de la fatigue ou une irritation des voies respiratoires.
Effets sur les organes cibles	Aucun à notre connaissance.
Danger par aspiration	Non applicable.

Mesures numériques de la toxicité

Informations sur le produit	
DL50 par voie orale	Aucun renseignement disponible
DL50 par voie cutanée	Aucun renseignement disponible
CL50 par inhalation	Aucun renseignement disponible

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Aucune toxicité aquatique aiguë connue.

Persistance et dégradabilité
Aucun renseignement disponible.

Bioaccumulation
Ne mènera pas à une bioconcentration.

Autres effets néfastes
Peut causer des dommages par le gel à la végétation.

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets

Élimination des déchets	Ne pas tenter d'éliminer les résidus ou les quantités inutilisées. Retourner à Messer, dans le contenant d'expédition CORRECTEMENT ÉTIQUETÉ, AVEC TOUS LES BOUCHONS DE SORTIE DU ROBINET ET PROTECTEURS DE ROBINET EN PLACE, pour une élimination adéquate.

14. INFORMATIONS RELATIVES AU TRANSPORT

TMD

N° ID/ONU	UN1073
Nom officiel d'expédition	OXYGÈNE LIQUIDE RÉFRIGÉRÉ
Classe de danger	2.2
Classe subsidiaire	5.1
Désignation	UN1073, OXYGÈNE LIQUIDE RÉFRIGÉRÉ, 2.2 (5.1)

IATA Interdite par des passagers aériens

IMDG

N° ID/ONU	UN1073
Nom officiel d'expédition	OXYGÈNE LIQUIDE RÉFRIGÉRÉ
Classe de danger	2.2

Classe de danger subsidiaire	5.1
EmS-N°	F-C, S-W

15. INFORMATIONS SUR LE RÉGLEMENTATION

Inventaires internationaux

TSCA	Est conforme à (aux)
LIS/LES	Est conforme à (aux)
EINECS/ELINCS	Est conforme à (aux)

Légende :

TSCA - États-Unis - Article 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES – liste intérieure des substances/liste extérieure des substances pour le Canada
EINECS/ELINCS - Inventaire européen des substances chimiques commercialisées existantes /Liste européenne des substances chimiques modifiées

16. AUTRES INFORMATIONS

NFPA **Risques pour la santé** 3 **Inflammabilité** 0 **Instabilité** 0 **Propriétés physiques et chimiques** OX

Note : Les classes sont assignées conformément aux directives de la Compressed Gas Association (CGA) telles que publiées dans la brochure P-19-2019 de la CGA, « CGA Recommended Hazard Ratings for Compressed Gases » (Classes de danger recommandées par la CGA pour les gaz comprimés), 4e édition.

Date de révision	03-mai-2021
Revision Note:	Sections de la FS mises à jour; 1; 4; 5; 6; 7; 8

LIND-P098

Avis de non-responsabilité

Pour les conditions, y compris les limites de la responsabilité, veuillez consulter la convention d'achat en vigueur entre l'acheteur et Messer LLC, Messer Merchant Production LLC, Messer North America, Inc., Messer Gas Puerto Rico, Inc. ou Messer Canada Inc. (ou l'une ou l'autre de leurs sociétés affiliées et filiales).

AVIS DE NON-RESPONSABILITÉ DE GARANTIES EXPRESSES ET TACITES

Bien que les précautions raisonnables aient été prises pour préparer ce document, nous ne présentons aucune recommandation et n'accordons aucune garantie que les renseignements fournis sont exacts ou complets, et nous n'assumons aucune responsabilité concernant l'appropriation à l'usage de ces renseignements ou les conséquences de leur utilisation. Il relève de la responsabilité de chaque utilisateur de s'assurer que les renseignements conviennent à l'usage projeté.

Fin de la fiche signalétique

COLGATE-PALMOLIVE Company
MATERIAL SAFETY DATA SHEET

PALMOLIVE ULTRA ANTIBACTERIAL

This industrial Material Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Version 1.0	Revision Date 09/21/2012	Print Date 10/03/2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PALMOLIVE ULTRA ANTIBACTERIAL
MSDS Number 200000023474
CAS-No. : Not applicable - product is a mixture
General Use : A formulated dishwashing liquid

Company : Colgate-Palmolive Canada Inc.
Two Morneau Shepell Centre, 6th Fl.
895 Don Mills Road
Toronto, Ontario, M3C 1W3, Canada

Telephone :
Emergency telephone number : For emergencies involving spill, leak, fire, exposure or accident call CHEMTREC (24hr) at (800) 424-9300 or (703) 527-3887.

Medical Emergency (24HR): For MEDICAL EMERGENCIES involving this product call: (888) 489-3861

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form : Liquid
Appearance : Orange
Odour : Citrus odor

Potential Health Effects

Eye contact : Causes eye irritation on direct contact.

Skin contact : May cause skin irritation upon prolonged contact.

Inhalation : Overexposure may cause respiratory tract irritation.

Ingestion : Harmful if swallowed.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

OSHA-REGULATED COMPONENTS (present at a concentration of > or = 1%)

Chemical Name	CAS-No.	Concentration *
3-Lauroylamidopropyl betaine	4292-10-8	5.00 - 10.00

SODIUM DODECYL BENZENE SULFONATE (LINEAR)	25155-30-0	1.00 - 5.00
ETHANOL (ETHYL ALCOHOL)	64-17-5	1.00 - 5.00
L(+)-LACTIC ACID	79-33-4	1.00 - 5.00
SODIUM XYLENE SULFONATE	1300-72-7	1.00 - 5.00

*All concentrations are present by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Carcinogenicity:

Listed Carcinogens: The following components, present at a concentration of > or = 0.1%, are listed as carcinogens or potential carcinogens by either the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), OSHA or ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 4. FIRST AID MEASURES

First aid procedures

Eye contact : Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

Skin contact : Flush skin with large amounts of water. If irritation develops and persists, get medical attention.

Inhalation : Remove victim to fresh air. Get medical attention, if symptoms persist.

Ingestion : Drink 8 ounces of clear water. Get medical attention.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

Flash point : 115 °F (46 °C)

Fire fighting

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Protective equipment and precautions for firefighters

Special protective equipment for firefighters : Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Use personal protection recommended in Section 8 of the MSDS.

Methods for containment / Methods for cleaning up : Cover with inert, absorbent material and remove to disposal container. Spill area may be slippery. Flush with plenty of water.

SECTION 7. HANDLING AND STORAGE

Storage

Requirements for storage areas and containers : Store at controlled room temperature at 20-25°C (68-77°F).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

Chemical Name	CAS-No.	Value	Exposure Limits	Source	Notes
ETHANOL (ETHYL ALCOHOL)	64-17-5	STEL	1,000 ppm	ACGIH	
		REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE	
		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS	
		TWA	1,000 ppm 1,900 mg/m3	Z1A	

Engineering Controls : In an industrial work environment, no special precautions or control measures are required.

Personal protective equipment

Protective measures : In an industrial work environment, if a splash is likely, chemical goggles may be needed. Prolonged skin contact may require protective gloves. For consumer use, no unusual precautions are necessary.

General Hygiene Considerations : In an industrial work environment, avoid eye and prolonged skin contact.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : Liquid
Appearance : Orange

Odour : Citrus odor

Flash point : 115 °F (46 °C)

pH : 3.25

Density : 1.046 g/cm3

SECTION 10. STABILITY AND REACTIVITY

Materials to avoid : Remarks: Strong oxidizing agents

Hazardous decomposition products : Note: None known.

Hazardous reactions : Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

This product has not been tested as a whole. However, this formula was reviewed by expert toxicologists in the Product Safety Assurance Department of Colgate-Palmolive and is determined to be safe for its intended use. This review has taken into consideration available safety-related information including information on individual ingredients, similar formulas and potential ingredient interactions. This review is a component of the hazard determination used to prepare the statements in Section 3 of the MSDS.

SECTION 12. ECOLOGICAL INFORMATION

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environment agency for specific rules). Do not dump in sewers, any body of water or on the ground.

SECTION 14. TRANSPORT INFORMATION

DOT : Not regulated.

TDG : Not regulated.

IATA : Not regulated.

IMDG : Not regulated.

SECTION 15. REGULATORY INFORMATION

US Regulations

SARA

Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A) : Sulfuric Acid

CERCLA Hazardous Substance List (40 CFR 302.4) - Reportable Quantity : 2195 lbs

ETHANOL (ETHYL ALCOHOL)

21744 lbs

SODIUM DODECYL BENZENE SULFONATE (LINEAR)

2057613 lbs

METHANOL

Clean Air Act

Clean Air Act 111 Standards of Performance for New Stationary Sources : ETHANOL (ETHYL ALCOHOL)

METHANOL

Clean Water Act

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3) : Sulfuric Acid

SODIUM DODECYL BENZENE SULFONATE (LINEAR)

State Regulations

Massachusetts Right-To-Know List : ETHANOL (ETHYL ALCOHOL)

Sulfuric Acid

SODIUM DODECYL BENZENE SULFONATE (LINEAR)

New Jersey Right-To-Know List : WATER

ETHANOL (ETHYL ALCOHOL)

3-Lauroylamidopropyl betaine

SODIUM DODECYL BENZENE SULFONATE (LINEAR)

Sodium C12-C13 2EO sulfate

Pennsylvania Right-To-Know List : WATER

ETHANOL (ETHYL ALCOHOL)

3-Lauroylamidopropyl betaine

SODIUM DODECYL BENZENE SULFONATE (LINEAR)

Sodium C12-C13 2EO sulfate

Canada

Canadian Workplace Hazardous Materials Information System (WHMIS) Listed Material : ETHANOL (ETHYL ALCOHOL)

L(+)-LACTIC ACID
SODIUM DODECYL BENZENE SULFONATE (LINEAR)

Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Other Information

TSCA Section 8(b) Status : All ingredients in this product are listed on the TSCA Inventory or are not required to be listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

Further information

MSDS Number : 200000023474

Disclaimer: The information on this sheet is limited to the material identified and is believed by the Colgate-Palmolive Company to be correct based on its knowledge and information as of the date noted. Colgate makes no representation, guarantee or warranty, expressed or implied, as to the accuracy, reliability or completeness of the information and assumes no responsibility for injury, damage or loss resulting from the use of the material.

DUMOND

Safety Data Sheet

Issue Date: 01-Jan-2008 **Revision Date:** 21-Dec-2020 **Version** 2

1. IDENTIFICATION

Product identifier
Product Name Peel Away 1

Other means of identification
SDS # DCI-009R

UN/ID No UN1823

Recommended use of the chemical and restrictions on use
Recommended Use Paint remover.

Details of the supplier of the safety data sheet
Supplier Address
Dumond, Inc.
253 S. Bailey Rd.
Downingtown, PA 19335

Emergency telephone number
Company Phone Number 1-609-655-7700
Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance White paste **Physical state** Paste **Odor** None

Classification

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Signal Word
Danger

Hazard statements
Causes severe skin burns and eye damage

Precautionary Statements - Prevention
Do not breathe dusts or mists
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Alkaline.

Chemical name	CAS No	Weight-%
Calcium hydroxide	1305-62-0	20-30
Sodium hydroxide	1310-73-2	1-10
Starch	9005-25-8	1-10

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician immediately.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if irritation occurs.

Inhalation Remove to fresh air. Immediate medical attention is required.

Ingestion Rinse mouth. Do NOT induce vomiting. If conscious, give water or milk. Get medical attention if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms May cause severe chemical burns with reddening and pain. May cause dermatitis or irritation in some individuals upon prolonged contact. May cause irritation to the mucous membranes and upper respiratory tract. Ingestion may cause severe burns to mouth, throat or stomach.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Individuals with chronic respiratory or skin diseases may be at risk from exposure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

At elevated temperatures, containers may rupture. Contents are corrosive and all personal contact must be avoided.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Keep in suitable, closed containers for disposal. Wash spill area with plenty of water. Spills and releases may have to be reported to Federal and/or local authorities. See section 15.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, well ventilated area away from acids and other incompatible substances. Store locked up.

Incompatible Materials Acids. Organic halogen compounds. Nitromethane. Flammable liquid. Metals such as aluminum, tin, and zinc.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Calcium hydroxide 1305-62-0	TWA: 5 mg/m^3	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 5 mg/m^3 not in effect as a result of reconsideration	TWA: 5 mg/m^3
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m^3	TWA: 2 mg/m^3 (vacated) Ceiling: 2 mg/m^3	IDLH: 10 mg/m^3 Ceiling: 2 mg/m^3
Chemical name	**ACGIH TLV**	**OSHA PEL**	**NIOSH IDLH**
Starch 9005-25-8	TWA: 10 mg/m^3	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 15 mg/m^3 total	TWA: 10 mg/m^3 total dust TWA: 5 mg/m^3 respirable dust

		dust (vacated) TWA: 5 mg/m^3 respirable fraction	

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Use in a well-ventilated location (eg. local exhaust ventilation, fans). Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical safety goggles/faceshield. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Wear suitable protective clothing. Rubber, neoprene, or other impervious gloves are recommended to prevent skin contact. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Reference Wiley's "Quick Selection Guide to Chemical Protective Clothing". Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. For spray application, a NIOSH approved dust respirator and eye protection. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Paste
Appearance White paste
Color White
Odor None
Odor Threshold Not determined

Property	Values	Remarks • Method
pH	12	
Melting point / freezing point	Not determined	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	None	
Evaporation Rate	Same as water	
Flammability (Solid, Gas)	Not determined	
Flammability Limit in Air		
Upper flammability or explosive limits	Not determined	
Lower flammability or explosive limits	Not determined	
Vapor Pressure	Same as water	
Vapor Density	Same as water	
Relative Density	Not determined	
Water Solubility	Completely soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	Not determined	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Acids. Organic halogen compounds. Nitromethane. Flammable liquid. Metals such as aluminum, tin, and zinc.

Hazardous decomposition products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes severe eye damage.

Skin Contact Causes severe skin burns.

Inhalation Avoid breathing vapors or mists. May cause irritation of respiratory tract.

Ingestion May be harmful if swallowed.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Calcium hydroxide 1305-62-0	= 7340 mg/kg (Rat)	-	-
Sodium hydroxide 1310-73-2	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
Sodium carboxymethyl cellulose 9004-32-4	= 27000 mg/kg (Rat)	> 2 g/kg (Rabbit)	> 5800 mg/m^3 (Rat) 4 h
Sodium dodecyl benzene sulphonate 25155-30-0	= 438 mg/kg (Rat)	-	-
Sodium carbonate 497-19-8	= 4090 mg/kg (Rat)	-	-

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms May cause dermatitis or irritation in some individuals upon prolonged contact. May cause severe chemical burns with reddening and pain. May cause skin and eye irritation. May cause irritation to the mucous membranes and upper respiratory tract. May cause burns to mouth and gastrointestinal corrosion.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 4,085.60 mg/kg

Dermal LD50 11,996.70 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Calcium hydroxide 1305-62-0		160: 96 h Gambusia affinis mg/L LC50 static	
Sodium hydroxide 1310-73-2		45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	
Sodium dodecyl benzene sulphonate 25155-30-0		10.8: 96 h Oncorhynchus mykiss mg/L LC50 static	

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
Calcium hydroxide 1305-62-0	Corrosive
Sodium hydroxide 1310-73-2	Toxic Corrosive

14. TRANSPORT INFORMATION

Note Based on package size, product may be eligible for limited quantity exception.

DOT

UN/ID No	UN1823
Proper Shipping Name	Sodium hydroxide, solid, mixture
Hazard class	8
Packing Group	II

IATA

UN number	UN1823
Proper Shipping Name	Sodium hydroxide, solid, mixture
Transport hazard class(es)	8
Packing Group	II

IMDG

UN number	UN1823
Proper Shipping Name	Sodium hydroxide, solid, mixture
Transport hazard class(es)	8
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Calcium hydroxide	X	ACTIVE	X	X	X	X	X	X	X
Sodium hydroxide	X	ACTIVE	X	X	X	X	X	X	X
Sodium carboxymethyl cellulose	X	ACTIVE	X		X	X	X	X	X
Starch	X	ACTIVE	X	X	X	X	X	X	X
Sodium dodecyl benzene sulphonate	X	ACTIVE	X	X	X	X	X	X	X
Sodium carbonate	X	ACTIVE	X	X	X	X	X	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hydroxide 1310-73-2	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Sodium dodecyl benzene sulphonate 25155-30-0	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide	1000 lb			X

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Calcium hydroxide 1305-62-0	X	X	X
Sodium hydroxide 1310-73-2	X	X	X
Starch 9005-25-8		X	X
Sodium dodecyl benzene sulphonate 25155-30-0	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	Not determined	Not determined	Not determined	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	3	0	0	Not determined

Issue Date: 01-Jan-2008
Revision Date: 04-Dec-2018
Revision Note: Updated formula

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety Data Sheet (SDS)

Date Prepared/Revised: 2/9/2015 Version no.: 01 Supersedes: (-)

1.) Identification of the Mixture and of the Company

Product identifier**: Perfect Field Athletic Striping Paint (water based) - Aerosol**

Product name:

4715 Athletic White 4718 Athletic Green	4716 Athletic Blue 4719 Athletic Yellow	4717 Athletic Red

Relevant identified uses of the substance: Use on golf courses, athletic fields, home or office lawns, and any other grass damaged by severe weather, animal urination, or insect damage.
Uses advised against: Poorly ventilated areas

CAS No:	**Not Applicable (mixture)**
EC No:	**Not Applicable (mixture)**
Index No:	**Not Applicable (mixture)**
Manufacturer/Supplier:	**Aervoe Industries Incorporated**
Street address/P.O. Box:	**1100 Mark Circle**
Country ID/Postcode/Place	**Gardnerville, Nevada 89410**
Telephone number:	**001 (0) 1-775-782-0100**
e-mail:	**mailbox@aervoe.com**
National contact:	**Aervoe Industries Incorporated**
For Product Information:	00**1 (0) 1-800-227-0196**
Emergency telephone number:	**001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)** **English Language Service**

2. Hazards identification

Classifications

Physical Hazards:	Aerosol - Category 1 Flam. Gas 1 Flam. Liq. 2 Press. Gas
Health Hazards:	Skin Irrit. 2 Acute Tox. 4 Eye Irrit. 2 STOT SE 3 Carc. 1B Muta 1B Repr. 2 STOT RE 2
Environmental Hazards:	Aquatic Chronic 2

Labeling

Safety Data Sheet (SDS)

Date Prepared/Revised: 2/9/2015 Version no.: 01 Supersedes: (-)

Signal Word: Danger

Hazard Statements:
H220 – Extremely flammable gas
H222 – Extremely flammable aerosol.
H225 – Highly flammable liquid and vapour.
H229 – Pressurized container: may burst if heated
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H336 – May cause drowsiness or dizziness.
H340 – May cause genetic defects
H350 – May cause cancer
H373 – May cause damage to nervous system through prolonged or repeated exposure(Inhalation)
H411 – Toxic to aquatic life with long lasting effects.

Precautionary Statements:
P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P262 - Do not get in eyes, on skin, or on clothing
P264 - Wash … thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation
P251 - Pressurized container: Do not pierce or burn, even after use
P273 – Avoid release to the environment.

Symbols/Pictograms:

3. Composition / Information on Ingredients

Composition

Chemical	Synonyms	CAS Number	EINECS Number	Weight Percent	Hazard Category	H-Code
Hydrocarbon Propellant	LPG	68476-86-8	270-705-8	1-5%	Press. Gas Flam. Gas 1 Carc. 1B Muta. 1B	H220 H350 H340
Hexane	n-Hexane	110-54-3	203-777-6	7-13%	Flam. Liq. 2 Repr. 2 Asp. Tox. 1 STOT RE 2 * Skin Irrit. 2 STOT SE 3 Aquatic Chronic 2	H225 H361f *** H304 H373 ** H315 H336 H411
Aliphatic Petroleum Distillates	Solvent Naphtha	64742-89-8	265-192-2	7-13%	Carc. 1B Muta. 1B Asp. Tox. 1	H350 H340 H304
Acetone	Propanone	67-64-1	200-662-2	3-7%	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225, H319, H336
Aliphatic Petroleum Distillates	Solvent Naphtha	8032-32-4	232-453-7	3-7%	Carc. 1B Muta. 1B Asp. Tox. 1	H350 H340 H304
Aliphatic Petroleum Distillates	Solvent Naphtha	64742-88-7	265-191-7	3-7%	Asp. Tox. 1	H304
Dipropylene Glycol Methyl Ether	Glycol Ether DPM	34590-94-8	252-104-2	1-5%	N/AV	N/AV
Aliphatic Hydrocarbon	Petroleum Distillate	8052-41-3	232-489-3	1-5%	Carc. 1B Muta. 1B Asp. Tox. 1	H350 H340 H304
4716, 4717, and 4719 also contain						
Ethyle	Ethyl	112-78-6	205-500-4	1-5%	N/AV	N/AV

Acetate	Ethanoate					
EB Acetate	2-Butoxyethyl Acetate	141-76-6	203-962-1	1-5%	N/AV	N/AV

Other Product Information

Chemical Identity: Mixture

4.) First Aid Measures

General Advice: If symptoms persist, always call a doctor.

Inhalation First Aid: Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.

Skin Contact First Aid: Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

Eye Contact First Aid: If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.

Ingestion First Aid: If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most Important Symptoms/Effects: Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

5. Fire Fighting Measures

Flammable Properties: Aerosol

Auto Ignition Temperature: Not Available

Suitable extinguishing media: Carbon dioxide, dry chemical, water spray.

Unsuitable extinguishing media: None known

Special hazards arising from the substance or mixture: None known

Hazardous combustion products: Carbon dioxide, Carbon monoxide

Fire & Explosion Hazards: Closed Containers may rupture due to the buildup of pressure from extreme temperatures.

Precautions for fire-fighters: Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and

NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

PERSONAL PRECAUTIONARY MEASURES:

1) Follow personal protective equipment recommendations found in section 8.
2) Maintain adequate ventilation.

SPILL CLEAN-UP PROCEDURES:

1.) Evacuate unprotected personnel from the area.
2.) Remove sources of ignition if safe to do so.
3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
4.) Contain spill to prevent material from entering sewage or ground water systems.
5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

7. Handling and Storage

Handling:

Flammable Aerosol, use in a well ventilated area.
Do not use near sources of ignition.
Do not to eat, drink and smoke while working with this material.
Wash hands after use.

Conditions for safe storage, including any incompatibilities:

Store out of direct sunlight.
Storage Temperature: 32° to 120°F (0° to 49°C).
No known incompatibilities.

8. Exposure Controls / Personal Protection

Appropriate engineering controls:

Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.
Keep away from sources of ignition.
Take precautionary measures against static discharge.

Personal Protection:

Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

Skin protection

Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection:

Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

Hazardous Ingredient	CAS Number	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Hydrocarbon Propellant	68476-86-8	N/AV	N/AV	N/AV	N/AV
Acetone	67-64-1	500ppm	750ppm	1000ppm	N/AV
n-Butyl Acetate	123-86-4	150ppm	200ppm	150ppm	N/AV
Aliphatic Hydrocarbon	8052-41-3	100ppm	N/AV	500ppm	N/AV
Aliphatic Petroleum Distillates	64742-89-8	N/AV	N/AV	N/AV	N/AV
Aromatic Petroleum Distillates	64742-95-6	N/AV	N/AV	N/AV	N/AV
Acetone	67-64-1	500ppm	750ppm	1000ppm	N/AV
Ethyle Acetate	112-78-6	N/AV	N/AV	N/AV	N/AV
EB Acetate	141-76-6	N/AV	N/AV	N/AV	N/AV

***Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH**

9. Information on Basic Physical and Chemical Properties

Appearance: Color varies by product	Odor: Hydrocarbon odor
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° F (-18° C)	Evaporation Rate: Faster than n-Butyl Acetate
Flammability Solid/Gas: Flammable gas	LEL: 1.1% UEL: 18%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: N/AV n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions
Chemical stability: Stable under normal conditions
Conditions to avoid: Heat and ignition sources
Incompatible materials: Strong Oxidizing Agents

Hazardous decomposition products: Will not occur

11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

Acute toxicological data:	(Butan-2-ol) Acute oral LD50: 4900 mg / kg (rat) (Butan-2-ol) LC50: 8500 ppm/4hr(Rat) (Dimethyl Ether) LC50:164,000 ppm / 4 hr(Rat) (Acetone) LD50: 5800 mg/kg (Rat-Oral) (Acetone) LC50: 21000 ppm/8 hr (Rat-Inha)
Eye irritation data:	N/AV
Skin irritation/sensitization/absorption data:	N/AV
Reproductive toxicity data:	N/AV
Mutagenicity data:	Muta 1B
Symptoms associated with physical contact:	N/AV
Acute/chronic effects from short/long term exposure:	Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer.
Known reportable carcinogens via the following agencies:	
NTP:	N/AV
IARC:	N/AV
OSHA:	TLV-A4

* Petroleum distillates may contain chemical carcinogens in limited quantities (< 0.01%). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.

12. Ecological Information

Ecotoxicity: **No Data Available**
Persistence and degradability: **No Data Available**
Bioaccumulative potential: **No Data Available**
Mobility in soil: **No Data Available**
Results of PBT and vPvB assessment: **No Data Available**
Other adverse effects: **No Data Available**

13. Disposal Considerations

Waste Disposal: Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.
Product / Packaging disposal: Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

14. Transportation Information

US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference 49 CFR 172.101

IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference IMDG code part 3

IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols, Flammable	2.1	Not Applicable	Not Applicable	Reference IATA Dangerous Goods Regulation

15. Regulatory Information

Workplace classification:
This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.
SARA Title 3:
Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR

1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.
TSCA status: All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.
WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.
PROP 65 (CA): WARNING: This product may contain chemicals know to the state of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 2/9/2015
Supersedes: (-)

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.

Pro Form Products Ltd.
604 McGeachie Drive
Milton, Ontario, L9T 3Y5
Canada
905-878-4990

PRODUCT: PF 224 URETHANE SEALER/ADHESIVE BLACK

SECTION 01: Chemical product and company identification

Product name	PF 224 URETHANE SEALER/ADHESIVE BLACK
Manufactured for	Pro Form Products Ltd. 604 McGeachie Drive Milton, Ontario L9T3Y5 Tel (905) 878-4990 Fax (905) 878-1189
24 hour emergency number:	IN CANADA CALL CANUTEC 1-888-226-8832 (CAN-UTEC) - IN THE UNITED STATES CALL CHEMTREC 1-800-424-9300.
Recommended use and restrictions on use	Adhesive applications.
Chemical family	Aromatic isocyanate prepolymer.
Hazard rating	
NFPA rating	Health: 2 Fire: 1 Reactivity: 0.
HMIS	H: 2 F: 1 R: 1.

SECTION 02: Hazards identification

Signal Word	DANGER.
Hazard Classification	Acute Toxicity 4. Skin Irritant 2. Eye Irritant 2A. Respiratory Sensitizer 1. Skin Sensitizer 1. Reproductive 1.
Hazard Description	H313 May be harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H302 Harmful if swallowed. H320 Causes eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H361 This product contains ingredients that are suspected of damaging fertility or the unborn child.
Prevention	P202 Do not handle this product until all safety instructions have been read and understood. P251 Do not pierce or burn container, even after use. P261 Avoid breathing dust. P261 Avoid breathing mists, vapours and sprays. P264 Wash thoroughly after handling. P270 Do not eat drink or smoke while using this product. P271 Use only outdoors or in a well ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves and eye protection. P284 In case of inadequate ventilation wear respiratory protection. P233 Keep container tightly closed.

SECTION 03: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS	CAS #	WT. %
Xylene	1330-20-7	4-9
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)	101-68-8	0.1-1.0

SECTION 04: First aid measures

Eye contact	In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at least 15 minutes. Check for and remove any contact lenses, if safe and easy to do so. Consult a physician if irritation continues.
Skin contact	Immediately flush skin with plenty of soap and water. Remove contaminated clothing. Wash clothing before reuse. If irritation persists, seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, obtain medical attention.
Ingestion	Do not induce vomiting. Rinse mouth with water. Give 1 to 2 glasses of water to drink. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into the lungs. Get medical attention.

PRODUCT: PF 224 URETHANE SEALER/ADHESIVE BLACK

SECTION 04: First aid measures

Additional information..... In all cases, if irritation persists seek medical attention. Eye: stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapours have produced reversible corneal epithelial edema impairing vision. Skin: this compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion: treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory: this compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

SECTION 05: Fire fighting measures

Suitable and unsuitable extinguishing media Dry chemical. Carbon dioxide. Foam. In cases of larger fires, water spray should be used.

Hazardous combustion products..... Oxides of carbon (CO, CO2). Oxides of nitrogen. Hydrogen cyanide. Isocyanates. Dense black smoke. Other potentially toxic fumes.

Special fire fighting procedures..... Firefighter should be equipped with self-contained breathing apparatus and full protective clothing to protect against potentially toxic and irritating fumes. During a fire, isocyanate vapours and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture. Heat will cause pressure buildup and may cause explosive rupture.

Unusual fire / explosion hazards..... During a fire, irritating and toxic gases and aerosols may be generated by thermal decomposition and combustion. Reaction between water or foam and hot MDI can be vigorous.

SECTION 06: Accidental release measures

Leak/spill..... Isolate area and keep unauthorized people away. Do not walk through spilled material. Wear recommended protective equipment. Ventilate. Open windows and doors to allow air circulation. Dike area to prevent spreading. The use of absorbent socks or spill pillows may be required. Stop leak if safe to do so. Prevent runoff into drains, sewers, and other waterways. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, provincial, state, and federal regulations.

Major spills..... If transportation spill occurs in United States, call Chemtrec 1-800-424-9300. If transportation spill occurs in Canada, call Canutec at (613) 996-6666. If temporary control of isocyanate vapour is required, a blanket of protein foam may be placed over spill. Large quantities may be pumped into closed, but not sealed, containers for disposal.

Minor spills..... Cover spill area with suitable absorbent material (e.g., sand, earth, sawdust, vermiculite, Oil-Dri, Kitty Litter, etc.). Saturate absorbent material with neutralizing solution. Recommended portion is ten parts neutralizing solution to one part spilled material. Suggested neutralization solution: 90% water + 5% concentrated ammonia + 5% detergent (dish soap). Add an additional layer of absorbent material. Use shovel to move absorbent material around to ensure that all spilled material comes in contact with the neutralizing solution. Shovel all absorbed material, including absorbent socks or spill pillows, into an appropriate salvage drum. Add further amounts of neutralizing solution. Allow to stand (covered loosely) for 48 to 72 hours, to allow any gases to escape.

Clean up..... Decontaminate spill area with decontamination solution. Area can then be washed with soap and water.

SECTION 07: Handling and storage

Handling procedures..... Avoid skin and eye contact. Do not breathe vapours, mist or dust. Use adequate ventilation. Keep container closed when not in use. Do not reseal if contamination is suspected. Decomposition products can be highly toxic and irritating. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapour or spray mist. Warning properties (irritation of the eyes, nose and throat or odour) are not adequate to prevent chronic overexposure from inhalation. Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Wear respiratory protection if material is heated, sprayed, used in confined space, or if exposure limit is exceeded. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed vapour or spray mist. Employee education and training are important.

Storage needs..... Store in a cool, dry and well ventilated area. Keep container closed when not in use.

SECTION 08: Exposure controls / personal protection

PRODUCT: PF 224 URETHANE SEALER/ADHESIVE BLACK

SECTION 08: Exposure controls / personal protection

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Xylene	50 ppm	150 ppm	100 ppm TWA	Not established	Not established
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)	0.005 ppm	Not established	0.005 ppm TWA	0.005 ppm AB OEL TWA	0.05 mg/m3

Protective equipment

Eye/type..... Chemical safety goggles. Chemical safety goggles and full faceshield if a splash hazard exists. Contact lenses should not be worn when working with this chemical.

Respiratory/type..... In case of insufficient ventilation, wear suitable respiratory equipment. An approved air purifying respirator with organic vapour cartridges and particulate prefilter can be used to minimize exposure. Respiratory equipment required during spraying. Whenever concentrations of isocyanates exceed the exposure limit or are not known, respiratory protection must be worn. A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended. The use of a positive pressure air supplied respirator is mandatory when airborne concentrations are not known or airborne solvent levels are 10 times the appropriate exposure limit or spraying is performed in a confined space or with limited ventilation. Be sure to use NIOSH approved respirator or equipment. Do not exceed the use limits of the respirator.

Gloves/ type..... Chemical resistant gloves: butyl rubber, nitrile rubber, neoprene, PVC.

Clothing/type..... Wear adequate protective clothes. Wear long sleeves and trousers to prevent dermal exposure.

Footwear/type..... Safety boots per local regulations.

Other/type..... Eye wash facility and emergency shower should be in close proximity. Educate and train employees on the safe use and handling of the product.

Appropriate engineering controls..... Ventilate adequately. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Vent work area to ensure airborne concentrations are below the current occupational exposure limits. Avoid breathing mists; if general ventilation or local exhaust is inadequate, persons exposed to mists should wear approved breathing devices.

Monitoring..... Exposure levels must be monitored by accepted monitoring techniques to ensure that the TLV is not exceeded.

Medical surveillance..... Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function test (FEC, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurring skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted. These should include preemployment and periodic medical examinations with pulmonary function test (fev, fvc as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrant skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

Exposure limits

SECTION 09: Physical and chemical properties

Physical state..... Thixotropic. Paste.
Colour..... Black.
Odour..... Light, typical.
Odour threshold (ppm)..... Not available.
Vapour pressure (mm Hg)..... Not available.
Vapour density (air=1)..... No data.
pH..... Not applicable. (undiluted).
Relative Density (Specific Gravity)..... 1.32 g/ml (20C) (Method: immersed body).
Melting / Freezing point (deg C)..... Not applicable.
Solubility..... Insoluble in water. Completely soluble in organic solvents.
Initial boiling point / boiling range (deg C)..... Not applicable.
Evaporation rate..... Not available.
Flash point (deg C), method..... >200.
Auto ignition temperature (deg C)..... >250.
Upper flammable limit (% vol)..... No data.
Lower flammable limit (% vol)..... No data.
Coefficient of water\oil distribution..... Not available.
Viscosity..... 60000-120000 cPs (23C).
VOC..... 65.5 g/L - 0.55 lb/USG.

PRODUCT: PF 224 URETHANE SEALER/ADHESIVE BLACK

SECTION 10: Stability and reactivity

Chemical stability	Stable at normal temperatures and pressures.
Reactivity	Reacts slowly with water, forming carbon dioxide.
Conditions to avoid	Water, amines, strong bases, alcohols. Copper alloys.
Hazardous decomposition products	See hazardous combustion products section 5.
Possibility of hazardous reactions	Contact with moisture, other materials that react with isocyanates, or temperatures above 177C, may cause polymerization.

SECTION 11: Toxicological information

INGREDIENTS	LC50	LD50
Xylene	6350 ppm 4 hours rat	>3523 mg/kg rat oral
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)	490 mg/m3 4 hr 0.369 mg/L 4 hr	9,200 mg/kg rat oral >7,900 mg/kg rabbit dermal

Route of entry	Eye contact. Skin contact. Inhalation.
Effects of acute exposure	Causes skin irritation. Causes reddening, stinging and swelling. Persons previously sensitized can experience an allergic reaction with symptoms of reddening, itching, swelling and rash. Cured product is difficult to remove. Contact with MDI can cause discolouration. Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. Isocyanate vapour/mists at concentrations above the exposure limits can irritate (burning sensation) the mucous membranes in the respiratory tract. This can cause a runny nose, sore throat, coughing, chest discomfort, difficult breathing and reduced pulmonary functioning. Persons with pre-existing, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms, as well as asthma attack. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema. Chemical or hypersensitive pneumonitis, with flu-like symptoms has also been reported. These symptoms can be delayed up to several hours after exposure. Effects are usually reversible. Can result in irritation in the digestive tract. Aspiration of liquid into lungs can cause chemical pneumonitis. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.
Effects of chronic exposure	As a result of previous repeated overexposure or a single large dose, certain individuals develop sensitization which will cause them to react to a later exposure to product at levels well below the exposure limit. Symptoms including chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed. There are reports that once sensitized, an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and, in severe cases, for several years. Prolonged or repeated exposure may cause lung damage, including a decrease in lung function. Prolonged skin contact may cause reddening, swelling, rash, scaling, blistering, and in some cases, sensitization. Sensitization can be permanent. Prolonged vapour contact may cause conjunctivitis.
Sensitizing capability of material	Isocyanates are known to cause skin and respiratory sensitization in humans. Animal tests have indicated that respiratory sensitization can result from skin contact with diisocyanates.
Carcinogenicity of material	This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA.
Reproductive effects	High level exposure to Xylene in some animal studies have been reported to cause health effects on the developing embryo/fetus. The relevance of this to humans is not known.

Toxicological Data

SECTION 12: Ecological information

Environmental	Do not allow to enter waters, waste water or soil.
Persistence and degradability	Not available.

SECTION 13: Disposal considerations

Waste disposal	Dispose of waste in accordance with all applicable federal, provincial/State and local regulations. Industrial incineration is the preferred method. Empty containers retain product residue; observe all precautions for the product. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. Do not heat or cut empty containers with electric or gas torch as vapours and gases may be toxic.

SECTION 14: Transport information

TDG Classification	Not regulated.
IATA Classification (Air)	Not regulated.
IMDG Classification (Marine)	Not regulated.
Marine Pollutant	No.

PRODUCT: PF 224 URETHANE SEALER/ADHESIVE BLACK

SECTION 15: Regulatory information

WHMIS 1988 classification.....	D2A. D2B.
CEPA status.....	On Domestic Substances List (DSL).
OSHA.....	This product is considered hazardous under the OSHA Hazard Communication Standard.
SARA Title III	
Section 302 - extremely hazardous ..... substances	None.
Section 311/312 - hazard categories.....	Immediate health, delayed health.
Section 313.....	Xylene. Polymeric diphenylmethane diisocyanate.
EPA hazardous air pollutants (HAPS) 40CFR63	None.
TSCA inventory status.....	All components are listed.
California Proposition 65.....	This product does not contain any chemical(s) listed on California's Proposition 65.

SECTION 16: Other information

Prepared by:	REGULATORY AFFAIRS.
Telephone number:.....	(800) 387-7981.
Disclaimer:.....	DISCLAIMER: All information appearing herein is based upon data obtained from experience and recognized technical sources. To the best of our knowledge, it is believed to be correct as of the date of issue but we make no representations as to its accuracy or sufficiency and do not suggest or guarantee that any hazards listed herein are the only ones which exist. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. The information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.
Preparation date:	AUG 25/2016

Pro Form Products Ltd.
604 McGeachie Drive
Milton, Ontario, L9T 3Y5
Canada
905-878-4990

PRODUCT: PF 656C 2.1 VOC 2K URETHANE PRIMER SURFACER - GRAY

SECTION 01: Chemical product and company identification

Manufactured for.....	Pro Form Products Ltd. 604 McGeachie Drive Milton, Ontario L9T3Y5 Tel (905) 878-4990 Fax (905) 878-1189
Product name.....	PF 656C 2.1 VOC 2K URETHANE PRIMER SURFACER - GRAY
Recommended use and restrictions on use	Automotive.
Chemical family.....	Mixture.
NFPA rating.....	Health: 2 Fire: 3 Reactivity: 0.
HMIS.....	H: 2 F: 3 R: 0.
24 hour emergency number:.....	IN CANADA CALL CANUTEC 1-888-226-8832 (CAN-UTEC); IN THE UNITED STATES CALL CHEMTREC 1-800-424-9300. .

SECTION 02: Hazards identification

Signal Word.....	DANGER.
Hazard Classification.....	Flammable Liquid 2. Skin Irritant 2. Eye Irritant 2A. Acute Toxicity (Inhalation) — Category 4. Carcinogenicity — Category 1. Reproductive 2. Specific Target Organ Toxicity — Repeated Exposure — Category 1.
Hazard Description.....	H225 Highly flammable liquid and vapour. H315 Causes skin irritation. H319 Causes serious eye irritation. H332 Harmful if inhaled. H350 This product contains ingredients that may cause cancer. H361 This product contains ingredients that are suspected of damaging fertility or the unborn child. H372 Causes damage to organs through prolonged or repeated exposure.
Prevention.....	P201 Obtain special instructions before use. P202 Do not handle this product until all safety instructions have been read and understood. P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion proof equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe mist, vapours, or spray. P264 Wash thoroughly after handling. P270 Do not eat drink or smoke while using this product. P271 Use only outdoors or in a well ventilated area. P280 Wear protective gloves and eye protection.
Response	P370 + P378 In case of fire - use dry chemical powder, CO2 or foam to extinguish. P303 + P361 + P353 If on skin or in hair: take off all contaminated clothing immediately. Rinse thoroughly with water and use safety shower . P302 + P352 - If on skin: wash with plenty of water. . P362 + P364 - Take off contaminated clothing and wash before reuse. P332 + P313 - If skin irritation occurs get medical attention or advice. P305 + P351 + P338 If in eyes rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing until medical help arrives. P337 + P313 - If eye irritation persists get medical attention. P304 + P340 - If inhaled remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. P321 - For specific treatment see section 4 on this SDS.
Storage.....	P405 Store locked up. P403 + P235 Store in well ventilated area. Keep cool.
Disposal.....	P501 Dispose all unused, waste or empty containers in accordance with local regulations.
Note	This product mixture has been classified based on its ingredients.

SECTION 03: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS	CAS #	WT. %
Talc	14807-96-6	15-25
tert-Butyl acetate	540-88-5	7-13
N-Butyl Acetate	123-86-4	5-10
Titanium Dioxide	13463-67-7	5-10

PRODUCT: PF 656C 2.1 VOC 2K URETHANE PRIMER SURFACER - GRAY

SECTION 03: Composition/Information on Ingredients

4-Chlorobenzotrifluoride	98-56-6	5-10
Xylene	1330-20-7	3-7
Ethylbenzene	100-41-4	0.1-1
Crystalline Silica	14808-60-7	0.1-1

SECTION 04: First aid measures

Eye contact..... In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at least 15 minutes. Obtain medical attention.

Skin contact..... Remove all contaminated clothing and immediately wash the exposed areas with copious amounts of water for a minimum of 30 minutes or up to 60 minutes for critical body areas. If irritation persists, seek medical attention.

Inhalation..... If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, obtain medical attention.

Ingestion..... If ingestion is suspected, contact physician or poison control center immediately. Do not induce vomiting. If spontaneous vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into the lungs. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, ... whether acute or delayed Harmful if swallowed, in contact with skin or if inhaled. Causes skin and eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. This product contains ingredients that are suspected of damaging fertility or the unborn child. This product contains ingredients that may cause cancer. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Additional information..... Treat victims symptomatically. In the event of an incident involving this product ensure that medical authorities are provided a copy of this safety data sheet.

SECTION 05: Fire fighting measures

Suitable and unsuitable extinguishing media "Alcohol" foam, CO_2, dry chemical. Do not use water in a jet.

Hazardous combustion products..... Oxides of carbon (CO, CO_2). Hydrocarbons and traces of chlorine compounds.

Special fire fighting procedures..... Firefighter should be equipped with self-contained breathing apparatus and full protective clothing to protect against potentially toxic and irritating fumes. Solvent vapours may be heavier than air and may build up and travel along the ground to an ignition source, which may result in a flash back to the source of the vapours. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture.

SECTION 06: Accidental release measures

Leak/spill..... Keep away from heat, sparks and flames. Ventilate. Eliminate all sources of ignition. Evacuate all non-essential personnel. Contain the spill. Avoid all personal contact. Prevent runoff into drains, sewers, and other waterways. Absorb with an inert dry material and place in an appropriate waste container. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, provincial, state, and federal regulations.

SECTION 07: Handling and storage

Handling procedures..... Keep away from heat, sparks, and open flame. Always adopt precautionary measures against build-up of static which may arise from appliances, handling and the containers in which product is packed. Ground handling equipment. Avoid all skin contact and ventilate adequately, otherwise wear an appropriate breathing apparatus. Avoid breathing vapours or mist. Handle and open container with care. Employees should wash hands and face before eating or drinking.

Storage needs..... Keep away from heat, sparks, and open flames. Keep container closed when not in use. Store away from oxidizing and reducing materials. Store away from sunlight.

SECTION 08: Exposure controls / personal protection

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Talc	2 mg/m3	Not established	2 mg/m3 TWA	3 mg/m3 - QUE	Not established
tert-Butyl acetate	200 ppm	Not established	200 ppm	Not established	200 ppm
N-Butyl Acetate	150 ppm	200 ppm	150 ppm	200 ppm	150 ppm / STEL 200 ppm

PRODUCT: PF 656C 2.1 VOC 2K URETHANE PRIMER SURFACER - GRAY

SECTION 08: Exposure controls / personal protection

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Titanium Dioxide	10 mg/m3	Not established	15 mg/m3	Not established	Not established
4-Chlorobenzotrifluoride	Not established	Not established	Not established	Not established	Not established
Xylene	50 ppm	150 ppm	100 ppm TWA	Not established	Not established
Ethylbenzene	100 ppm	125 ppm	100 ppm	Not established	100 ppm / STEL 125 ppm
Crystalline Silica	0.025 mg/m3	Not established	0.1 mg/m3 TWA	Not established	0.05 mg/m3

Protective equipment

Respiratory/type..... Local exhaust ventilation is recommended. Wear an appropriate, properly fitted respirator when contaminant levels exceed the recommended exposure limits.

Eye/type..... Chemical safety goggles and full faceshield if a splash hazard exists.

Gloves/ type..... Chemical resistant gloves.

Clothing/type..... Wear adequate protective clothes.

Footwear/type..... Safety boots per local regulations.

Other/type..... Emergency showers and eye wash stations should be available.

Appropriate engineering controls..... Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits. Local mechanical exhaust ventilation should be used at sources of air contamination, such as open process equipment, or during purging operations, to capture gases and fumes that may be emitted. Standard reference sources regarding industrial ventilation (ie. ACGIH industrial ventilation) should be consulted for guidance about adequate ventilation. .

SECTION 09: Physical and chemical properties

Physical state..... Liquid.

Colour..... Gray.

Odour..... Hydrocarbon odour.

Odour threshold (ppm)..... Not available.

Vapour pressure (mm Hg)..... Not available.

Vapour density (air=1)..... >1.

pH..... Not applicable.

Melting / Freezing point (deg C)..... Not Available.

Solubility..... Slightly soluble in water.

Initial boiling point / boiling range (deg C). >95C.

Evaporation rate..... Moderate.

Flash point (deg C), method..... 4.4. (estimate; lowest flash point ingredient).

Auto ignition temperature (deg C)..... > 270.

Upper flammable limit (% vol)..... 10.5.

Lower flammable limit (% vol)..... 0.9.

Coefficient of water\oil distribution..... Not available.

Decomposition temperature..... Not available.

% Volatile by volume..... 55.13.

VOC..... 245.6 g/L - 2.05 lb/USG.

Viscosity..... 3130 cps Spindle #4 @20.

SECTION 10: Stability and reactivity

Chemical stability..... Stable at normal temperatures and pressures.

Reactivity ..... Avoid heat, sparks and flames. Explosive reactions can occur in the presence of strong oxidizing agents.

Possibility of hazardous reactions..... Will not occur under normal temperature and pressure.

Conditions to avoid..... Keep away from heat. Incompatible with strong oxidizers.

Hazardous decomposition products..... Oxides of carbon (CO,CO2). Chlorinated hydrocarbons. Thermal decomposition may produce acrid smoke and irritating fumes.

SECTION 11: Toxicological information

INGREDIENTS	LC50	LD50
Talc	Not available	Not available
tert-Butyl acetate	>2,230 mg/m3 4 hours rat	4,100 mg/kg rat oral >2,000 mg/kg rabbit dermal

PRODUCT: PF 656C 2.1 VOC 2K URETHANE PRIMER SURFACER - GRAY

SECTION 11: Toxicological information

INGREDIENTS	LC50	LD50
N-Butyl Acetate	>29.2 mg/L 4 hour rat >23.4 mg/L aerosol 4 hour rat	>3200 mg/kg rat oral >5000 mg/kg rabbit dermal
Titanium Dioxide	Not Available	> 10,000 mg/kg rat oral > 10,000 mg/kg rabbit dermal
4-Chlorobenzotrifluoride	4479 ppm	>6,800 mg/kg rat oral; >2,700 mg/kg rabbit dermal
Xylene	6350 ppm 4 hours rat	>3523 mg/kg rat oral
Ethylbenzene	No data	3,500 mg/kg rat oral 17,800 mg/kg rabbit dermal
Crystalline Silica	Not available	>22,500 mg/kg oral rat

Route of exposure..... Eye contact. Skin contact. Inhalation.
Effects of acute exposure..... Contact with skin may cause moderate to severe irritation. May cause moderate to severe eye irritation. The aromatic hydrocarbon solvents in this product can be irritating to the eyes, nose and throat. In high concentration, they may cause central nervous system depression and narcosis characterized by nausea, lightheadedness and dizziness from overexposure by inhalation. Inhalation of high vapour may cause central nervous system effects, dizziness, headache, nausea, or loss of coordination.
Effects of chronic exposure..... Breathing high concentrations of vapour may cause anesthetic effects and serious health effects. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal .
Carcinogenicity of material..... This product contains non-asbestiform Talc, which is classified as a Group 3 (not classifiable as to carcinogenicity to humans) by IARC . Ethylbenzene is classified as an A3 known animal carcinogen. IARC has classified Titanium Dioxide as a group 2B carcinogen. Quartz (Crystalline Silica) is listed by IARC in Group 1 as a carcinogen. .
Specific Target Organ Toxicity ..... Causes damage to organs.

SECTION 12: Ecological information

Environmental..... Do not allow to enter waters, waste water or soil.
Persistence and degradability..... Not available.

SECTION 13: Disposal considerations

Waste disposal..... Empty containers must be handled with care due to product residue. Dispose of waste in accordance with all applicable Federal, Provincial/State and local regulations.

SECTION 14: Transport information

TDG Classification..... UN1263 - PAINT - Class 3 - Packing Group II - This product meets limited quantity exemption when shipped in containers less than 5 litres.
DOT Classification (Road)..... UN1263 - PAINT - Class 3 - Packing Group II - Ltd Qty (1 Liter). Refer to 49CRF 172.101 for additional non-bulk packaging requirements.
IATA Classification (Air)..... UN1263 - PAINT - Class 3 - Packing Group II. Limited Quantity. Do not ship by air without checking appropriate IATA regulations.
IMDG Classification (Marine)..... UN1263 - PAINT- Class 3 - Packing Group II - EmS: F-E S-E. Limited Quantity. Check IMDG regulations for limited quantity exemptions.
Marine Pollutant..... No.
Proof of Classification..... In accordance with Part 2.2.1 of the Transportation of Dangerous Goods Regulations (July 2, 2014) - we certify that classification of this product is correct. .

SECTION 15: Regulatory information

CEPA status..... On Domestic Substances List (DSL).
TSCA inventory status..... Not determined.
OSHA..... This product is considered hazardous under the OSHA Hazard Communication Standard.
SARA Title III
Section 302 - extremely hazardous substances ..... None.
Section 311/312 - hazard categories..... Immediate health, delayed health, fire hazard.
Section 313..... Ethylbenzene. Xylene.
EPA hazardous air pollutants (HAPS) 40CFR63 ..... Ethylbenzene. Xylene.
California Proposition 65..... *WARNING: This product contains a chemical known to the State of California to cause cancer.

PRODUCT: PF 656C 2.1 VOC 2K URETHANE PRIMER SURFACER - GRAY

SECTION 16: Other information

Prepared by:	REGULATORY AFFAIRS. Trivalent Data Systems Ltd. www.trivalent.com.
Telephone number:.....	(800) 387-7981.
Disclaimer:.....	DISCLAIMER: All information appearing herein is based upon data obtained from experience and recognized technical sources. To the best of our knowledge, it is believed to be correct as of the date of issue but we make no representations as to its accuracy or sufficiency and do not suggest or guarantee that any hazards listed herein are the only ones which exist. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. The information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.
Preparation date:	JAN 12/2018

HENKEL CONSUMER ADHESIVES
50 WEST DRIVE
BRAMPTON, ONTARIO CANADA L6T 2J4
(905) 459-1140

PRODUCT : POLYCLENS

SECTION 01: PRODUCT INFORMATION

MANUFACTURER.....HENKEL CONSUMER ADHESIVES
50 WEST DRIVE
BRAMPTON, ONTARIO
CANADA ; L6T 2J4
(905) 459-1140
AFTER HOURS - CANUTEC (613) 996-6666
WHMIS CLASSIFICATION.....B3. D2B. WHEN THIS PRODUCT IS LABELLED AS A CONSUMER PRODUCT IT IS EXEMPT FROM WHMIS REGULATIONS. (SEE SECTION 12(f) OF THE HAZARDOUS PRODUCTS ACT.)
T.D.G. CLASSIFICATION.....FLAMMABLE LIQUIDS, N.O.S. (PETROLEUM NAPHTHA). CLASS 3, UN 1993, PKG GP III. WHEN THIS PRODUCT IS LABELLED AS A CONSUMER COMMODITY IT IS EXEMPT FROM T.D.G. REGULATIONS.
PRODUCT NAME.....POLYCLENS
CHEMICAL FAMILY.....ORGANIC SOLVENT BLEND
MATERIAL USE.....PAINT BRUSH AND ROLLER CLEANER

SECTION 02: HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	EXPOSURE LEVELS	C.A.S. #	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES
Light (petroleum) hydrocarbons	60-100	Not available	64742-95-6	>5g/kg,oral,rat >3.2g/kg,dermal, rabbit	Not available
Nonyl phenol ethoxylate	5-10	Not available	9016-45-9	1.36g/Kg,oral,rat	Not available

SECTION 03: PHYSICAL DATA

PHYSICAL STATE.....Liquid
APPEARANCE & ODOUR.....Clear red liquid
ODOUR THRESHOLD (ppm).....Not available
VAPOUR PRESSURE (mm Hg).....1.3. @ 38 C
VAPOUR DENSITY (AIR=1).....4.1
BY VOLUME
BY WEIGHT
EVAPORATION RATE.....< 1 (Butyl acetate = 1)
BOILING POINT (deg C).....154 C
FREEZING POINT (deg C).....Not applicable
pH.....Not applicable
SPECIFIC GRAVITY.....0.89
SOLUBILITY IN WATER (% W/W).....Miscible
COEFFICIENT OF WATER/OIL.....Not available
DISTRIBUTION

SECTION 04: FIRE & EXPLOSION DATA

FLAMMABILITY.....Combustible liquid
IF YES, UNDER WHICH.....Excessive heat, sparks and open flame
CONDITIONS?
EXTINGUISHING MEDIA.....Water fog; Foam; CO2; Dry chemical
SPECIAL PROCEDURES.....Although the flash point of this product is greater than 37 C (100 F), flammable vapours may accumulate in the headspace of containers. Avoid all sources of ignition when opening. Fire fighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.
FLASH POINT (C), METHOD.....>. 40 deg C, TCC. Tagliabue Closed Tester
AUTO IGNITION TEMPERATURE.....465 C
UPPER FLAMMABLE LIMIT (% VOL)....6.0
LOWER FLAMMABLE LIMIT (% VOL)....0.9 %
HAZARDOUS COMBUSTION PRODUCTS....This product does not undergo spontaneous decomposition. Typical combustion products are carbon dioxide, carbon monoxide, and smoke.
EXPLOSION DATA
SENSITIVITY TO STATIC.....Yes. Take precautionary measures against static discharges.
DISCHARGE
SENSITIVITY TO IMPACT.....No

SECTION 05: REACTIVITY DATA

CHEMICAL STABILITY:
YES.....Stable under normal temperature and pressure.
NO, WHICH CONDITIONS ?
COMPATIBILITY WITH OTHER
SUBSTANCES:
YES

PRODUCT : POLYCLENS

SECTION 05: REACTIVITY DATA

NO, WHICH ONES?	Elevated temperatures, sparks and open flames. Direct heat. Acids. Strong oxidizing agents
REACTIVITY CONDITIONS ?	Product is stable; hazardous polymerization will not occur.
HAZARDOUS PRODUCTS OF DECOMPOSITION	Oxides of carbon (CO,CO2) at high temperatures.

SECTION 06: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:

SKIN CONTACT	Prolonged contact may cause defatting of tissue. Frequent or prolonged contact may irritate and cause dermatitis.
SKIN ABSORPTION	May be absorbed by the skin.
EYE CONTACT	Direct contact may cause moderate to severe irritation and moderate transient corneal injury.
INHALATION	High vapour concentrations are irritating to the eyes and the respiratory tract. May cause headaches and dizziness; are anaesthetic. May affect central nervous system.
INGESTION	Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting, may cause bronchopneumonia or pulmonary edema.
EFFECTS OF ACUTE EXPOSURE	Refer to route of entry.
EFFECTS OF CHRONIC EXPOSURE	May aggravate existing nervous system, kidney, and liver conditions. May aggravate existing eye, skin, and lung conditions. May aggravate existing blood and heart conditions.
LD 50 OF MATERIAL, SPECIES & ROUTE	See hazardous ingredients section (2)
LC 50 OF MATERIAL, SPECIES & ROUTE	See hazardous ingredients section (2).
EXPOSURE LIMIT OF MATERIAL	See hazardous ingredients section (2)
IRRITANCY OF MATERIAL	Moderate to severe. Refer to route of entry
SENSITIZING CAPABILITY OF MATERIAL	None known
CARCINOGENICITY OF MATERIAL	No
REPRODUCTIVE EFFECTS	Not available
MUTAGENICITY OF MATERIAL	Not available
SYNERGISTIC MATERIALS	Not applicable

SECTION 07: PREVENTATIVE MEASURES

GLOVES/ TYPE	Wear impervious gloves (in neoprene or rubber).
RESPIRATORY/TYPE	None required under normal use. Use a NIOSH/MSHA approved respirator whenever mist or spray is generated. Avoid prolonged or repeated breathing of vapour or mists.
EYE/TYPE	Safety glasses, goggles or face shield to protect against splashing.
FOOTWEAR/TYPE	Standard work shoes.
CLOTHING/TYPE	Standard work clothes.
VENTILATION REQUIREMENTS	Use adequate local exhaust ventilation.
LEAK/SPILL	Eliminate all sources of ignition. Wear a breathing apparatus. Stop leak if safe to do so. For small spills:. Absorb with paper, sand or sawdust. Pick up and put in a dustbin. For large spills:. Dike far ahead of spill for later disposal. No smoking, flames or flares in hazard area! Keep unnecessary people away. Put in appropriate labelled container for disposal.
WASTE DISPOSAL	In accordance with municipal, provincial and federal regulations.
HANDLING PROCEDURES AND EQUIPMENT	Avoid breathing vapours. Avoid eating and drinking in use. Keep container closed. Protect against physical damage.
STORAGE NEEDS	Avoid static electricity - ground containers when transferring product. Keep away from heat, sparks, and open flames. Keep container closed when not in use. Store in a cool and dry place, for product integrity.
SPECIAL SHIPPING INSTRUCTIONS	Ship in accordance with applicable Transportation of Dangerous Goods (TDG) regulations.

SECTION 08: FIRST AID MEASURES

EYE CONTACT	Immediately flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.
INGESTION	If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention. DO NOT attempt to give anything by mouth to a drowsy or unconscious person.
INHALATION	Remove victim to fresh air. If not breathing qualified personnel should administer artificial respiration. Get medical attention.
SKIN CONTACT	Remove contaminated clothing. Wash affected area with water and soap. Seek medical attention if irritation occurs or persists.

SECTION 09: PREPARATION INFORMATION

PREPARED BY:	Regulatory Affairs
TELEPHONE NUMBER:	(905) 459-1140

PRODUCT : POLYCLENS

SECTION 09: PREPARATION INFORMATION

DISCLAIMER2:.....All information, recommendations, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, express or implied, is made by Henkel Consumer Adhesives as to the effects of such use, the results obtained, or the safety and toxicity of the product nor does Henkel Consumer Adhesives assume any liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstan ces exist or because of applicable laws or government regulations.

PREPARATION DATE.....MAR 14/2005

CANUTEC EMERGENCY (613) 996-6666

-----Original Message-----
From: colleen.hargis@us.henkel.com [mailto:colleen.hargis@us.henkel.com] **On Behalf Of** Ask.A.Duck@us.henkel.com
Sent: Wednesday, January 21, 2009 2:42 PM

Subject: Re: updated Canadian MSDS

Please see notations below next to the item; If the item is discontinued there is not an updated MSDS

"Robin" <Robin@msdsrequest.ca>

01/21/2009 01:42 PM

To Ask A Duck/Funct/US/Americas/HENKEL@HENKEL
cc
Subject updated Canadian MSDS

Good afternoon,

I am looking for an updated Material Safety Data Sheet for

1. Lepage 5 Minute Epoxy Hardener & Resin glue - now called Speed Set
2. **Lepage Bondfast Glue Stick - DISC**
3. **LePage Two Coat Rubber Cement Glue - DISC**
4. **Lepage Contact Cement Cleaner -DISC**
5. Lepage Regular Epoxy Glue (Hardener)
6. **Poly Kwik Plug Hydraulic Water Stop Cement - DISC**
7. **Polyclens - DISC**
8. **Weather Grip Outdoor Wood Glue - DISC**
9. **Poly Stickfast Wallpaper Paste Glue - DISC**

SAFETY DATA SHEET

POWER HAMMER & CHISEL GREASE

Section 1. Identification

GHS product identifier : POWER HAMMER & CHISEL GREASE

Other means of identification : Not available.

Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Not available.

Area of application : Industrial applications.

Supplier/Manufacturer : LUBRIPLATE® Lubricants Co.
129 Lockwood St.
Newark, NJ 07105
Telephone no.: 1-973-589-9150

e-mail address of person responsible for this SDS : SDS@lubriplate.com

Emergency telephone number (with hours of operation) : CHEM-TEL 1-800-255-3924 (24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : H317 SKIN SENSITIZATION - Category 1
H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 10.7%

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H317 - May cause an allergic skin reaction.
H373 - May cause damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

Prevention : P280 - Wear protective gloves.
P260 - Do not breathe dust.
P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.

Section 2. Hazards identification

Response : P314 - Get medical attention if you feel unwell.
P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	Other names	%	CAS number
Distillates (petroleum), hydrotreated heavy naphthenic	-	≥75 - <90	64742-52-5
Distillates (petroleum), hydrotreated light naphthenic	-	≥50 - <75	64742-53-6
White mineral oil (petroleum)	-	≥3 - <5	8042-47-5
tris(dipentyldithiocarbamato-S,S')antimony	-	≥1 - <3	15890-25-2
copper	-	≥1 - <3	7440-50-8
Synthetic graphite	-	≥1 - <3	7782-42-5
zinc bis(dibutyldithiocarbamate)	-	≥0.3 - <1	136-23-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 4. First aid measures

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy naphthenic	**ACGIH TLV (United States, 4/2014).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
Distillates (petroleum), hydrotreated light naphthenic	**ACGIH TLV (United States, 4/2014).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
White mineral oil (petroleum)	**ACGIH TLV (United States, 4/2014).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
tris(dipentyldithiocarbamato-S,S')antimony	**ACGIH TLV (United States, 4/2014).** TWA: 0.5 mg/m³, (as Sb) 8 hours. **OSHA PEL 1989 (United States, 3/1989).**

Section 8. Exposure controls/personal protection

	TWA: 0.5 mg/m³, (as Sb) 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 0.5 mg/m³, (as Sb) 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 0.5 mg/m³, (as Sb) 10 hours.
copper	**ACGIH TLV (United States, 4/2014).** TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dust and mist TWA: 0.2 mg/m³ 8 hours. Form: Fume **OSHA PEL 1989 (United States, 3/1989).** TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Fume **NIOSH REL (United States, 10/2013).** TWA: 1 mg/m³, (as Cu) 10 hours. Form: Dusts and Mists **OSHA PEL (United States, 2/2013).** TWA: 1 mg/m³ 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m³ 8 hours. Form: Fume
Synthetic graphite	**OSHA PEL 1989 (United States, 3/1989).** TWA: 2.5 mg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2013).** TWA: 2.5 mg/m³ 10 hours. Form: Respirable fraction **OSHA PEL Z3 (United States, 2/2013).** TWA: 15 mppcf 8 hours.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

United States

Section 8. Exposure controls/personal protection

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [semi-solid / Smooth. / tacky / grease]

Color : Color [Dark]

Odor : Mineral oil.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >288°C (>550.4°F)

Flash point : Open cup: 216°C (420.8°F) [Cleveland.]

Evaporation rate : <0.01 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 7%

Vapor pressure : <0.0013 kPa (<0.01 mm Hg) [room temperature]

Vapor density : >5 [Air = 1]

Relative density : 0.926 [Water = 1]

Solubility : Very slightly soluble in the following materials: hot water.
Insoluble in the following materials: cold water.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Physical/chemical properties comments : Kinematic viscosity (98.9 °C (210 °F)): 73 SUS (13.74 cSt)

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Keep away from heat, sparks and flame. Keep away from all sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.
Incompatible materials: Chlorine

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated light naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
White mineral oil (petroleum)	LD50 Oral	Rat	>5000 mg/kg	-
tris(dipentyldithiocarbamato-S,S')antimony	LD50 Dermal	Rabbit	>16000 mg/kg	-
	LD50 Oral	Rat	>16400 mg/kg	-
zinc bis (dibutyldithiocarbamate)	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Distillates (petroleum), hydrotreated heavy naphthenic	Skin - Severe irritant	Rabbit	-	500 milligrams	-
zinc bis (dibutyldithiocarbamate)	Eyes - Mild irritant	Rabbit	-	39 milligrams	-
	Skin - Mild irritant	Rabbit	-	0.5 Grams	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : The mineral oils in the product contain < 3% DMSO extract (IP 346).

Reproductive toxicity

Section 11. Toxicological information

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
copper	Category 3	Not applicable.	Respiratory tract irritation
zinc bis(dibutyldithiocarbamate)	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Synthetic graphite	Category 2	Inhalation	lungs

Aspiration hazard

Name	Result
Distillates (petroleum), hydrotreated heavy naphthenic	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated light naphthenic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (dusts and mists)	36618.6 mg/kg 109.9 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks

Section 12. Ecological information

zinc bis (dibutyldithiocarbamate)	Acute EC50 0.74 mg/l Acute LC50 520 mg/l	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss	48 hours 96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
White mineral oil (petroleum)	>6	-	high

Mobility in soil

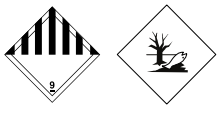
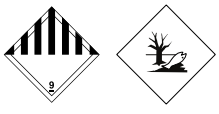
Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	UN3077	UN3077
UN proper shipping name	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tris (dipentyldithiocarbamato-S,S') antimony, copper)	Environmentally hazardous substance, solid, n.o.s. (tris (dipentyldithiocarbamato-S,S') antimony, copper)
Transport hazard class(es)	-	9 	9 
Packing group	-	III	III

United States

Section 14. Transport information

Environmental hazards	No.	Yes.	Yes.
Additional information	-	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Emergency schedules (EmS)** F-A, S-F **Special provisions** 274, 335, 966, 967, 969	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. **Passenger and Cargo Aircraft** Quantity limitation: 400 kg Packaging instructions: 956 **Cargo Aircraft Only**Quantity limitation: 400 kg Packaging instructions: 956 **Limited Quantities - Passenger Aircraft**Quantity limitation: 30 kg Packaging instructions: Y956 **Special provisions** A97, A158, A179, A197

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

Clean Water Act (CWA) 307: copper; tris(dipentyldithiocarbamato-S,S')antimony; zinc bis(dibutyldithiocarbamate)

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Distillates (petroleum), hydrotreated heavy naphthenic	≥75 - <90	No.	No.	No.	Yes.	No.
Distillates (petroleum), hydrotreated light naphthenic	≥50 - <75	No.	No.	No.	Yes.	No.
White mineral oil (petroleum)	≥3 - <5	No.	No.	No.	Yes.	No.
tris(dipentyldithiocarbamato-S,S') antimony	≥1 - <3	No.	No.	No.	Yes.	No.
copper	≥1 - <3	No.	No.	No.	Yes.	No.
Synthetic graphite	≥1 - <3	No.	No.	No.	No.	Yes.
zinc bis(dibutyldithiocarbamate)	≥0.3 - <1	Yes.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	tris(dipentyldithiocarbamato-S,S')antimony copper	15890-25-2 7440-50-8	≥1 - <3 ≥1 - <3
Supplier notification	tris(dipentyldithiocarbamato-S,S')antimony copper	15890-25-2 7440-50-8	≥1 - <3 ≥1 - <3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED LIGHT NAPHTHENIC; COPPER; MOLYBDENUM DISULFIDE; GRAPHITE (NATURAL)DUST

New York : The following components are listed: Copper

New Jersey : The following components are listed: MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; COPPER; ANTIMONY compounds; OIL MIST, MINERAL, MINERAL OIL (HIGHLY REFINED); GRAPHITE (NATURAL); GRAPHITE

Pennsylvania : The following components are listed: COPPER FUME; ANTIMONY COMPOUNDS; GRAPHITE

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
crystalline silica non-respirable	Yes.	No.	No.	No.

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

United States

Section 15. Regulatory information

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

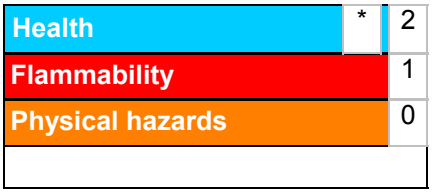
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Skin Sens. 1, H317 STOT RE 2, H373 (lungs)	Calculation method Calculation method

History

Date of issue/Date of revision : 05/27/2015

Date of previous issue : No previous validation

Version : 1

Prepared by : IHS

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **POWER STEERING FLUID**

Product Use : Power Steering Fluid
Chemical Family : Mixture.
Manufacturer part no. : M2716C, M2732C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:
Refer to Supplier

Information Telephone # : (905) 625-9117 (Mon. - Fri., 8 AM - 4 PM)
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is not a WHMIS controlled product in Canada. It does not meet any of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

Labelling: This product is not a WHMIS controlled product in Canada. As such, this product does not require a WHMIS Supplier label.

Emergency Overview : Amber liquid. Petroleum odour.
Fumes from heated product or mists may irritate respiratory tract. May cause mild eye irritation. Direct skin contact may result in little or no irritation. May have laxative effects. May be an aspiration hazard. Aspiration may occur during swallowing or vomiting, resulting in lung injury.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : Fumes from heated product or mists may irritate respiratory tract.

Skin : Direct skin contact may result in little or no irritation.

Eyes : May cause mild transient irritation.

Ingestion : May have laxative effects. May cause nausea, stomach pain and vomiting. May be an aspiration hazard. Aspiration may occur during swallowing or vomiting, resulting in lung injury.

Effects of long-term (chronic) exposure
: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.
Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.
Potential environmental effects
: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Petroleum Oil	64742-52-5 / 64742-53-6	60.00 - 100.00

*Note: Composition of this ingredient may vary between the two indicated CAS #'s, or may be a mixture of both.

SECTION 4 - FIRST AID MEASURES

Inhalation : If inhaled, move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. If irritation or symptoms develop, seek medical attention.

Skin contact : Remove contaminated clothing. Wash off with soap and plenty of water. If irritation persists, seek prompt medical attention.

Eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Seek immediate medical attention/advice.

Notes For Physician : Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Immediate medical attention is required. Material is an aspiration hazard. Provide general supportive measures and treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); Sulphur oxides; Phosphorus compounds; Polycyclic aromatic hydrocarbons; Organic materials; irritating fumes and smoke.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : Restrict access to area until completion of clean-up. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep all other personnel upwind and away from the spill/release. For personal protection see section 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : None known.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapour or mist. Do not ingest. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep container tightly closed when not in use.

Storage requirements : Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

Incompatible materials : Strong oxidizing agents

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Petroleum Oil	5 mg/m³ (inhalable) (severely refined mineral oils)	N/Av	5 mg/m³ (As 'Oil mist, mineral')	N/Av

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. If local exhaust ventilation is not adequate, use appropriate respiratory protection.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection : Safety goggles or glasses as appropriate for the job.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Avoid breathing vapour or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Remove soiled clothing and wash it thoroughly before reuse. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Oily liquid.

Appearance : Amber liquid.

Odour : Petroleum odour.

Odour threshold : N/Av

pH : neutral

Boiling point : 241°C

Specific gravity : 0.89 - 0.90 @ 20°C

Melting/Freezing point : - 18°C

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : 0.008

Solubility in water : Insoluble.

Vapour density (Air = 1) : 4.3

Evaporation rate (n-Butyl acetate = 1) : < 1

Volatile organic Compounds (VOC's) : N/Av

Volatiles (% by weight) : Negligible.

Flash point : 160°C

Flash point Method : Cleveland Open Cup

Auto-ignition temperature : N/Av

Lower flammable limit (% by vol.) : N/Av

Upper flammable limit (% by vol.) : N/Av

Flame Projection Length : N/Ap

Flashback observed : N/Ap

Absolute pressure of container : N/Ap

Viscosity : 7 - 8 mm²/sec @ 100°C

General Informatioln : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.

Hazardous polymerization : Hazardous polymerization does not occur.

Conditions to avoid : Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.

Materials To Avoid And Incompatibility

: Strong oxidizing agents

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system and digestive system.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES

Irritancy : Slightly irritating.

Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Petroleum Oil	≥ 2180 mg/m³ (mist)	> 5000 mg/kg	> 2000 mg/kg

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects : Not expected to have other reproductive effects.

Teratogenicity : Not expected to be a teratogen.

Mutagenicity : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Epidemiology : No information available.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Synergistic materials : None known or reported by the manufacturer.

other important hazards : None known or reported by the manufacturer.

Conditions aggravated by overexposure

: None known or reported by the manufacturer.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. Contains: Petroleum oil.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Petroleum Oil	64742-52-5 / 64742-53-6	> 100 mg/L (Fathead minnow)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Petroleum Oil	64742-52-5 / 64742-53-6	> 1000 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Petroleum Oil	64742-52-5 / 64742-53-6	> 1000 mg/L/96hr (Green algae)	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself. Contains: Petroleum oil. Petroleum oil is not considered to be readily biodegradable.

Bioaccumulation potential : No data is available on the product itself.

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	none	
TDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

This product is not a WHMIS controlled product in Canada. As such, this product does not require a WHMIS Supplier label.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
EC50: Effective Concentration 50%.
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
IUCLID: International Uniform ChemicaL Information Database
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2015.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	

DISCLAIMER OF LIABILITY

This Material Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Radiator Specialty Co. of Canada and CCOHS' Web Information Service. The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Radiator Specialty Co. of Canada expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this MSDS does not apply to use with any other product or in any other process.

This Material Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Radiator Specialty Co. of Canada.

MSDS Preparation Date (mm/dd/yyyy)

: 06/25/2007

MSDS Revision Date (mm/dd/yyyy)

: 01/21/2016

Revision No. : 4

Revision Information : (M)SDS sections updated:
8. EXPOSURE CONTROLS / PERSONAL PROTECTION;
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT

SAFETY DATA SHEET

Power Steering Stop Leak

Section 1. Identification

GHS product identifier : Power Steering Stop Leak

Other means of identification : Not available.

Product number : 10008, 10011, 10143, 10144, 10145

Relevant identified uses of the substance or mixture and uses advised against

Oil Additive

Supplier's details : Lucas Oil Products, Inc
302 North Sheridan Street
Corona, California 92880-2067
Toll Free: (800) 342-2512
Tel: (951) 270-0154
Fax: (951) 270-1902
Website: www.LucasOil.com

Emergency telephone number (with hours of operation) : (951) 493-1149
(951) 847-5949
Markn@lucasoil.com

7:00A.M. to 5:00P.M. Monday thru Friday

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not available.

Product code : Not available.

Ingredient name	%	CAS number
Distillates (petroleum), solvent-refined heavy naphthenic	60 - 100	64741-96-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : No special precaution is required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), solvent-refined heavy naphthenic	ACGIH TLV (United States, 3/2012). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 6/2009). TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hours.

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Section 8. Exposure controls/personal protection

Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid. [Clear.]
Color	:	Red. [Light]
Odor	:	Petroleum.
Odor threshold	:	Not available.
pH	:	Not available.
Melting point	:	Not available.
Boiling point	:	>260°C (>500°F)
Flash point	:	Closed cup: 223.88°C (435°F)
Burning time	:	Not applicable.
Burning rate	:	Not applicable.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	0.9218
Solubility	:	Not available.
Solubility in water	:	Negligible.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Kinematic (100°C (212°F)): 0.45 cm^2/s (45 cSt)

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), solvent-refined heavy naphthenic	LD50 Dermal LD50 Oral	Rabbit Rat	>5000 mg/kg >5000 mg/kg	- -

Irritation/Corrosion

Skin : There is no data available.

Eyes : There is no data available.

Respiratory : There is no data available.

Sensitization

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available. Specific target organ toxicity (repeated exposure) There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	:	No known significant effects or critical hazards.
Potential delayed effects	:	No known significant effects or critical hazards.

Long term exposure

Potential immediate effects	:	No known significant effects or critical hazards.
Potential delayed effects	:	No known significant effects or critical hazards.

Potential chronic health effects

General	:	No known significant effects or critical hazards.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC})	:	There is no data available.

Other adverse effects	:	No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

Section 15. Regulatory information

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: Distillates (petroleum), solvent-refined heavy naphthenic

Pennsylvania : None of the components are listed.

California Prop. 65

No products were found.

International regulations

International lists : Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 0 * Flammability : 1 Physical hazards : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Section 16. Other information

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 0 Flammability : 1 Instability : 0

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History

Date of issue mm/dd/yyyy : 04/15/2013

Version : 1

Revised Section(s) : Not applicable.

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

PRO-FINISH AEROSOL

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 11/01/2018 Revision date: 12/21/2018 Version: 2.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture

Product name : PRO-FINISH AEROSOL

Product code : All except Pro Finish Primers & Silicone Stoppers

1.2. Recommended use and restrictions on use

Recommended use : Finishing, re-finishing and touch-up of wood and laminate furnishings

1.3. Supplier

Distributor
Dover Finishing Products, Inc.
180 Avenue du Voyageur
H9R 6A8 Pointe-Claire, QC - Canada
T 514-420-6030
dfpservice@dfp.ca

1.4. Emergency telephone number

Emergency number : 1-800-354-4445

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Flam. Aerosol 1	H222
Press. Gas (Liq.)	H280
Acute Tox. 4 (Oral)	H302
Acute Tox. 2 (Inhalation:dust,mist)	H330
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Repr. 1B	H360
STOT SE 2	H371
STOT SE 3	H335
STOT SE 3	H336
STOT RE 1	H372
Asp. Tox. 1	H304

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :

Signal word (GHS CA) : Danger

Hazard statements (GHS-CA) :
H222 - Extremely flammable aerosol.
H280 - Contains gas under pressure; may explode if heated.
H302 - Harmful if swallowed.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H330 - Fatal if inhaled.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.
H360 - May damage fertility or the unborn child.
H371 - May cause damage to organs.
H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-CA) :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P251 - Do not pierce or burn, even after use.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - Wear respiratory protection.
P308+P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P330 - Rinse mouth.
P331 - Do NOT induce vomiting.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 - Immediately call a POISON CENTER or doctor.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

30% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
29.75% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Acetone	(CAS-No.) 67-64-1	0.025 - 30
n-Butyl acetate	(CAS-No.) 123-86-4	0.03 - 21.25
1-Butanol	(CAS-No.) 71-36-3	6 - 21.25
Xylenes (o-, m-, p- isomers)	(CAS-No.) 1330-20-7	0.06 - 17
Isobutyl alcohol	(CAS-No.) 78-83-1	0.6 - 4.25
Methyl alcohol	(CAS-No.) 67-56-1	0.055 - 4.25
2-Butoxyethanol	(CAS-No.) 111-76-2	0.5 - 2.5
Propylene glycol monomethyl ether	(CAS-No.) 107-98-2	0.5 - 2.5

Comments : The concentrations listed represent actual ranges that result from batch variability.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a POISON CENTER/doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Fatal if inhaled. May cause irritation to the respiratory tract. May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May result in aspiration into the lungs, causing chemical pneumonia.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Carbon dioxide (CO_2), dry chemical powder, foam.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : None known.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Extremely flammable aerosol. Products of combustion may include, and are not limited to: oxides of carbon. Toxic fumes.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Water spray may be ineffective on fire but may protect firefighters and cool closed containers. Use fog nozzles if water is used. Firefighters should wear full protective clothing including self contained breathing apparatus.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate every possible source of ignition. Use only non-sparking tools. Use special care to avoid static electric charges.

6.2. Methods and materials for containment and cleaning up

For containment : [In case of inadequate ventilation] wear respiratory protection. Eliminate every possible source of ignition. Stop leak if safe to do so. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not touch spilled material. Do not flush into surface water or sewer system. Wear personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Do not breathe gas, fume, Vapour, spray, mist. Do not swallow. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not spray on an open flame or other ignition source. Keep away from sources of ignition - No smoking. Do not pierce or burn, even after use. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

Additional hazards when processed : Hazardous waste due to potential risk of explosion.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place. Store away from direct sunlight or other heat sources. Store tightly closed in a dry, cool and well-ventilated place. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

n-Butyl acetate (123-86-4)		
USA - ACGIH	ACGIH TWA (ppm)	50 ppm
USA - ACGIH	ACGIH STEL (ppm)	150 ppm
USA - ACGIH	Remark (ACGIH)	Eye & URT irr
USA - ACGIH	Regulatory reference	ACGIH 2017

Acetone (67-64-1)		
USA - ACGIH	ACGIH TWA (ppm)	250 ppm
USA - ACGIH	ACGIH STEL (ppm)	500 ppm

Isobutyl alcohol (78-83-1)		
USA - ACGIH	ACGIH TWA (ppm)	50 ppm

Xylenes (o-, m-, p- isomers) (1330-20-7)		
USA - ACGIH	ACGIH TWA (ppm)	100 ppm
USA - ACGIH	ACGIH STEL (ppm)	150 ppm
USA - ACGIH	Remark (ACGIH)	URT & eye irr; CNS impair
USA - ACGIH	Regulatory reference	ACGIH 2018

Methyl alcohol (67-56-1)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	250 ppm

Propylene glycol monomethyl ether (107-98-2)		
USA - ACGIH	ACGIH TWA (ppm)	50 ppm
USA - ACGIH	ACGIH STEL (ppm)	100 ppm
USA - ACGIH	Remark (ACGIH)	Eye irr; CNS impair; A4 (Not classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories)
USA - ACGIH	Regulatory reference	ACGIH 2017

2-Butoxyethanol (111-76-2)		
USA - ACGIH	ACGIH TWA (ppm)	20 ppm
USA - ACGIH	Remark (ACGIH)	Eye & URT irr
USA - ACGIH	Regulatory reference	ACGIH 2017

1-Butanol (71-36-3)		
USA - ACGIH	ACGIH TWA (ppm)	20 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Wear eye/face protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Viscous liquid

Colour : No data available

Odour	:	Solvent
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Slower than ether
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	56 - 171 °C
Flash point	:	-104 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Extremely flammable aerosol.
Vapour pressure	:	No data available
Vapour pressure at 50 °C	:	No data available
Relative density	:	Heavier than air
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Viscosity, kinematic	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	:	No dangerous reactions known under normal conditions of use. Highly reactive with oxidizing agents.
Chemical stability	:	Extremely flammable aerosol. Contents under pressure. Container may explode if heated. Do not puncture. Do not burn. Extreme risk of explosion by shock, friction, fire or other sources of ignition.
Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
Conditions to avoid	:	Heat. Incompatible materials. Sparks. Open flame. Direct sunlight. Overheating. Moisture.
Incompatible materials	:	oxidizing materials. Reducing agents. Metals. Acids. Alkalis.
Hazardous decomposition products	:	May include, and are not limited to: oxides of carbon. Toxic fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Oral: Harmful if swallowed.
Acute toxicity (inhalation)	:	Inhalation:dust,mist: Fatal if inhaled.

n-Butyl acetate (123-86-4)	
LD50 oral rat	10768 mg/kg
LD50 dermal rabbit	> 17600 mg/kg
LC50 inhalation rat	390 ppm/4h
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.05 mg/l/4h
LC50 inhalation rat (Vapours - mg/l/4h)	1.86 mg/l/4h

Acetone (67-64-1)	
LD50 oral rat	5800 mg/kg
LD50 dermal rabbit	> 15700 mg/kg
LC50 inhalation rat	50100 mg/m³ (Exposure time: 8 h)

Isobutyl alcohol (78-83-1)	
LD50 oral rat	2460 mg/kg
LD50 dermal rabbit	3400 mg/kg
LC50 inhalation rat	> 6.5 mg/l/4h

Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	> 4350 mg/kg
LD50 dermal	1700 mg/kg
LC50 inhalation rat	29.08 mg/l/4h

Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 inhalation rat (Vapours - mg/l/4h)	27.57 mg/l/4h

Methyl alcohol (67-56-1)	
LD50 oral rat	6200 mg/kg
LD50 dermal rabbit	15840 mg/kg
LC50 inhalation rat	22500 ppm (Exposure time: 8 h)

Propylene glycol monomethyl ether (107-98-2)	
LD50 oral rat	5000 mg/kg
LD50 dermal rabbit	13 g/kg
LC50 inhalation rat	> 7559 ppm (Exposure time: 6 h)

2-Butoxyethanol (111-76-2)	
LD50 oral rat	470 mg/kg
LC50 inhalation rat	486 ppm/4h

1-Butanol (71-36-3)	
LD50 oral rat	700 mg/kg
LD50 oral	2100 mg/kg
LD50 dermal rabbit	3402 mg/kg
LD50 dermal	3400 mg/kg
LC50 inhalation rat	> 8000 ppm/4h

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive toxicity : May damage fertility or the unborn child.

STOT-single exposure : May cause damage to organs. May cause respiratory irritation. May cause drowsiness or dizziness.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways.

PRO-FINISH AEROSOL	
Vaporizer	Aerosol

Symptoms/effects after inhalation : Fatal if inhaled. May cause irritation to the respiratory tract. May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May result in aspiration into the lungs, causing chemical pneumonia.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

n-Butyl acetate (123-86-4)	
LC50 fish 1	100 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish 2	17 - 19 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 72h algae (1)	674.7 mg/l (Species: Desmodesmus subspicatus)

Acetone (67-64-1)	
LC50 fish 1	4.74 - 6.33 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
LC50 fish 2	6210 - 8120 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	10294 - 17704 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Daphnia 2	12600 - 12700 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Isobutyl alcohol (78-83-1)	
LC50 fish 1	1370 - 1670 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	375 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Isobutyl alcohol (78-83-1)	
EC50 Daphnia 1	1300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	1070 - 1933 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 fish 1	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	2.661 - 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
EC50 Daphnia 2	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)

Methyl alcohol (67-56-1)	
LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Propylene glycol monomethyl ether (107-98-2)	
LC50 fish 1	20.8 g/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	23300 mg/l (Exposure time: 48 h - Species: Daphnia magna)

2-Butoxyethanol (111-76-2)	
LC50 fish 1	1490 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish 2	2950 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

1-Butanol (71-36-3)	
LC50 fish 1	1730 - 1910 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
LC50 fish 2	1740 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	1983 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	1897 - 2072 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 72h algae (1)	> 500 mg/l (Species: Desmodesmus subspicatus)
EC50 96h algae (1)	> 500 mg/l (Species: Desmodesmus subspicatus)
NOEC chronic crustacea	4.1 mg/l

12.2. Persistence and degradability

PRO-FINISH AEROSOL	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

PRO-FINISH AEROSOL	
Bioaccumulative potential	Not established.

n-Butyl acetate (123-86-4)	
Partition coefficient n-octanol/water	1.81 (at 23 °C)

Acetone (67-64-1)	
BCF fish 1	0.69
Partition coefficient n-octanol/water	-0.24

Isobutyl alcohol (78-83-1)	
BCF fish 1	(no bioconcentration expected)
Partition coefficient n-octanol/water	0.79 (at 25 °C)

Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF fish 1	0.6 - 15
Partition coefficient n-octanol/water	2.77 - 3.15

Methyl alcohol (67-56-1)	
BCF fish 1	< 10
Partition coefficient n-octanol/water	-0.77

Propylene glycol monomethyl ether (107-98-2)	
BCF fish 1	< 2
Partition coefficient n-octanol/water	-0.437

2-Butoxyethanol (111-76-2)	
Partition coefficient n-octanol/water	0.81 (at 25 °C)

1-Butanol (71-36-3)	
BCF fish 1	0.64
Partition coefficient n-octanol/water	0.785 (at 25 °C)

12.4. Mobility in soil

n-Butyl acetate (123-86-4)	
Partition coefficient n-octanol/water	1.81 (at 23 °C)

Acetone (67-64-1)	
Partition coefficient n-octanol/water	-0.24

Isobutyl alcohol (78-83-1)	
Partition coefficient n-octanol/water	0.79 (at 25 °C)

Xylenes (o-, m-, p- isomers) (1330-20-7)	
Partition coefficient n-octanol/water	2.77 - 3.15

Methyl alcohol (67-56-1)	
Partition coefficient n-octanol/water	-0.77

Propylene glycol monomethyl ether (107-98-2)	
Partition coefficient n-octanol/water	-0.437

2-Butoxyethanol (111-76-2)	
Partition coefficient n-octanol/water	0.81 (at 25 °C)

1-Butanol (71-36-3)	
Partition coefficient n-octanol/water	0.785 (at 25 °C)

12.5. Other adverse effects

Ozone : Not classified.

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Additional information : Flammable vapours may accumulate in the container. This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimised wherever possible.

Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

UN-No. (TDG) : UN1950

TDG Primary Hazard Classes : 2.1 - Class 2.1 - Flammable Gas.

TDG Subsidiary Classes : 6.1

Transport document description : UN1950 AEROSOLS, 2.1 (6.1)

Proper Shipping Name (Transportation of Dangerous Goods) : AEROSOLS

Hazard labels (TDG) :

14.2. Transport information/DOT

No additional information available

14.3. Air and sea transport

No additional information available

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Date of issue	:	11/01/2018
Revision date	:	12/21/2018
Other information	:	None.
Prepared by	:	Nexreg Compliance Inc. www.Nexreg.com

SDS Canada (GHS)_NEXREG_NEW

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SAFETY DATA SHEET

1. Identification

Product identifier **Propane**

Other means of identification

SDS number WC002

Product code UN1075

Recommended use Portable fuel.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Worthington Cylinder Corporation

Address 300 E. Breed St., Chilton, WI 5301
United States

Contact person Ann Stiefvater

E-mail address Ann.Stiefvater@worthingtonindustries.com

Telephone number 1-920-849-1740

Emergency telephone number 1-703-527-3887 International / CHEMTREC 1-800-424-9300 Domestic

2. Hazard(s) identification

Physical hazards	Flammable gases	Category 1
	Gases under pressure	Liquefied gas

Health hazards Not classified.

OSHA defined hazards Simple asphyxiant

Label elements

Signal word Danger

Hazard statement Extremely flammable gas. Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Wear respiratory protection.

Response Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Propane	74-98-6	87.5-100
Propylene	115-07-1	0-10

Ethane	74-84-0	0-7
Butane	106-97-8	0-2.5

Additives

Chemical name	CAS number	%
Ethyl Mercaptan	75-08-1	<0.005

Composition comments Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Skin contact Not likely, due to the form of the product. If frostbite occurs, immerse affected area in warm water (not exceeding 105°F/41°C). Keep immersed for 20 to 40 minutes. Get medical attention immediately.

Eye contact Not likely, due to the form of the product. If frostbite occurs, immediately flush eyes with plenty of warm water (not exceeding 105°F/41°C) for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.

Ingestion This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Most important symptoms/effects, acute and delayed Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themself.

Indication of immediate medical attention and special treatment needed Exposure may aggravate pre-existing respiratory disorders. Provide general supportive measures and treat symptomatically.

General information If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Dry chemical powder. Carbon dioxide (CO2). Water fog. Foam.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Extremely flammable gas. Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Do not extinguish fires unless gas flow can be stopped safely; explosive re-ignition may occur. Promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk or without suitable training. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. Stop flow of material. Use water to keep fire exposed containers cool and to protect personnel effecting shutoff. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers exposed to flames with water until well after the fire is out.

General fire hazards Extremely flammable gas. Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Evacuate the area promptly. No action shall be taken involving any personal risk or without suitable training. In the event of a leak evacuate all personnel until ventilation can restore oxygen concentrations to safe levels. Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment (See Section 8).

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. For waste disposal, see section 13 of the SDS.

Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. All equipment used when handling the product must be grounded. Do not breathe gas. Avoid prolonged exposure. Do not enter storage areas or confined spaces unless adequately ventilated. Use only outdoors or in a well-ventilated area. Oxygen concentration should not fall below 19.5 % at sea level (pO2 = 135 mmHg). Mechanical ventilation or local exhaust ventilation may be required. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store at temperatures not exceeding 49°C/120°F. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Protect cylinders from damage. Stored containers should be periodically checked for general condition and leakage. Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Propane (CAS 74-98-6)	PEL	1800 mg/m3 1000 ppm
Additives	**Type**	**Value**
Ethyl Mercaptan (CAS 75-08-1)	Ceiling	25 mg/m3 10 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Propylene (CAS 115-07-1)	TWA	500 ppm
Additives	**Type**	**Value**
Ethyl Mercaptan (CAS 75-08-1)	TWA	0.5 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1900 mg/m3 800 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm
Additives	**Type**	**Value**
Ethyl Mercaptan (CAS 75-08-1)	Ceiling	1.3 mg/m3 0.5 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation and minimize the risk of inhalation of gas. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear approved safety glasses or goggles.

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Neoprene or nitrile gloves are recommended.
Skin protection	
Other	Wear protective clothing appropriate for the risk of exposure.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Contact with liquefied gas might cause frostbites, in some cases with tissue damage. Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practices.

9. Physical and chemical properties

Appearance	Colorless gas.
Physical state	Gas (Liquefied).
Form	Compressed liquefied gas.
Color	Colorless.
Odor	Rotten egg.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-306.4 °F (-188 °C)
Initial boiling point and boiling range	-43.6 °F (-42 °C) 14.7 psia
Flash point	-155.2 °F (-104.0 °C)
Evaporation rate	Not applicable.
Flammability (solid, gas)	Extremely flammable gas.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	2.15 %
Explosive limit - upper (%)	9.6 %
Vapor pressure	127 psig (21°C / 70°F)
Vapor density	Not available.
Relative density	0.504 (liquid) 1.5 (vapor) (air=1) @ 15°C / 60°F
Solubility(ies)	
Solubility (water)	Slightly soluble in water.
Partition coefficient (n-octanol/water)	1.77
Auto-ignition temperature	809.6 °F (432 °C)
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Explosive properties	Not explosive.
Molecular weight	45 g/mol
Oxidizing properties	Not oxidizing.
Percent volatile	100 %

10. Stability and reactivity

Reactivity	Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Polymerization will not occur. May form explosive mixture with air.

Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Halogens. Nitrates.
Hazardous decomposition products	Thermal decomposition of this product can generate carbon monoxide and carbon dioxide. Hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	High concentrations: Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness.
Skin contact	Contact with liquefied gas may cause frostbite.
Eye contact	Contact with liquefied gas may cause frostbite.
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.
Symptoms related to the physical, chemical and toxicological characteristics	Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themself.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	1355 mg/l
Propylene (CAS 115-07-1)		
Acute		
Inhalation		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours

Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Propylene (CAS 115-07-1) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.
Further information	Exposure over a long period of time may cause central nervous system effects.

12. Ecological information

Ecotoxicity The product is not expected to be hazardous to the environment.

Persistence and degradability The product is readily biodegradable.

Bioaccumulative potential The product is not expected to bioaccumulate.

Partition coefficient n-octanol / water (log Kow)

Propane	1.77
Propylene (CAS 115-07-1)	1.77

Mobility in soil Not relevant, due to the form of the product.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Use the container until empty. Do not dispose of any non-empty container. Empty containers have residual vapor that is flammable and explosive. Cylinders should be emptied and returned to a hazardous waste collection point. Do not puncture or incinerate even when empty. Dispose in accordance with all applicable regulations.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with all applicable regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1075
UN proper shipping name Petroleum Gases, Liquified
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Label(s) 2.1
Packing group Not applicable.
Environmental hazards
Marine pollutant No
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions 19, T50
Packaging exceptions 306
Packaging non bulk 304
Packaging bulk 314, 315

IATA

UN number UN1075
UN proper shipping name Petroleum Gases, Liquified
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No
ERG Code 10L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1075
UN proper shipping name Petroleum Gases, Liquified
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not applicable.
Environmental hazards
Marine pollutant No

EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
General information	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug (where provided) is correctly fitted. Ensure valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Butane (CAS 106-97-8)	LISTED
Ethyl Mercaptan (CAS 75-08-1)	LISTED
Propane (CAS 74-98-6)	LISTED
Propylene (CAS 115-07-1)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Propylene	115-07-1	0-10

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)

Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. Rhode Island RTK

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-May-2014

Revision date 09-August-2016

Version # 02

Further information The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

HMIS® ratings
Health: 1
Flammability: 4
Physical hazard: 1

NFPA ratings

List of abbreviations
STEL: Short term exposure limit.
TWA: Time weighted average.
PEL: Permissible Exposure Limit.
LC50: Lethal Concentration, 50%.

References
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer	All information in this Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.
This SDS contains revisions in the following section(s):	1 - 16

MATERIAL SAFETY DATA SHEET

Version: 2.1
01/14/14

ProSeal12 (Part # 402)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer Name:	**Thermofluid Technologies, Inc.** **3031 Topside Business Park Drive** **Louisville, TN 37777 USA**
Revised:	01/14/2014
Prepared by	**Missy Simpson**
CHEMTREC	1-800-424-9300 or 1-703-527-3887
MSDS Contact	1-865-983-1633
Information	info@redtek.com
USES:	Refrigeration Systems
Formula:	**ProSeal12**

HMIS

Health:	2	Flammability:	4	Physical Hazards:	2	Personal Protection:	K

NFPA

Health:	2	Flammability:	4	Instability:	0

2. HAZARDS IDENTIFICATION

PHYSICAL STATE

Gas at room temperature; liquid when stored under pressure.

ODOR

Hydrocarbon gases are odorless.

WHMIS (Canada)

Class A: Compressed gas.
Class B-1: Flammable gas.

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

EMERGENCY OVERVIEW

CAUTION! EXTREMELEY FLAMMABLE GAS. MAY CAUSE FLASH FIRE. HIGH PRESSURE GAS. Contains gas under pressure. Extremely flammable gas. Do not puncture or incinerate container. Avoid breathing gas. Avoid contact with skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. At high concentrations, this product can displace oxygen and cause asphyxiation; therefore, a minimum requirement of 19.5% oxygen at sea level is recommended.

ROUTES OF ENTRY

Dermal contact. Eye contact. Inhalation.

POTENTIAL ACUTE HEALTH EFFECTS

INHALATION

Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in severe overexposure; coma and death.

INGESTION

As this product is a gas, refer to the inhalation section.

SKIN

Contact with rapidly expanding gas may cause burns or frostbite.

EYES

Contact with rapidly expanding gas may cause burns or frostbite.

POTENTIAL CRONIC HEALTH EFFECTS

CHRONIC EFFECTS

No known significant effects or critical hazards.

CARCINOGENICITY

Not listed as carcinogenic by OSHA, NTP or IARC.

MUTAGENICITY

No known significant effects or critical hazards.

TERATOGENICITY

No known significant effects or critical hazards.

DEVELOPMENTAL EFFECTS

No known significant effects or critical hazards.

MEDICAL CONDITIONS AGGRAVATED BY OVER- EXPOSURE

Overexposure may lead to cardiac sensitization

3. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	%	CAS NUMBER	LC50	P.E.L.	ACGIH TLV
ALKANES	30-60	74-98-6	n.ap	800ppm	800ppm
ALKANES	40-70	106-97-8	202,000ppm (mouse, 4hr.) 276,000ppm (rat, 4 hr.)	n.ap	800ppm
ETHANOL	<1-13	64-17-5			1000ppm
PROPRIETARY (trade secret)	<15				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. FIRST AID MEASURES

EYE CONTACT

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

SKIN CONTACT

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Wash clothing before reuse. Get medical attention immediately.

INHALATION

Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

INGESTION

As this product is a gas, refer to the inhalation section.

PROTECTION OF FIRST-AIDERS

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to person providing aid to give mouth-to-mouth resuscitation.

NOTES TO PHYSICIAN

No specific treatment. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

FLAMMABILITY OF THE PRODUCT

Class I – flammable gas (NFPA).

EXTINGUISHING MEDIA

SUITABLE

Use of extinguishing agent suitable for the surrounding fire.

NOT SUITABLE

None known.

SPECIAL EXPOSURE HAZARDS

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance.

PRODUCTS OF COMBUSTION

Carbon oxides (CO, CO2), smoke and irritating vapors as products of incomplete combustion.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full

face-piece operated in positive pressure mode.

SPECIAL REMARKS ON FIRE HAZARDS

Extremely flammable in presence of open flames, sparks, and heat. Vapors are heavier than air.

SPECIAL REMARKS ON EXPLOSION HAZARDS

Do not cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Containers may explode in heat of fire. Vapor explosion hazard indoors, outdoors, or in sewers. Propane may form explosive mixtures with air.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Accidental releases pose a serious fire or explosion hazard. Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

ENVIRONMENTAL PRECAUTIONS

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

METHODS FOR CLEANING UP

SMALL SPILL

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

LARGE SPILL

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

HANDLING

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Ensure all equipment is grounded/bonded.

STORAGE

Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Ensure the storage containers are grounded/bonded.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

INGREDIANT	EXPOSURE LIMITS
Alkanes	**ACGIH TLV (UNITED STATES)** TWA: 1000 ppm 8 hour(s)

CONSULT LOCAL AUTHORITIES FOR ACCEPTABLE EXPOSURE LIMITS.

RECOMMENDED MONITORING PROCEDURES

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

ENGINEERING MEASURES

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor, or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

HYGIENE MEASURES

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

PERSONAL PROTECTION

RESPIRATORY

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: NIOSH-approved self-contained breathing apparatus.

HANDS

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: Wear insulated gloves to prevent frostbite.

EYES

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

SKIN

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

ENVIRONMENTAL EXPOSURE CONTROLS

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	: Gas at room temperature; liquid when stored under pressure.
FLASH POINT	: Closed cup: -34°C (-29°F)
AUTO-IGNITION TEMPERATURE	: 862°C (1585°F) (NFPA)
FLAMMABLE LIMITS	: Lower: 1.9% (NFPA) Upper: 8.5% (NFPA)
COLOR	: Colorless
ODOUR	: Propane is an odorless gas.
ODOUR THRESHOLD	: Not available.
pH	: Not available.
BOILING/CONDENSATION POINT	: -34.7°C (-30.4°F)
MELTING/FREEZING POINT	: Not available.
VAPOUR DENSITY	: 1.56 [Air = 1]
VOLATILITY	: Volatile.
EVAPORATION RATE	: Not available.
VISCOSITY	: Not available.
SOLUBILITY	: Not available.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

The product is stable.

HAZARDOUS POLYMERIZATION

Under normal conditions of storage and use, hazardous polymerization will not occur.

MATERIALS TO AVOID

Reactive with oxidizing agents and halogenated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS

May release smoke and irritating vapors when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

PRODUCT/INGREDIENT NAME	RESULT	SPECIES	DOSE	EXPOSURE
Butane	LC50 Inhalation Gas	Rat	658000 mg/m³	4 hours

CONCLUSION/SUMMARY

Not available.

CHRONIC TOXICITY

CONCLUSION/SUMMARY

Not available.

IRRITATION/CORROSION

CONCLUSION/SUMMARY

Not available.

SENSITISER

CONCLUSION/SUMMARY

Not available.

CARCINOGENICITY

CONCLUSION/SUMMARY

Not available.

CLASSIFICATION

PRODUCT/INGREDIENT NAME	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Propene	A4	3	-	-	-	-

MUTAGENICITY

CONCLUSION/SUMMARY

Not available.

TERATOGENICITY

CONCLUSION/SUMMARY

Not available.

REPRODUCTIVE TOXICITY

CONCLUSION/SUMMARY

Not available.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS

No known significant effects or critical hazards

AQUATIC ECOTOXICITY

CONCLUSION/SUMMARY

Not available.

BIODEGRADABILITY

CONCLUSION/SUMMARY

Not available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Do not puncture or incinerate container.

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

REGULATORY INFORMATION	UN NUMBER	PROPER SHIPPING NAME	CLASSES	PG*	LABEL	ADDITIONAL INFORMATION
TDG Classification				-		-
DOT Classification		Consumer Commodity, ORM-D		-		-

PG* - Packing group

15. REGULATORY INFORMATION

UNITED STATES

HCS Classification

Compressed gas

Flammable gas

CANADA

WHMIS (Canada)

Class A: Compressed gas

Class B-1 Flammable gas

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

INTERNATIONAL REGULATIONS

Canada inventory

All components are listed or exempted

United States inventory (TSCA 8b)

All components are listed or exempted

Europe inventory

All components are listed or exempted

16. OTHER INFORMATION

LABEL REQUIREMENTS

EXTREMELY FLAMMABLE GAS. MAY CAUSE FLASH FIRE. HIGH PRESSURE GAS.

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)

Health: 2 Flammability: 4 Physical Hazards: 2 Personal Protection: K

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

Health: 2 Flammability: 4 Instability: 0

REFERENCES:

RESPONSIBLE NAME: **PRODUCT SAFETY – Missy Simpson**

FOR COPY OF (M)SDS: **Internet:** www.redtek.com **Phone:** 1-865-983-1633

NOTICE TO READER

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Protecto Lube (A.K.A. Airolene Oil)

Material Safety Data Sheet

Chicago Pneumatic Tool Company
1800 Overview Drive
Rock Hill, SC 29730

MSDS No. 633415001

Revision Date 03/10/2006

Hazard Rankings	HMIS	NFPA
Health Hazard	1	0
Fire Hazard	1	1
Reactivity	0	0

* = Chronic Health Hazard

Protective Equipment

Minimum Recommended
See Section 8 for Details

IMPORTANT: Read this MSDS before handling or disposing of this product and pass this information on to employees, customers and users of this product.

Emergency Overview

Physical State Liquid.

Color Light amber to amber **Odor** Mild petroleum odor

WARNING:
Oil injected into the skin from high-pressure leaks in hydraulic systems can cause severe injury.
Most damage occurs during the first few hours.
Seek medical attention immediately.
Surgical removal of oil may be necessary.
Spills may create a slipping hazard.

SECTION 1: IDENTIFICATION

Trade Name	Protecto Lube (Airolene Oil)	**Technical Contact**	(800) 248-4684
Product Number	CA000046, C138058, P089507, CA149661	**Medical Emergency**	(832) 486-4700
CAS Number	Mixture.	**CHEMTREC Emergency (United States Only)**	(800) 424-9300
Product Family	Hydraulic oil		
Synonyms	Hydraulic oil; CITGO SAP Material Code No.: 633415001		

SECTION 2: COMPOSITION

Highly-refined petroleum lubricant oils, (CAS No.: Mixture), Conc. 98 to 100
The concentrations of the individual base oils will vary. The individual concentration ranges are as follows:
Distillates, petroleum, hydrotreated heavy paraffinic, (CAS No. 64742-54-7) Conc. 0-100%;
Distillates, petroleum, solvent-refined heavy paraffinic (CAS No. 64741-88-4) Conc. 0-100%;
Distillates, petroleum, solvent-refined light paraffinic (CAS No. 64741-89-5) Conc. 0-50%;

Component Name(s)	CAS Registry No.	Concentration (%)
Zinc and zinc compounds	68649-42-3	<1
Proprietary Ingredients	Proprietary Mixture	<1

SECTION 3: HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact.

Signs and Symptoms of Acute Exposure

Inhalation At elevated temperatures or in enclosed spaces, product mist or vapors may irritate the mucous membranes of the nose, the throat, bronchi, and lungs.

Eye Contact This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists.

Skin Contact	This material can cause mild skin irritation from prolonged or repeated skin contact. Injection under the skin can cause inflammation and swelling. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
Ingestion	If swallowed, large volumes of material can cause generalized depression, headache, drowsiness, nausea, vomiting and diarrhea. Smaller doses can cause a laxative effect. If aspirated into the lungs, liquid can cause lung damage.
Chronic Health Effects Summary	Contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.
Conditions Aggravated by Exposure	Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin
Target Organs	This material may cause damage to the following organs: skin.
Carcinogenic Potential	This product does not contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant		Toxic		Combustible		Explosive		Pyrophoric	
Sensitizer		Highly Toxic		Flammable		Oxidizer		Water-reactive	
Corrosive		Carcinogenic		Compressed Gas		Organic Peroxide		Unstable	

SECTION 4: FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.
Eye Contact	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Skin Contact	If burned by hot material, cool skin by quenching with large amounts of cool water. For contact with product at ambient temperatures, remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods. If material is injected under the skin, seek medical attention immediately.
Ingestion	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
Notes to Physician	SKIN: In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal. INGESTION: The visosity range of the product(s) represented by this MSDS is greater than 100 SUS at 100°F. There is a low risk of aspiration upon ingestion. Careful gastric lavage or emesis may be considered to evacuate large quantities of material.

SECTION 5: FIRE FIGHTING MEASURES

NFPA Flammability Classification	NFPA Class-IIIB combustible material.
Flash Point Method	OPEN CUP: 212°C (414°F) (Cleveland.).
Lower Flammable Limit	No data. **Upper Flammable Limit** No data.
Autoignition Temperature	Not available.
Hazardous Combustion Products	Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, phosphorus, zinc and/or nitrogen.
Special Properties	This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point.
Extinguishing Media	Use dry chemical, foam, Carbon Dioxide or water fog. Water or foam may cause frothing. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.
Protection of Fire Fighters	Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulation

SECTION 7: HANDLING AND STORAGE

Handling	Avoid contamination and extreme temperatures to minimize product degradation. Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.
Storage	Keep container closed. Do not store with strong oxidizing agents. Do not store at elevated temperatures. Avoid storing product in direct sunlight for extended periods of time. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). An eye wash station and safety shower should be located near the work-station.
Personal Protective Equipment	

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.

Eye Protection	Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear goggles and/or face shield if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.
Hand Protection	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.
Body Protection	Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.
Respiratory Protection	Vaporization is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
General Comments	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since specific exposure standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance	**Applicable Workplace Exposure Levels**
1) Oil Mist, Mineral	**ACGIH (United States).** TWA: 5 mg/m³ STEL: 10 mg/m³ **OSHA (United States).** TWA: 5 mg/m³

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State	Liquid.	**Color**	Light amber to amber	**Odor**	Mild petroleum odor
Specific Gravity	0.87 (Water = 1)	**pH**	Not Applicable.	**Vapor Density**	>1 (Air = 1)
Boiling Range	Not available.			**Melting/Freezing Point**	Not available.
Vapor Pressure	<0.001 kPa (<0.01 mmHg) (at 20°C)			**Viscosity (cSt @ 40°C)**	33
Solubility in Water	Insoluble in cold water.			**Volatile Characteristics**	Negligible volatility
Additional Properties	Gravity, °API (ASTM D287) = 31.3 @ 60° F Density = 7.42 Lbs/gal. Viscosity (ASTM D2161) = 170 SUS @ 100° F				

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability Stable. **Hazardous Polymerization** Not expected to occur.

Conditions to Avoid Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

Materials Incompatibility Strong oxidizers.

Hazardous Decomposition Products No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

SECTION 11: TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data

Distillates, petroleum, solvent-refined light paraffinic:
ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, solvent-refined heavy paraffinic:
ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, hydrotreated heavy paraffinic:
ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, solvent-refined light paraffinic:
Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Distillates, petroleum, solvent-refined heavy paraffinic:
Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested. Analyses conducted by method IP 346 indicate that the polycyclic aromatic concentration of this mineral oil is below 3.0 weight percent.

Distillates, petroleum, hydrotreated heavy paraffinic:
Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Hydraulic oil:
Repeated or prolonged skin contact with certain hydraulic oils can cause mild skin irritation characterized by drying, cracking (dermatitis) or oil acne. Injection under the skin, in muscle or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects, including mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.

Environmental Fate

An environmental fate analysis has not been conducted on this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

SECTION 13: DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

SECTION 14: TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status Not regulated by the U.S. Department of Transportation as a hazardous material.

Proper Shipping Name Not regulated.

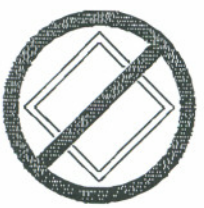
Hazard Class Not regulated.

Packing Group(s) Not applicable.

UN/NA ID Not regulated.

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placards



Emergency Response Guide No. Not applicable.

HAZMAT STCC No. 2911415

MARPOL III Status Not a DOT "Marine Pollutant" per 49 CFR 171.8.

SECTION 15: REGULATORY INFORMATION

TSCA Inventory	This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
SARA 302/304	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.
SARA 311/312	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: No SARA 311/312 hazard categories identified.
SARA 313	This product contains the following components in concentrations above de minimis levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: No components were identified.
CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: Zinc and Zinc Compounds, Concentration: 0 - 1%
CWA	This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.
California Proposition 65	This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Toluene: <0.002% Ethyl Acrylate: 0.0005%
New Jersey Right-to-Know Label	Petroleum Oil (Hydraulic Oil)
Additional Regulatory Remarks	No additional regulatory remarks.

SECTION 16: OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number	4.1
Revision Date	03/10/2006
Print Date	Printed on 03/10/2006.

ABBREVIATIONS

AP: Approximately EQ: Equal >: Greater Than <: Less Than NA: Not Applicable ND: No Data NE: Not Established

ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Association

IARC: International Agency for Research on Cancer NTP: National Toxicology Program

NIOSH: National Institute of Occupational Safety and Health OSHA: Occupational Safety and Health Administration

NPCA: National Paint and Coating Manufacturers Association HMIS: Hazardous Materials Information System

NFPA: National Fire Protection Association EPA: US Environmental Protection Agency

Protecto Lube (A.K.A. Airolene Oil)

DISCLAIMER OF LIABILITY

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

***** END OF MSDS *****

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **PUNCTURE SEAL NON-FLAMMABLE**

Product Use : Tire sealant
Chemical Family : Mixture.
Manufacturer part no. : M1115C, M1120C, M1128C, M1120/12C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:

Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).

WHMIS classification:
Class A (Pressurized containers);
Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:

Emergency Overview : Liquid aerosol. Milky, white liquid. Ammonia odour.
DANGER!
Contents under pressure. Containers may explode if heated.
POISON! May be fatal if inhaled. Harmful or fatal if swallowed or absorbed through the skin. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Causes skin irritation. Could cause eye damage. Can cause kidney damage. Prolonged or repeated overexposure could cause adverse liver effects. Contains material which may cause adverse blood system effects. Contains material which may cause cancer, based on animal data. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Inhalation in very high concentrations may result in blood system effects, such as red blood cell fragility. May result in unconsciousness and possibly death. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

Skin : May cause moderate to severe skin irritation. May be absorbed and cause symptoms similar to those for inhalation. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eyes : Direct eye contact may produce severe irritation with possible eye damage. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : May cause severe irritation to the mouth, throat and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could cause cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood). May potentially result in lethal kidney damage. Could also cause convulsions, coma, respiratory arrest and death.

Effects of long-term (chronic) exposure

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Contains: 2-butoxyethanol. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage, based on animal data. Effects appear to be species specific. Humans are less sensitive to these effects.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Harmful to aquatic life. Avoid release to the environment. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
1,1,1,2-Tetrafluoroethane	811-97-2	15.00 - 40.00
2-butoxyethanol	111-76-2	10.00 - 30.00
Ethylene glycol	107-21-1	3.00 - 7.00
Ammonium hydroxide	1336-21-6	0.10 - 1.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. Seek immediate medical attention/advice.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes For Physician : Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. Non-flammable aerosol. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Vapours are heavier than air and collect in confined and low-lying areas.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Hydrogen fluoride; Ammonia; formaldehyde; Nitrogen oxides (NOx); Halogenated compounds; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Keep out of the reach of children.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Keep containers tightly closed when not in use. Inspect periodically for damage or leaks.

Incompatible materials : Oxidizing agents; Bases; Acids; Reactive metals.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
1,1,1,2-Tetrafluoroethane	1000 ppm (AIHA WEEL)	N/Av	N/Av	N/Av
2-butoxyethanol	20 ppm	N/Av	50 ppm (240 mg/m³) (skin)	N/Av
Ethylene glycol	100 mg/m³ (aerosol) (Ceiling)	N/Av	50 ppm (Ceiling) (final rule limit)	N/Av
Ammonium hydroxide	25 ppm (Ammonia)	35 ppm (Ammonia)	50 ppm (35 mg/m³) (Ammonia)	N/Av

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection : Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours or spray mist. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid aerosol.

Appearance : Milky, white liquid.

Odour : Ammonia odour.

Odour threshold : N/Av

pH : 11 ± 0.5

Boiling point : 100°C
Melting/Freezing point : N/Av
Vapour pressure (mmHg @ 20° C / 68° F) : N/Av
Vapour density (Air = 1) : > 1
Volatile organic Compounds (VOC's) : N/Av
Flash point : N/Ap
Flash point Method : N/Ap
Lower flammable limit (% by vol.) : N/Ap
Flame Projection Length : N/Av
Absolute pressure of container : N/Av
Specific gravity : 1.0
Coefficient of water/oil distribution : N/Av
Solubility in water : Soluble
Evaporation rate (n-Butyl acetate = 1) : 0.2
Volatiles (% by weight) : 15.64%
Auto-ignition temperature : N/Av
Upper flammable limit (% by vol.) : N/Ap
Flashback observed : N/Av
Viscosity : N/Av

General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
Materials To Avoid And Incompatibility : Oxidizing agents; Bases; Acids; Reactive metals.
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and kidneys.
Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : Moderate to severe skin irritant. Possible severe eye irritation and tissue damage.
Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
1,1,1,2-Tetrafluoroethane	567 000 ppm	N/Ap (gas)	N/Ap (gas)
2-butoxyethanol	450 ppm (2.175 mg/L)	530 mg/kg	400 - 500 mg/kg
Ethylene glycol	4300 ppm (10.92 mg/L) (aerosol)	4000 mg/kg The estimated human lethal dose is: 1110 - 1665 mg/kg	9530 µL/kg
Ammonium hydroxide	3670 ppm (rat) (Ammonia) 2115 ppm (mouse) (Ammonia)	350 mg/kg	N/Av

Carcinogenic status : This product contains 2-Butoxyethanol, an ACGIH Group A3 carcinogen. No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.
Reproductive effects : Not expected to have other reproductive effects.
Teratogenicity : May cause birth defects. Contains ethylene glycol, which may cause teratogenic effects at doses which are not maternally toxic, based on animal data.
Mutagenicity : Not expected to be mutagenic in humans.
Epidemiology : None known or reported by the manufacturer.
Sensitization to material : Not expected to be a skin or respiratory sensitizer.
Synergistic materials : None known or reported by the manufacturer.
other important hazards : None known or reported by the manufacturer.
Conditions aggravated by overexposure : Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : Harmful to aquatic life. The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
Note: Contains: Ammonium hydroxide. Toxicity is primarily associated with pH.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
1,1,1,2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap
2-butoxyethanol	111-76-2	1490 mg/L (Bluegill sunfish)	> 100 mg/L (Zebra fish)	None.
Ethylene glycol	107-21-1	22 810 mg/L (Rainbow trout)	N/Av	None.
Ammonium hydroxide	1336-21-6	8.2 mg/L (Fathead minnow)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
1,1,1,2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap
2-butoxyethanol	111-76-2	835 mg/L (Daphnia magna)	100 mg/L	None.
Ethylene glycol	107-21-1	49 000 mg/L (Daphnia magna)	7500 - 15 000 mg/L (Read-across)	None.
Ammonium hydroxide	1336-21-6	0.66 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
1,1,1,2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap
2-butoxyethanol	111-76-2	911 mg/L/72hr (Green algae)	286 mg/L/72hr	None.
Ethylene glycol	107-21-1	6500 - 13 000 mg/L/96hr (Green algae)	10 000 mg/L/96hr	None.
Ammonium hydroxide	1336-21-6	N/Av	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
The following ingredients are considered to be readily biodegradable: 2-butoxyethanol; Ethylene glycol.
This product also contains: Ammonium hydroxide. Ammonia or ammonium ion is rapidly converted to nitrate by nitrification under aerobic conditions in the aquatic environment. Ammonia is part of the nitrogen cycle. Therefore considered to rapidly degrade.

Bioaccumulation potential : No data is available on the product itself.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
1,1,1,2-Tetrafluoroethane (CAS 811-97-2)	1.06	N/Av
2-butoxyethanol (CAS 111-76-2)	0.8	0.97
Ethylene glycol (CAS 107-21-1)	- 1.36	10 (Fish)

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.2	None	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

Danger. Contents under pressure. Container may explode if heated. POISON! May be fatal if inhaled. Harmful or fatal if swallowed or absorbed through the skin. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Causes skin irritation. Possible severe eye irritation and tissue damage. Can cause kidney damage. Prolonged or repeated overexposure could cause adverse liver effects. Contains material which may cause adverse blood system effects. Contains material which may cause cancer, based on animal data. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture or incinerate containers. Wash thoroughly after handling. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. If breathing stops, provide artificial respiration. For skin contact, immediately remove contaminated clothing then wash thoroughly with soap and water for at least 15 minutes. For eye contact, flush with running water for at least 15 minutes. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. For all cases, obtain medical attention immediately.

Refer to Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian WHMIS Classification: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose

MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for:
Radiator Specialty Co. of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada, L4W 1H7
Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM)
Please direct all enquiries to Radiator Specialty.

Prepared by:
ICC The Compliance Center Inc.
http://www.thecompliancecenter.com

DISCLAIMER OF LIABILITY

MSDS Preparation Date (mm/dd/yyyy)
: 05/07/2007

MSDS Revision Date (mm/dd/yyyy)
: 06/15/2016

Revision No. : 4

Revision Information : (M)SDS sections updated:
2. HAZARDS IDENTIFICATION (Chronic exposure);
8. EXPOSURE CONTROLS / PERSONAL PROTECTION (Exposure Limit Values);
12. ECOLOGICAL INFORMATION .

END OF DOCUMENT

PVC S-40 Solvent Cement (Clear)

SECTION 1. IDENTIFICATION

Product Identifier	PVC S-40 Solvent Cement (Clear)
Other Means of Identification	10842, 10863, 10884, 10905, 10926, 10767
Recommended Use	Solvent Cement. For welding PVC plastic pipes and fittings.
Restrictions on Use	None known.
Manufacturer	Sluyter Company Ltd., 375 Steelcase Road East, Markham, ON, L3R 1G3, Canada, Technical Department, (905) 475-6011, www.sluyter.com
Emergency Phone No.	CANUTEC, 1-888-226-8832 , or *666 on a cellular phone.
SDS No.	0263
Date of Preparation	March 13, 2018

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

Classification

Flammable liquid - Category 2; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Acute toxicity (Inhalation) - Category 3; Skin irritation - Category 2; Serious eye damage - Category 1; Eye irritation - Category 2; Carcinogenicity - Category 2; Specific target organ toxicity (single exposure) - Category 3

Label Elements

Signal Word:
Danger
Hazard Statement(s):
Highly flammable liquid and vapour.
Causes serious eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Precautionary Statement(s):
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing vapours.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/eye protection/face protection.
Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTRE or doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTRE or doctor.
In case of fire: Use water spray or fog, carbon dioxide, dry chemical powder to extinguish.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

Health Hazards Not Otherwise Classified (HHNOC): May be a fire hazard in a confined space. May be a health hazard in confined spaces.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Tetrahydrofuran	109-99-9	40 - 60	THF	
Methyl Ethyl Ketone	78-93-3	30 - 50	MEK	
Polyvinyl chloride	9002-86-2	5 - 20	PVC	
Cyclohexanone	108-94-1	1 - 10		

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Wash with plenty of water. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Get medical advice or attention if you feel unwell or are concerned.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Immediately call a Poison Centre or doctor. Do not induce vomiting. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting.

First-aid Comments

Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: small amounts can cause effects as described for inhalation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. If on skin: can cause effects as described for skin contact. If in eyes: small amounts may cause very mild irritation. May cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing. If inhaled and/or swallowed: small amounts symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Symptoms may include coughing, choking, shortness of breath, difficult or rapid breathing and wheezing.

Immediate Medical Attention and Special Treatment

Target Organs

Eyes, lungs, respiratory system.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Unsuitable Extinguishing Media

Water is not effective for extinguishing a fire. It may not cool product below its flash point.

Specific Hazards Arising from the Product

Flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. May travel a considerable distance to a source of ignition and flash back to a leak or open container.
In a fire, the following hazardous materials may be generated: corrosive, flammable ammonia; very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Fight fire from a safe distance or a protected location. flammable or explosive atmosphere. Dike and recover contaminated water for appropriate disposal.
A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel.

Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Do NOT use combustible materials such as sawdust. Dike spilled product to prevent runoff. Dike and recover contaminated water for appropriate disposal. Store recovered product in suitable containers that are: review Section 13 (Disposal Considerations) of this safety data sheet. Review Section 13 (Disposal Considerations) of this safety data sheet.

Other Information

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

If used in a confined space: prevent skin contact. Do not get in eyes, on skin or on clothing. Only use where there is adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Conditions for Safe Storage

Store in an area that is: cool, well-ventilated, out of direct sunlight and away from heat and ignition sources. Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Methyl Ethyl Ketone		200 ppm	885 mg/m3			
Tetrahydrofuran	50 ppm	100 ppm	590 mg/m3			
Cyclohexanone	20 ppm	50 ppm	100 mg/m3			

Appropriate Engineering Controls

Concentrated product: in a confined space: do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Exhaust directly to the outside, taking any necessary precautions for environmental protection. Provide eyewash in work area, if contact or splash hazard exists. Provide safety shower in work area, if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles.

Skin Protection

Concentrated product: wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Concentrated product: wear a NIOSH approved particulate respirator equipped with an N95, R95, or P95 filter.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless liquid.
Odour	Aromatic
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	< 0 ºC (32 ºF) (melting); Not available (freezing)
Initial Boiling Point/Range	65 ºC (149 ºF)
Flash Point	-5 ºC (23 ºF) (closed cup)
Evaporation Rate	1.8 (n-butyl acetate = 1)
Flammability (solid, gas)	Flammable solid.
Upper/Lower Flammability or Explosive Limit	11.8% (upper); 2.2% (lower)
Vapour Pressure	145 mm Hg at 20 ºC
Vapour Density (air = 1)	> 1
Relative Density (water = 1)	0.9 - 1.0
Solubility	Practically insoluble in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	321 ºC (610 ºF)
Decomposition Temperature	Not available
Viscosity	0.95 - 0.97 centipoises (dynamic)

Other Information

Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Accumulation of static charge. Freezing.

Incompatible Materials

Oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide).

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information presented below is for the entire product, unless otherwise specified.

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Methyl Ethyl Ketone	11700 ppm (male rat) (4-hour exposure) (vapour)	2740 mg/kg (rat)	6480 mg/kg (rabbit)
Tetrahydrofuran	21000 ppm (rat) (4-hour exposure)	1650 mg/kg (rat)	
Cyclohexanone		1534 mg/kg (rat)	948 mg/kg (rabbit)

LC50: Not applicable.

LD50 (oral): Not applicable.

LD50 (dermal): Not applicable.

Skin Corrosion/Irritation

Human experience shows mild irritation. Symptoms include slight redness and swelling.

Serious Eye Damage/Irritation

Human experience shows serious eye irritation. May cause serious eye irritation based on information for closely related materials. Symptoms include sore, red eyes, and tearing. The vapour also irritates the eyes.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

Symptoms may include redness, rash, swelling and itching.

Ingestion

Can cause effects as described for inhalation.

Aspiration Hazard

May be drawn into the lungs (aspirated) if swallowed or vomited. Symptoms may include coughing, choking, shortness of breath, difficult or rapid breathing, and wheezing.

Carcinogenicity

(Tetrahydrofuran) May cause cancer.

Key to Abbreviations

Group 2B = Possibly carcinogenic to humans.

Reproductive Toxicity

Development of Offspring

May harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility. If inhaled: if inhaled and/or swallowed.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not mutagenic.

No information was located for: Skin Corrosion/Irritation, Serious Eye Damage/Irritation, STOT (Specific Target Organ Toxicity) - Repeated Exposure, Respiratory and/or Skin Sensitization, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located. VOC INFORMATION:-……. This product emits VOC's (volatile organic compounds in use. Always ensure that the use of this product complies with local VOC Emission Regulations, where they exist. The VOC level is 550 grams/litre (SCAQMD Test Method 316A).

Ecotoxicity

No information was located.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Methyl Ethyl Ketone	2993 mg/L (Pimephales promelas (fathead minnow); 96-hour)	N/Av	N/Av	N/Av
Tetrahydrofuran	481-578 mg/L (96-hour)			
Cyclohexanone	481-578 mg/L (Pimephales promelas (fathead minnow); 96-hour)			

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Methyl Ethyl Ketone	308 mg/L (21-day)	N/Av	N/Av	N/Av

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

Other Adverse Effects

This product contains volatile organic compounds.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. This product and its

container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water. Do not reuse empty containers. Dispose of or recycle empty containers through an approved waste management facility.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1133	Adhesives	3	II
Canadian TDG	1133	Adhesives	Limited Quantity	

Environmental Hazards: Not applicable

Special Precautions: Please note: Read safety instructions, SDS and emergency procedures before handling.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Other Information: In containers up to 5 litres or 30 kg gross weight per package - this is shipped as LIMITED QUANTITY. If the shipment exceeds 500 kg in weight, this is shipped as LIMITED QUANTITY - ADHESIVES CLASS 3.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

This section is not required by WHMIS.

Canada

WHMIS 1988 Classification

B2 - Flammable Liquid

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

SECTION 16. OTHER INFORMATION

NFPA Rating: Health - 2 Flammability - 3 Instability - 2

SDS Prepared By: Sluyter Company Ltd

Phone No.: 905-475-6011

Date of Preparation: March 13, 2018

Date of Last Revision: September 16, 2019

Revision Indicators: The following SDS content was changed on June 21, 2019:
SECTION 11. TOXICOLOGICAL INFORMATION; Carcinogenicity.

Disclaimer: This Safety Data Sheet was prepared by Sluyter Company Ltd. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. Sluyter Company Ltd. expressly disclaims all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **QUAKER STATE® HP GEAR OIL SAE 80W-90**

Manufacturer/Supplier : **SOPUS Products**
PO BOX 4427
Houston, TX 77210-4427
USA

MSDS Request : 877-276-7285

Emergency Telephone Number

Spill Information : 877-242-7400

Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : May be dyed. Liquid at room temperature. Slight hydrocarbon.

Health Hazards : Not classified as dangerous for supply or conveyance.
Safety Hazards : Not classified as flammable but will burn.
Environmental Hazards : Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards

Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.

Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Eye Contact : May cause slight irritation to eyes.

Ingestion : Low toxicity if swallowed.

Other Information : Used oil may contain harmful impurities.

Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

Aggravated Medical Condition : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

Environmental Hazards : Not classified as dangerous for the environment.

Additional Information : Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous

chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

4. FIRST AID MEASURES

General Information	:	Not expected to be a health hazard when used under normal conditions.
Inhalation	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician	:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	:	Typical 350 °C / 662 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature	:	> 320 °C / 608 °F
Specific Hazards	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay,

sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

Recommended Materials : For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Mist.)		5 mg/m3	
Oil mist, mineral	ACGIH	STEL(Mist.)		10 mg/m3	

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker

		health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	May be dyed. Liquid at room temperature.
Odour	:	Slight hydrocarbon.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	> 280 °C / 536 °F estimated value(s)
Pour point	:	Typical -10 °C / 14 °F
Flash point	:	Typical 350 °C / 662 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	:	> 320 °C / 608 °F
Vapour pressure	:	< 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity	:	Typical 0.885
Density	:	Typical 7.51 g/cm3
Water solubility	:	Negligible.
n-octanol/water partition coefficient (log Pow)	:	> 6 (based on information on similar products)
Kinematic viscosity	:	Typical 400 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	> 1 (estimated value(s))

Evaporation rate (nBuAc=1) : Data not available

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation	:	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Not expected to be a hazard.
Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity	:	Not expected to be a hazard.
Additional Information	:	Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	:	Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility	:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	:	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.
Other Adverse Effects	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed.
TSCA	All components listed.
DSL	All components listed.

SARA Hazard Categories (311/312)
No SARA 311/312 Hazards.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	0, 1, 0
MSDS Version Number	:	2.0
MSDS Effective Date	:	07/09/2008
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name **RESOLVE® (formerly SPRAY'N WASH®) Laundry Stain Remover**

UPC CODES Refer to Section 16

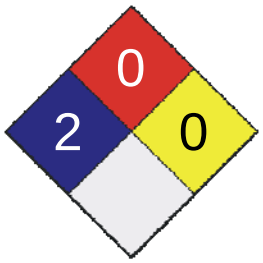
CAS # Mixture

Product Use Stain remover

Distributed by Reckitt Benckiser (Canada) Inc.
1680 Tech Avenue Unit #2
Mississauga, ON L4W 5S9
In Case of Emergency: 1-800-888-0192
Transportation Emergencies: 24 Hour Number:
North America: CHEMTREC: 1-800-424-9300
Outside North America: 1-703-527-3887

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 2
Flammability	0
Physical Hazard	0
Personal Protection	B



2. Hazards Identification

Emergency Overview

CAUTION
EYE AND SKIN IRRITANT.
May be harmful if directly inhaled.
DO NOT get in eyes, on skin or inhale spray.
DO NOT treat garments while wearing.

Keep out of reach of children.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Eye irritant.

Skin Skin irritant.

Inhalation Inhalation toxicity not determined.

Ingestion Not orally toxic.

Target organs Eyes. Respiratory system. Skin.

Chronic effects The finished product is not expected to have chronic health effects.

Signs and symptoms Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
Subtilisin carlsburg	9014-01-1	0 - 0.1
Sodium tetraborate decahydrate	1303-96-4	0.1 - 1
Sodium citrate	6132-04-3	1 - 5
1,2-Propylene glycol	57-55-6	1 - 5
Alcohols, C12-16, ethoxylated	68551-12-2	5 - 10

4. First Aid Measures

First aid procedures

Eye contact	If in eyes, IMMEDIATELY rinse eyes with water. Remove any contact lenses and continue rinsing eyes for at least 15 minutes. If irritation develops, get medical attention.
Skin contact	If on skin, wash with soap and water. If Irritation develops, get medical attention.
Inhalation	If inhaled and irritation or an allergic reaction occurs, get medical attention.
Ingestion	If swallowed, call a Poison Control Centre or doctor immediately. DO NOT induce vomiting.
Notes to physician	Symptoms may be delayed.
General advice	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire-fighting Measures

Flammable properties	Not flammable by WHMIS criteria.
Extinguishing media	
Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighers	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Avoid contact with eyes. Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	CAUTION EYE AND SKIN IRRITANT. DO NOT get in eyes, on skin or inhale spray. DO NOT treat garment while wearing. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Storage	Keep out of reach of children. Store in a closed container away from incompatible materials. Store in a cool dry place inaccessible to children and pets.

8. Exposure Controls / Personal Protection

Exposure limit values

Ingredient(s)	Exposure limit values
1,2-Propylene glycol	**ACGIH-TLV** Not established
Alcohols, C12-16, ethoxylated	**ACGIH-TLV** Not established
Sodium citrate	**ACGIH-TLV** Not established
Sodium tetraborate decahydrate	**ACGIH-TLV** TWA: 2 mg/m3 STEL: 6 mg/m3
Subtilisin carlsburg	**ACGIH-TLV** Ceiling: 0.0001 mg/m3

Engineering controls General ventilation normally adequate.

Personal protective equipment

Eye/Face protection If splashing is likely to occur or for occupational exposures, wear appropriate eye protection.
Emergency responders should wear full eye and face protection.

Hand protection Avoid contact with the skin. Wear rubber gloves if repeated or prolonged contact with skin is possible.
Emergency responders should wear impermeable gloves.

Skin and body protection As required by employer code.
Emergency responders should wear impermeable clothing and footwear when responding to a situation where contact with the liquid is possible.

Respiratory protection Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

9. Physical and Chemical Properties

Appearance	Clear.
Colour	Colourless
Form	Liquid
Odour	Perfume
Odour threshold	Not available
Physical state	Liquid
pH	8.5 - 9.5
Freezing point	Not available
Boiling point	Not available
Pour point	Not available
Evaporation Rate	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability Limits in Air, Upper, % by Volume	Not available
Vapour pressure	Not available
Vapour density	Not available

Specific gravity	1.004 - 1.008
Octanol/water coefficient	Not available
Solubility (H2O)	Complete

10. Stability and Reactivity

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	DO NOT MIX WITH BLEACH or use in conjunction with other household products.
Incompatible materials	Oxidizers. Caustics.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
1,2-Propylene glycol	Not available
Alcohols, C12-16, ethoxylated	Not available
Sodium citrate	Not available
Sodium tetraborate decahydrate	Not available
Subtilisin carlsburg	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
1,2-Propylene glycol	14800 mg/kg rabbit; 20000 mg/kg rat
Alcohols, C12-16, ethoxylated	1380 mg/kg rat
Sodium citrate	Not available
Sodium tetraborate decahydrate	2660 mg/kg rat; 5330 mg/kg guinea pig
Subtilisin carlsburg	Not available

Effects of acute exposure

Eye	Eye irritant.
Skin	Skin irritant.
Inhalation	Inhalation toxicity not determined.
Ingestion	Not orally toxic.
Sensitisation	The finished product is not expected to have chronic health effects.
Chronic effects	The finished product is not expected to have chronic health effects.
Carcinogenicity	The finished product is not expected to have chronic health effects.

ACGIH - Threshold Limit Values - Carcinogens

Sodium tetraborate decahydrate	1303-96-4	A4 - Not Classifiable as a Human Carcinogen

Mutagenicity	The finished product is not expected to have chronic health effects.
Reproductive effects	The finished product is not expected to have chronic health effects.
Teratogenicity	The finished product is not expected to have chronic health effects.
Synergistic Materials	Not available

12. Ecological Information

Ecotoxicity See below

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

1,2-Propylene glycol	57-55-6	96 Hr EC50 Pseudokirchneriella subcapitata: 19000 mg/L

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

1,2-Propylene glycol	57-55-6	96 Hr LC50 Oncorhynchus mykiss: 51600 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 41-47 ml/L [static]; 96 Hr LC50 Pimephales promelas: 51400 mg/L [static]; 96 Hr LC50 Pimephales promelas: 710 mg/L

Ecotoxicity - Water Flea - Acute Toxicity Data

1,2-Propylene glycol	57-55-6	24 Hr EC50 Daphnia magna: >10000 mg/L; 48 Hr EC50 Daphnia magna: >1000 mg/L [Static]

Environmental effects	Not available
Aquatic toxicity	Not available
Persistence and degradability	Not available
Bioaccumulation/accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available
Other adverse effects	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

UN/ID N.o. Not applicable

U.S. Department of Transportation (DOT): Classification: Not regulated

Proper shipping name	Not applicable
U.S. DOT Hazard Class	Not applicable
Subsidiary Risk	Not applicable
Packing group	Not applicable
DOT RQ (lbs)	Not applicable
ERG NO	Not applicable

Transportation of Dangerous Goods (TDG - Canada): Classification: Not regulated

Proper shipping name	Not applicable
Status	Not applicable
Packing group	Not applicable

IMDG (Marine Transport): Classification: Not regulated

Proper shipping name	Not applicable
Class	Not applicable
Subsidiary Risk	Not applicable
Packing group	Not applicable
IMDG Page	Not applicable
Marine pollutant	Not applicable
EMS	Not applicable
MFAG	Not applicable
Maximum Quantity	Not applicable

IATA/ICAO (Air): Classification: Not regulated

Proper shipping name	Not applicable
Class	Not applicable
Subsidiary Risk:	Not applicable
Packing group	Not applicable
Maximum Quantity	Not applicable

15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Product Registration: Product is compliant with CCCR regulatory guidelines; a specific registration is not required for this product.

Canada - WHMIS - Ingredient Disclosure List

1,2-Propylene glycol	57-55-6	1 %
Sodium tetraborate decahydrate	1303-96-4	1 %

WHMIS classification Exempt - Consumer product

Inventory Status

Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Further information	62200-75442 - 650 mL - RESOLVE® (formerly SPRAY'N WASH®) Laundry Stain Remover - Trigger - 0137240 62200-75443 - 946 mL - RESOLVE® (formerly SPRAY'N WASH®) Laundry Stain Remover - Push/Pull - 0137240
Issue date	20-Aug-2010
Effective Date	15-Aug-2010
Expiry Date	15-Aug-2013
Prepared by	Reckitt Benckiser Regulatory Department 800-333-3899
Other Information	For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

Safety Data Sheet

Document Group:	28-0070-4	**Version Number:**	3.02
Issue Date:	08/02/16	**Supercedes Date:**	06/01/16

SECTION 1: Identification

1.1. Product identifier
3M™ Rocker Panel Coating, PN 08889

Product Identification Numbers
60-4550-5312-8

1.2. Recommended use and restrictions on use

Recommended use
Automotive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive Aftermarket
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 2.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 2.
Aspiration Hazard: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes eye irritation.
Causes skin irritation.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.
May cause cancer.

Causes damage to organs:
cardiovascular system |

Causes damage to organs through prolonged or repeated exposure:
nervous system |
respiratory system |
sensory organs |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).
Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
None.

22% of the mixture consists of ingredients of unknown acute oral toxicity.

58% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Toluene	108-88-3	30 - 40 Trade Secret *
Kaolin	1332-58-7	15 - 25 Trade Secret *
Dimethyl Ether	115-10-6	7 - 13 Trade Secret *
Coumarone-Indene Resins	63393-89-5	5 - 10 Trade Secret *
Hydrogenated Styrene-Butadiene Polymer	Trade Secret*	5 - 10 Trade Secret *
Hexane	110-54-3	3 - 8 Trade Secret *
Propane	74-98-6	3 - 7 Trade Secret *
Propyl Propionate	106-36-5	3 - 7 Trade Secret *
3-Methylpentane	96-14-0	< 5 Trade Secret *
Hexane, branched and linear	92112-69-1	1 - 5 Trade Secret *
Methylcyclopentane	96-37-7	< 2 Trade Secret *
Quartz Silica	14808-60-7	0.1 - 1 Trade Secret *
Titanium Dioxide	13463-67-7	0.1 - 1 Trade Secret *
Benzene	71-43-2	< 0.05 Trade Secret *
Ethylbenzene	100-41-4	< 0.05 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
Ethylbenzene	100-41-4	CMRG	TWA:25 ppm;STEL:75 ppm	
Ethylbenzene	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	CMRG	STEL:75 ppm	SKIN
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
Hexane	110-54-3	ACGIH	TWA:50 ppm	SKIN
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Dimethyl Ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	
Dimethyl Ether	115-10-6	CMRG	TWA:1000 ppm	
Kaolin	1332-58-7	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
KAOLIN, TOTAL DUST	1332-58-7	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m3	
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
Benzene	71-43-2	ACGIH	TWA:0.5 ppm;STEL:2.5 ppm	SKIN, A1: Confirmed human carcin.
Benzene	71-43-2	OSHA	TWA:1 ppm;TWA:10 ppm;STEL:5 ppm;CEIL:25 ppm	29 CFR 1910.1028

Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
3-Methylpentane	96-14-0	ACGIH	TWA:500 ppm;STEL:1000 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polyvinyl Alcohol (PVA)
Polymer laminate

Respiratory protection

In case of inadequate ventilation wear respiratory protection. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear liquid
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	110 ºC
Flash Point	4 ºC [*Test Method:* Pensky-Martens Closed Cup]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1.2 %

Flammable Limits(UEL)	7.1 %
Vapor Pressure	*No Data Available*
Vapor Density	*No Data Available*
Density	1.24 g/ml
Specific Gravity	1.24
Solubility- non-water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Hazardous Air Pollutants	1.13 lb HAPS/lb solids [*Test Method:* Calculated]
Volatile Organic Compounds	58.0 % weight [*Test Method:* calculated per CARB title 2]
Volatile Organic Compounds	720 g/l [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	58.1 % weight
VOC Less H2O & Exempt Solvents	6.02 lb/gal [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
May be harmful if inhaled.

Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Prolonged or repeated exposure by ingestion may cause:
Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Peripheral Neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
Benzene	71-43-2	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Benzene	71-43-2	Known human carcinogen	National Toxicology Program Carcinogens
Benzene	71-43-2	Cancer hazard	OSHA Carcinogens
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Quartz Silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE 20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Kaolin	Dermal		LD50 estimated to be > 5,000 mg/kg
Kaolin	Ingestion	Human	LD50 > 15,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg
Dimethyl Ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Coumarone-Indene Resins	Dermal		LD50 estimated to be > 5,000 mg/kg
Coumarone-Indene Resins	Ingestion	Rat	LD50 > 16,000 mg/kg
Hydrogenated Styrene-Butadiene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Hydrogenated Styrene-Butadiene Polymer	Ingestion		LD50 estimated to be > 5,000 mg/kg
Propyl Propionate	Dermal		estimated to be > 5,000 mg/kg
Propyl Propionate	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
Propyl Propionate	Inhalation-Vapor		estimated to be 10 - 20 mg/l
Propyl Propionate	Ingestion		estimated to be > 5,000 mg/kg
3-Methylpentane	Dermal		LD50 estimated to be > 5,000 mg/kg
3-Methylpentane	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
3-Methylpentane	Ingestion		LD50 estimated to be > 5,000 mg/kg
Methylcyclopentane	Dermal		LD50 estimated to be > 5,000 mg/kg
Methylcyclopentane	Ingestion	Rat	LD50 > 5,000 mg/kg
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium Dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Toluene	Rabbit	Irritant
Kaolin	Professional judgement	No significant irritation
Hexane	Human and animal	Mild irritant
Propane	Rabbit	Minimal irritation
3-Methylpentane	Professional judgement	Mild irritant
Methylcyclopentane	similar compounds	Minimal irritation
Titanium Dioxide	Rabbit	No significant irritation
Quartz Silica	Professional judgement	No significant irritation
Ethylbenzene	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Toluene	Rabbit	Moderate irritant
Kaolin	Professional judgement	No significant irritation
Hexane	Rabbit	Mild irritant
Propane	Rabbit	Mild irritant
3-Methylpentane	Professional judgement	Moderate irritant
Methylcyclopentane	similar compounds	Mild irritant
Titanium Dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Toluene	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing
Titanium Dioxide	Human and animal	Not sensitizing
Ethylbenzene	Human	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Toluene	In Vitro	Not mutagenic

Toluene	In vivo	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic
Dimethyl Ether	In Vitro	Not mutagenic
Dimethyl Ether	In vivo	Not mutagenic
Propane	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Kaolin	Inhalation	Multiple animal species	Not carcinogenic
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Dimethyl Ether	Inhalation	Rat	Not carcinogenic
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
Quartz Silica	Inhalation	Human and animal	Carcinogenic
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Toluene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52	28 days

				mg/l	
Dimethyl Ether	Inhalation	Not toxic to development	Rat	NOAEL 40,000 ppm	during organogenesis
Ethylbenzene	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	premating & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours
Dimethyl Ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl Ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
3-Methylpentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
3-Methylpentane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
3-Methylpentane	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	
3-Methylpentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Methylcyclopentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	similar compounds	NOAEL Not available	
Methylcyclopentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for	Human and	NOAEL Not available	

			classification	animal		
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Toluene	Inhalation	auditory system | nervous system | eyes | olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart | liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system | vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	4 weeks
Kaolin	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	occupational exposure
Kaolin	Inhalation	pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for	Mouse	NOAEL 35.2 mg/l	13 weeks

			classification			
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks
Dimethyl Ether	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20,000 ppm	30 weeks
3-Methylpentane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 5.3 mg/l	14 weeks
3-Methylpentane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	8 weeks
3-Methylpentane	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,000 mg/kg	28 days
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair | muscles	All data are negative	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart | immune system | respiratory system	All data are negative	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 680 mg/kg/day	6 months

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Hexane	Aspiration hazard
3-Methylpentane	Aspiration hazard
Methylcyclopentane	Aspiration hazard

Ethylbenzene	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Hexane	110-54-3	Trade Secret 3 - 8
Hexane (Hexane)	110-54-3	3 - 8
Toluene	108-88-3	Trade Secret 30 - 40

15.2. State Regulations
Contact 3M for more information.

California Proposition 65

Ingredient	C.A.S. No.	Classification
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	Carcinogen
Toluene	108-88-3	Developmental Toxin
Titanium Dioxide	13463-67-7	Carcinogen
Benzene	71-43-2	Male reproductive toxin
Benzene	71-43-2	Carcinogen
Benzene	71-43-2	Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
WARNING: This product contains a chemical known to the State of California to cause cancer.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 2

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	28-0070-4	**Version Number:**	3.02
Issue Date:	08/02/16	**Supercedes Date:**	06/01/16

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SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** May 9, 2018 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **S.O.S® Steel Wool Soap Pads**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Cleaning and scrubbing tool for dishware, pots, and pans

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company of Canada Ltd.
150 Biscayne Crescent
Brampton, Ontario L6W 4V3

Phone: 1-905-595-8200

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous under GHS.

Carcinogenicity	Category 1B

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
May cause cancer (inhalation, ingestion).

Appearance Opaque, blue soap mixture impregnated into grey steel wool pads

Physical State Solid

Odour Soapy

Precautionary Statements - Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves, eye protection, and face protection.
Do not breathe dust.

Precautionary Statements - Response
If exposed or concerned: Get medical advice.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)
Not applicable.

Unknown Toxicity
40% of the mixture consists of ingredients of unknown toxicity.

Other information
Toxic to aquatic life.

Interactions with Other Chemicals
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Glycerin	56-81-5	3 - 7	*
Sodium carbonate	497-19-8	1 - 5	*
Cocamide MEA	68140-00-1	1 - 5	*
Sodium alkylbenzenesulfonate	68081-81-2	0.5 - 2	*
Sodium nitrite	7632-00-0	0.5 - 2	*
Titanium dioxide	13463-67-7	< 0.3	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact Rinse skin with plenty of water. If irritation persists, call a doctor.

Inhalation Move to fresh air. If breathing problems develop, call a doctor.

Ingestion Drink a glassful of water. Call a doctor or poison control center.

Protection of First-aiders Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects May cause slight eye irritation. Inhalation of dry soap may irritate nose and throat.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
None known.

Specific Hazards Arising from the Chemical
Not flammable. None known.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further spillage if safe to do so.

Methods for Cleaning Up Containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Store in a dry area.

Incompatible Products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerin 56-81-5	TWA: 10 mg/m^3 mist	TWA: 15 mg/m^3 mist, total particulate TWA: 5 mg/m^3 mist, respirable fraction	-
Titanium dioxide 13463-67-7	TWA: 10 mg/m^3	TWA - 15 mg/m^3 (total dust)	IDLH - 5000 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses.

Skin and Body Protection Wear rubber or neoprene gloves.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Solid		
Appearance	Opaque soap mixture impregnated into steel wool pads	**Odour**	Soapy
Colour	Blue soap - grey steel wool pads	**Odour Threshold**	No information available

Property	**Values**	**Remarks/ Method**
pH	No data available	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Bulk density	No data available	None known
Water Solubility	Soap is soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity
None known.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known.

Incompatible materials
None known.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Inhalation of dry soap may irritate respiratory tract.

Eye Contact May cause temporary eye irritation.

Skin Contact Minor or no effects expected.

Ingestion Ingestion may cause slight irritation to mucous membranes and gastrointestinal tract.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerin 56-81-5	-	>10 g/kg (Rabbit)	>570 mg/m^3 (Rat, 1 h)
Sodium carbonate 497-19-8	4.1 g/kg (Rat)	-	2.3 g/m^3 (Rat, 2 h)
Cocamide MEA 68140-00-1	3.3 g/kg (Rat)	-	-
Sodium nitrite 7632-00-0	85 mg/kg (Rat)	-	>5.5 mg/L (Rat)
Titanium dioxide 13463-67-7	>10g/kg (Rat)	-	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. Inhalation may irritate respiratory tract.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium nitrite 7632-00-0		Group 2A		X
Titanium dioxide 13463-67-7		Group 2B		X

ACGIH: (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP: (National Toxicology Program)
Known - Known Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity Contains a known or suspected carcinogen. May cause adverse effects on the bone marrow and blood-forming system. Sodium nitrite produced stomach tumors in female mice when fed exaggerated doses. Titanium dioxide has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B) by inhalation.

Target Organ Effects Respiratory system, gastrointestinal tract, kidney, blood, cardiovascular system.

Aspiration Hazard Not an aspiration hazard.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic organisms.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
None known.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, provincial, and local regulations.

Contaminated Packaging
Dispose of in accordance with all applicable federal, provincial, and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated.

TDG Not regulated.

ICAO Not regulated.

IATA Not regulated.

IMDG/IMO Not regulated.

15. REGULATORY INFORMATION

Chemical Inventories

TSCA	All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.
DSL/NDSL	All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Canada Regulations

WHMIS Hazard Class
D2A - Very toxic material
D2B - Toxic material

16. OTHER INFORMATION

NFPA	**Health Hazard**	0	**Flammability** 0	**Instability** 0		**Physical and Chemical Hazards**	-
HMIS	**Health Hazard**	1*	**Flammability** 0	**Physical Hazard** 0		**Personal Protection**	-

*.*Indicates a chronic health hazard*

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date May 9, 2018

Revision Note Updated date

Reference 1076761/50567.001

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safe-t-brake

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 01/04/2017 Revision date: 01/04/2017 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixtures

Product name : Safe-t-brake

Product code : 509/510/511/513

1.2. Recommended use and restrictions on use

Recommended use : Air brake antifreeze

1.3. Supplier

Manufacturer

Kleen-Flo Tumbler ind. Ltd.
75 Advance Boulevard
L6T 4N1 Brampton - CANADA
T 905-793-4311

1.4. Emergency telephone number

Emergency number : CANUTEC (613) 996-6666

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Flammable liquids, Category 2	H225
Acute toxicity (oral), Category 3	H301
Acute toxicity (dermal), Category 3	H311
Acute toxicity (inhalation:vapour) Category 3	H331
Serious eye damage/eye irritation, Category 2	H319
Carcinogenicity, Category 2	H351
Reproductive toxicity, Category 1B	H360
Specific target organ/systemic toxicity (single exposure) Category 2	H371
Specific target organ/systemic toxicity (single exposure) Category 3	H336

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :

GHS02 GHS06 GHS07 GHS08

Signal word (GHS-CA) : Danger

Hazard statements (GHS-CA) : H225 - Highly flammable liquid and vapour
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H360 - May damage fertility or the unborn child
H371 - May cause damage to organs

Precautionary statements (GHS-CA) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting equipment
P242 - Use only non-sparking tools
P243 - Take action to prevent static discharges
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P330 - Rinse mouth
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse
P312 - Call a POISON CENTER or doctor if you feel unwell
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P311 - Call a POISON CENTER or doctor

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention
P308+P313 - IF exposed or concerned: Get medical advice/attention
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-CA)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Methyl alcohol	(CAS No) 67-56-1	80-100
Diethanolamine	(CAS No) 111-42-2	0.1-1

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician. If not breathing, give artificial respiration.

First-aid measures after skin contact : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Call a poison center or a doctor if you feel unwell.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after inhalation : Toxic if inhaled. Vapors may cause narcosis with headache, difficulty breathing, lightheadedness, drowsiness, unconsciousness and possibly death.

Symptoms/injuries after skin contact : Toxic in contact with skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Other symptoms are similar to those experienced through inhalation and ingestion.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion : Toxic if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May be fatal or cause blindness if swallowed. Ingestion may cause headache, dizziness, drowsiness, metabolic acidosis, coma, seizures.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : None known.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Highly flammable liquid and vapour. Burns with a colorless invisible flame. In case of fire and/or explosion do not breathe fumes.

Explosion hazard : May form flammable/explosive vapour-air mixture.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Remove all sources of ignition.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Do not breathe dust, fume, gas, mist, spray, vapours. Do not swallow. When using do not eat, drink or smoke. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Handle and open container with care.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Methyl alcohol (67-56-1)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	250 ppm

Diethanolamine (111-42-2)		
USA - ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (inhalable fraction and vapor)

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Wear eye/face protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear

Colour : Colourless

Odour : alcohol odour

Odour threshold : No data available

pH : 7 - 7.5

Relative evaporation rate (butylacetate=1) : No data available

Relative evaporation rate (ether=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : 64.5 °C

Flash point : 11.5 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas)	:	Highly flammable liquid and vapour
Vapour pressure	:	No data available
Vapour pressure at 50 °C	:	No data available
Relative density	:	0.792
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Viscosity, kinematic	:	0.75 cSt @ 20°C
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	:	No dangerous reactions known under normal conditions of use.
Chemical stability	:	Stable under normal conditions. May form flammable/explosive vapour-air mixture.
Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
Conditions to avoid	:	Heat. Sources of ignition. Direct sunlight. Incompatible materials.
Incompatible materials	:	Strong acids. Strong bases. Strong oxidizers. Powdered metals. Alkali metals. Isocyanates.
Hazardous decomposition products	:	May include, and are not limited to: oxides of carbon. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Oral: Toxic if swallowed.
Acute toxicity (dermal)	:	Dermal: Toxic in contact with skin.
Acute toxicity (inhalation)	:	Inhalation:vapour: Toxic if inhaled.

Safe-t-brake	
LD50 oral rat	> 50 but ≤ 300 mg/kg (Calculated acute toxicity estimate)
LD50 dermal rabbit	> 200 but ≤ 1000 mg/kg (Calculated acute toxicity estimate)
LC50 inhalation rat	> 2 but ≤ 10 mg/l/4h (Calculated acute toxicity estimate)

Methyl alcohol (67-56-1)	
LD50 oral rat	6200 mg/kg
LC50 inhalation rat	22500 ppm (Exposure time: 8 h)

Diethanolamine (111-42-2)	
LD50 oral rat	780 mg/kg

Skin corrosion/irritation	:	Not classified. pH: 7 – 7.5
Serious eye damage/irritation	:	Causes serious eye irritation. pH: 7 – 7.5
Respiratory or skin sensitization	:	Not classified.
Germ cell mutagenicity	:	Not classified.
Carcinogenicity	:	Suspected of causing cancer.
Reproductive toxicity	:	May damage fertility or the unborn child.
STOT-single exposure	:	May cause damage to organs. May cause drowsiness or dizziness.
STOT-repeated exposure	:	Not classified.
Aspiration hazard	:	Not classified.

Safe-t-brake	
Viscosity, kinematic (calculated value) (40 °C)	0.75 mm²/s @ 20°C

Other information	:	Likely routes of exposure: ingestion, inhalation, skin and eye.
Symptoms/injuries after inhalation	:	Toxic if inhaled. Vapors may cause narcosis with headache, difficulty breathing, lightheadedness, drowsiness, unconsciousness and possibly death.
Symptoms/injuries after skin contact	:	Toxic in contact with skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Other symptoms are similar to those experienced through inhalation and ingestion.
Symptoms/injuries after eye contact	:	Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/injuries after ingestion	:	Toxic if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May be fatal or cause blindness if swallowed. Ingestion may cause headache, dizziness, drowsiness, metabolic acidosis, coma, seizures.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Methyl alcohol (67-56-1)	
LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Diethanolamine (111-42-2)	
LC50 fish 1	4460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	1200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	55 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 2	2.1 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)

12.2. Persistence and degradability

Safe-t-brake	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Safe-t-brake	
Bioaccumulative potential	Not established.

Methyl alcohol (67-56-1)	
BCF fish 1	< 10
Partition coefficient n-octanol/water	-0.77

Diethanolamine (111-42-2)	
BCF fish 1	(no significant bioconcentration)
Partition coefficient n-octanol/water	-2.18 (at 25 °C)

12.4. Mobility in soil

Methyl alcohol (67-56-1)	
Partition coefficient n-octanol/water	-0.77

Diethanolamine (111-42-2)	
Partition coefficient n-octanol/water	-2.18 (at 25 °C)

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

Classification for stock #510/#511/#513 as below. Stock # 509- Limited Quantity

UN-No. (TDG) : UN1992
Packing group : II
TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
TDG Subsidiary Classes : 6.1
Transport document description : UN1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol Mixture), 3 (6.1), II
Proper Shipping Name (Transportation of Dangerous Goods) : FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol Mixture)
Hazard labels (TDG) :

14.2. Transport information/DOT

No additional information available

14.3. Air and sea transport

No additional information available

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Date of issue	:	01/04/2017
Revision date	:	01/04/2017
Other information	:	None.
Prepared by	:	Kleen-Flo Tumbler Industries Limited

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Safe-t-brake

Fiche de données de sécurité

conformément à la Loi sur les produits dangereux (11 février 2015)

Date d'émission: 01/04/2017 Date de révision: 01/04/2017 Version: 1.0

SECTION 1: Identification

1.1. Identificateur de produit

Forme du produit : Mélanges

Nom du produit : Safe-t-brake

Code du produit : 509/510/511/513

1.2. Usage recommandé et restrictions d'utilisation

Utilisation recommandée : Antigel pour freins à air

1.3. Fournisseur

Fabricant

Les Entreprises Kleen-Flo Tumbler Limitée
75 Advance Boulevard
L6T 4N1 Brampton - CANADA
T 905-793-4311

1.4. Numéro d'appel d'urgence

Numéro d'urgence : CANUTEC (613) 996-6666

SECTION 2: Identification des dangers

2.1. Classification de la substance ou du mélange

Classification (GHS-CA)

Liquides inflammables, Catégorie 2	H225
Toxicité aiguë (par voie orale), Catégorie 3	H301
Toxicité aiguë (par voie cutanée), Catégorie 3	H311
Toxicité aiguë (inhalation:vapeur) Catégorie 3	H331
Lésions oculaires graves/irritation oculaire, Catégorie 2	H319
Cancérogénicité, Catégorie 2	H351
Toxicité pour la reproduction, Catégorie 1B	H360
Toxicité pour les organes cibles/systémique (exposition unique) catégorie 2	H371
Toxicité pour les organes cibles/systémique (exposition unique) catégorie 3	H336

2.2. Éléments d'étiquetage SGH, y compris conseils de prudence

Étiquetage GHS-CA

Pictogrammes de danger (GHS-CA) :

GHS02 GHS06 GHS07 GHS08

Mention d'avertissement (GHS-CA) : Danger

Mentions de danger (GHS-CA) : H225 - Liquide et vapeurs très inflammables
H301+H311+H331 - Toxique par ingestion, par contact cutané ou par inhalation
H319 - Provoque une sévère irritation des yeux
H336 - Peut provoquer somnolence ou vertiges
H351 - Susceptible de provoquer le cancer
H360 - Peut nuire à la fertilité ou au fœtus
H371 - Risque présumé d'effets graves pour les organes

Conseils de prudence (GHS-CA) : P201 - Se procurer les instructions avant utilisation
P202 - Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité
P210 - Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer
P233 - Maintenir le récipient fermé de manière étanche
P240 - Mise à la terre/liaison équipotentielle du récipient et du matériel de réception
P241 - Utiliser du matériel électrique/de ventilation/d'éclairage/ antidéflagrant
P242 - Ne pas utiliser d'outils produisant des étincelles
P243 - Prenez des précautions pour prévenir les décharges statiques
P260 - Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols
P264 - Se laver les mains, les avant-bras et le visage soigneusement après manipulation
P270 - Ne pas manger, boire ou fumer en manipulant ce produit
P271 - Utiliser seulement en plein air ou dans un endroit bien ventilé
P280 - Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/un équipement de protection du visage
P301+P310 - EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON ou un médecin
P330 - Rincer la bouche
P303+P361+P353 - EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Retirer immédiatement les vêtements contaminés. Rincer la peau à l'eau
P361+P364 - Enlever immédiatement tous les vêtements contaminés et les laver avant

réutilisation
P312 - Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise
P304+P340 - EN CAS D'INHALATION: transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respire
P311 - Appeler un CENTRE ANTIPOISON ou médecin
P305+P351+P338 - EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer
P337+P313 - Si l'irritation oculaire persiste: consulter un médecin
P308+P313 - EN CAS d'exposition prouvée ou suspectée: consulter un médecin
P403+P235 - Stocker dans un endroit bien ventilé. Conserver au frais
P405 - Garder sous clef
P501 - Éliminer le contenu/récipient dans un centre de collecte de déchets dangereux ou spéciaux, conformément à la réglementation locale, régionale, nationale et/ou internationale

2.3. Autres dangers
Pas d'informations complémentaires disponibles

2.4. Toxicité aiguë inconnue (GHS-CA)
Non applicable

SECTION 3: Composition/information sur les ingrédients

3.1. Substances
Non applicable

3.2. Mélanges

Nom	Identificateur de produit	%
Méthanol	(n° CAS) 67-56-1	80-100
Diéthanolamine	(n° CAS) 111-42-2	0.1-1

SECTION 4: Premiers soins

4.1. Description des premiers secours

Premiers soins après inhalation : EN CAS D'INHALATION: s'il y a difficulté à respirer, transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Appeler un CENTRE ANTIPOISON ou un médecin. En cas d'arrêt de la respiration, pratiquer la respiration artificielle.

Premiers soins après contact avec la peau : EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher. Laver les vêtements contaminés avant réutilisation. Appeler un centre antipoison ou un médecin en cas de malaise.

Premiers soins après contact oculaire : EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si l'irritation oculaire persiste: consulter un médecin.

Premiers soins après ingestion : EN CAS D'INGESTION: Rincer la bouche. Ne jamais administrer quelque chose par la bouche à une personne inconsciente. Ne pas faire vomir sans l'avis d'un médecin. Appeler immédiatement un CENTRE ANTIPOISON ou un médecin.

4.2. Symptômes et effets les plus importants, aigus ou retardés

Symptômes/lésions après inhalation : Toxique par inhalation. Des vapeurs peuvent causer des narcoses, des maux de tête, une respiration difficile, des étourdissements, de la somnolence, une perte de conscience et même la mort.

Symptômes/lésions après contact avec la peau : Toxique par contact cutané. Les symptômes peuvent inclure des rougeurs, des œdèmes, une délipidation, des dessèchements et une gerçure de la peau. Les autres symptômes sont similaires à ceux qui apparaissent dans les cas d'inhalation et d'ingestion.

Symptômes/lésions après contact oculaire : Provoque une sévère irritation des yeux. Les symptômes peuvent inclure un inconfort ou des douleurs, un clignement excessif des paupières et une production excessive de larmes, avec une rougeur prononcée et un gonflement de la conjonctive.

Symptômes/lésions après ingestion : Toxique en cas d'ingestion. Peut provoquer une irritation de l'appareil digestif, des nausées, des vomissements et des diarrhées. Peut être mortel ou causer la cécité si avalé. L'ingestion peut causer des maux de tête, des vertiges, de la somnolence, une acidose métabolique, un coma, ou des crises convulsives.

4.3. Nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire

Autre avis médical ou traitement : Des symptômes peuvent apparaître ultérieurement. En cas d'accident ou de malaise, consulter immédiatement un médecin (si possible lui montrer l'étiquette).

SECTION 5: Mesures à prendre en cas d'incendie

5.1. Agents extincteurs appropriés

Moyens d'extinction appropriés : Utiliser les moyens adéquats pour combattre les incendies avoisinants.

5.2. Agents extincteurs inappropriés

Agents d'extinction non appropriés : Aucun connu.

5.3. Dangers spécifiques du produit dangereux

Danger d'incendie : Les produits de combustion peuvent inclure, sans s'y limiter : oxydes de carbone. Liquide et vapeurs très inflammables. Brûle avec une flamme incolore et invisible. En cas d'incendie et/ou d'explosion, ne Brûle avec une flamme incolore et invisible. En cas d'incendie et/ou d'explosion, ne pas respirer les fumées.

Danger d'explosion : Peut former des mélanges vapeur-air inflammables/explosifs.

5.4. Équipements de protection spéciaux et précautions spéciales pour les pompiers

Protection en cas d'incendie : Rester en amont du vent par rapport à l'incendie. Porter un habit pare feu complet incluant un équipement de respiration (SCBA).

SECTION 6: Mesures à prendre en cas de déversement accidentel

6.1. Précautions individuelles, équipement de protection et procédures d'urgence

Mesures générales : Porter les vêtements protecteurs recommandés dans la section 8. Isoler la zone de danger et interdire l'accès au personnel non protégé et non autorisé. Prendre des précautions spéciales pour éviter des charges d'électricité statique. Tenir à l'écart de toute source d'ignition.

6.2. Méthodes et matériaux pour le confinement et le nettoyage

Pour la rétention : Contenir et/ou absorber le déversement avec une substance inerte (par ex. du sable ou de la vermiculite) puis placer ensuite dans un conteneur adapté. . Ne pas déverser dans des eaux de surface ou dans les égouts. Porter l'équipement de protection individuelle recommandé.

Procédés de nettoyage : Balayer ou pelleter le produit déversé et le mettre dans un récipient approprié pour élimination. Ventiler la zone.

6.3. Référence aux autres sections

Pour plus d'informations, se reporter à la section 8 : "Contrôle de l'exposition-protection individuelle"

SECTION 7: Manutention et stockage

7.1. Précautions à prendre pour une manipulation sans danger

Précautions à prendre pour une manipulation sans danger : Utiliser seulement en plein air ou dans un endroit bien ventilé. Ne pas respirer les poussières, fumées, gaz, brouillards, aérosols, vapeurs. Ne pas avaler. Ne pas manger, ne pas boire et ne pas fumer pendant l'utilisation. Conserver à l'écart de toute source d'ignition - Ne pas fumer. Prendre des mesures de précaution contre les décharges électrostatiques. Ne pas utiliser d'outils produisant des étincelles. Manipuler et ouvrir le récipient avec prudence.

Mesures d'hygiène : Laver les vêtements contaminés avant réutilisation. Se laver les mains après toute manipulation.

Dangers supplémentaires lors du traitement : Manipuler les conteneurs vides avec précaution, les vapeurs résiduelles étant inflammables.

7.2. Conditions nécessaires pour assurer la sécurité du stockage, tenant compte d'éventuelles incompatibilités

Mesures techniques : Suivre des procédures de mise à la terre appropriées pour éviter l'électricité statique.

Conditions de stockage : Conserver hors de la portée des enfants. Conserver le récipient bien fermé et dans un endroit bien ventilé. Garder sous clef.

SECTION 8: Contrôle de l'exposition/protection individuelle

8.1. Paramètres de contrôle

Méthanol (67-56-1)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	250 ppm

Diéthanolamine (111-42-2)		
USA - ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (inhalable fraction and vapor)

8.2. Contrôles techniques appropriés

Contrôles techniques appropriés : Assurer une bonne ventilation du poste de travail.

Contrôle de l'exposition de l'environnement : Éviter le rejet dans l'environnement.

8.3. Mesures de protection individuelle/équipements de protection individuelle

Protection des mains:

Porter des gants appropriés résistant aux produits chimiques

Protection oculaire:

Porter un appareil de protection des yeux/du visage

Protection de la peau et du corps:

Porter un vêtement de protection approprié

Protection des voies respiratoires:

En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Le choix de l'appareil de protection respiratoire doit être fondé sur les niveaux d'expositions prévus ou connus, les dangers du produit et les limites d'utilisation sans danger de l'appareil de protection respiratoire retenu.

Autres informations:

Produit à manipuler en suivant une bonne hygiène industrielle et des procédures de sécurité. Ne pas manger, boire ou fumer en manipulant ce produit.

SECTION 9: Propriétés physiques et chimiques

9.1. Informations sur les propriétés physiques et chimiques essentielles

État physique	:	Liquide
Apparence	:	limpide
Couleur	:	Incolore
Odeur	:	odeur d'alcool
Seuil olfactif	:	Aucune donnée disponible
pH	:	7 - 7,5
Vitesse d'évaporation relative (acétate de butyle=1)	:	Aucune donnée disponible
Vitesse d'évaporation relative (éther=1)	:	Aucune donnée disponible
Point de fusion	:	Aucune donnée disponible
Point de congélation	:	Aucune donnée disponible
Point d'ébullition	:	64,5 °C
Point d'éclair	:	11,5 °C
Température d'auto-inflammation	:	Aucune donnée disponible
Température de décomposition	:	Aucune donnée disponible
Inflammabilité (solide, gaz)	:	Liquide et vapeurs très inflammables
Pression de la vapeur	:	Aucune donnée disponible
Pression de vapeur à 50 °C	:	Aucune donnée disponible
Densité relative	:	0,792
Solubilité	:	Aucune donnée disponible
Coefficient de partage n-octanol/eau	:	Aucune donnée disponible
Viscosité, cinématique	:	0,75 cSt @20C
Limites d'explosivité	:	Aucune donnée disponible

9.2. Autres informations

Pas d'informations complémentaires disponibles

SECTION 10: Stabilité et réactivité

10.1. Réactivité

Réactivité	:	Pas de réaction dangereuse connue dans les conditions normales d'emploi.
Stabilité chimique	:	Stable dans les conditions normales. Peut former des mélanges vapeur-air inflammables/explosifs.
Possibilité de réactions dangereuses	:	Pas de réaction dangereuse connue dans les conditions normales d'emploi.
Conditions à éviter	:	Chaleur. Sources d'inflammation. Rayons directs du soleil. Matières incompatibles.
Matières incompatibles	:	Acides forts. Bases fortes. Oxydants forts. Métaux en poudre. Métaux alcalins. Isocyanates.
Produits de décomposition dangereux	:	Peut inclure, sans s'y limiter : oxydes de carbone. Peut libérer des gaz inflammables.

SECTION 11: Données toxicologiques

11.1. Informations sur les effets toxicologiques

Toxicité Aiguë (voie orale)	:	Oral: Toxique en cas d'ingestion.
Toxicité Aiguë (voie cutanée)	:	Cutané: Toxique par contact cutané.
Toxicité aigüe (inhalation)	:	Inhalation:vapeur: Toxique par inhalation.

Safe-t-brake	
DL50 orale rat	> 50 but ≤ 300 mg/kg (Estimation de la toxicité aiguë calculée)
DL50 cutanée lapin	> 200 but ≤ 1000 mg/kg (Estimation de la toxicité aiguë calculée)
CL50 inhalation rat	> 2 but ≤ 10 mg/l/4h (Estimation de la toxicité aiguë calculée)

Méthanol (67-56-1)	
DL50 orale rat	6200 mg/kg
CL50 inhalation rat	22500 ppm (Exposure time: 8 h)

Diéthanolamine (111-42-2)	
DL50 orale rat	780 mg/kg

Corrosion cutanée/irritation cutanée	:	Non classé pH: 7 - 7,5
Lésions oculaires graves/irritation oculaire	:	Provoque une sévère irritation des yeux. pH: 7 - 7,5
Sensibilisation respiratoire ou cutanée	:	Non classé
Mutagénicité sur les cellules germinales	:	Non classé
Cancérogénicité	:	Susceptible de provoquer le cancer.

Toxicité pour la reproduction : Peut nuire à la fertilité ou au fœtus.
Toxicité spécifique pour certains organes cibles (exposition unique) : Risque présumé d'effets graves pour les organes. Peut provoquer somnolence ou vertiges.
Toxicité spécifique pour certains organes cibles (exposition répétée) : Non classé
Danger par aspiration : Non classé

Safe-t-brake	
Viscosité, cinématique (valeur calculée) (40 °C)	0,75 mm²/s @20C

Autres informations : Voies d'exposition possibles : ingestion, inhalation, peau et yeux.
Symptômes/lésions après inhalation : Toxique par inhalation. Des vapeurs peuvent causer des narcoses, des maux de tête, une respiration difficile, des étourdissements, de la somnolence, une perte de conscience et même la mort.
Symptômes/lésions après contact avec la peau : Toxique par contact cutané. Les symptômes peuvent inclure des rougeurs, des œdèmes, une délipidation, des dessèchements et une gerçure de la peau. Les autres symptômes sont similaires à ceux qui apparaissent dans les cas d'inhalation et d'ingestion.
Symptômes/lésions après contact oculaire : Provoque une sévère irritation des yeux. Les symptômes peuvent inclure un inconfort ou des douleurs, un clignement excessif des paupières et une production excessive de larmes, avec une rougeur prononcée et un gonflement de la conjonctive.
Symptômes/lésions après ingestion : Toxique en cas d'ingestion. Peut provoquer une irritation de l'appareil digestif, des nausées, des vomissements et des diarrhées. Peut être mortel ou causer la cécité si avalé. L'ingestion peut causer des maux de tête, des vertiges, de la somnolence, une acidose métabolique, un coma, ou des crises convulsives.

SECTION 12: Données écologiques

12.1. Toxicité

Écologie - général : Peut entraîner des effets néfastes à long terme pour l'environnement aquatique.

Méthanol (67-56-1)	
CL50 poisson 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
CL50 poissons 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Diéthanolamine (111-42-2)	
CL50 poisson 1	4460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
CL50 poissons 2	1200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
CE50 Daphnie 1	55 mg/l (Exposure time: 48 h - Species: Daphnia magna)
CE50 autres organismes aquatiques 2	2,1 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)

12.2. Persistance et dégradabilité

Safe-t-brake	
Persistance et dégradabilité	Non établi.

12.3. Potentiel de bioaccumulation

Safe-t-brake	
Potentiel de bioaccumulation	Non établi.

Méthanol (67-56-1)	
BCF poissons 1	< 10
Coefficient de partage n-octanol/eau	-0,77

Diéthanolamine (111-42-2)	
BCF poissons 1	(no significant bioconcentration)
Coefficient de partage n-octanol/eau	-2,18 (at 25 °C)

12.4. Mobilité dans le sol

Méthanol (67-56-1)	
Coefficient de partage n-octanol/eau	-0,77

Diéthanolamine (111-42-2)	
Coefficient de partage n-octanol/eau	-2,18 (at 25 °C)

12.5. Autres effets néfastes

Autres informations : Aucun autre effet connu.

SECTION 13: Données sur l'élimination

13.1. Méthodes d'élimination

Recommandations relatives à l'élimination du produit ou de l'emballage : Éliminer le contenu/récipient dans un centre de collecte de déchets dangereux ou spéciaux, conformément à la réglementation locale, régionale, nationale et/ou internationale.
Indications complémentaires : Manipuler les conteneurs vides avec précaution, les vapeurs résiduelles étant inflammables.

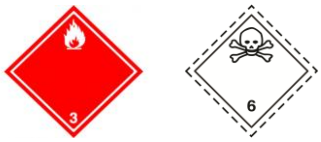
SECTION 14: Informations relatives au transport

14.1. Description sommaire pour l'expédition

Conformément aux exigences de TMD

Transport des marchandises dangereuses (TMD)

Stock # 510/511/513 Stock # 509: quantité limitée

N° ONU (TDG)	:	UN1992
Groupe d'emballage	:	II
TMD Classe Primaire de Danger	:	3 - Classe 3 - Liquides inflammables
TMD Classes Subsidiaires	:	6.1
Description document de transport	:	UN1992 LIQUIDE INFLAMMABLE, TOXIQUE, N.S.A. (Mélange de méthanol), 3 (6.1), II
Désignation officielle pour le transport (Transport des marchandises dangereuses (TMD))	:	LIQUIDE INFLAMMABLE, TOXIQUE, N.S.A. (Mélange de méthanoll)
Etiquettes de danger (TMD)	:	

14.2. Informations relatives au transport/DOT (Ministère des transports des États-Unis)

Pas d'informations complémentaires disponibles

14.3. Transport aérien et maritime

Pas d'informations complémentaires disponibles

SECTION 15: Informations sur la réglementation

15.1. Directives nationales

Tous les composants de ce produit figurent aux inventaires canadiens LIS (Liste intérieure des substances) et LES (Liste extérieure des substances) (ou en sont exclus).

15.2. Réglementations internationales

Pas d'informations complémentaires disponibles

SECTION 16: Autres informations

Date d'émission	:	01/04/2017
Date de révision	:	01/04/2017
Autres informations	:	Aucun(e).
Préparé par	:	Les Entreprises Kleen-Flo Tumbler Limitée

Clause de non-responsabilité : nous croyons que les affirmations, les informations techniques et les recommandations contenues dans la présente sont véridiques, mais elles sont données sans garantie d'aucune sorte. Les informations contenues dans ce document s'appliquent à cette substance spécifique comme fournie. Elles peuvent ne pas être valables pour cette substance si elle est utilisée en combinaison avec toute autre substance. Il est de la responsabilité de l'utilisateur de s'assurer de la pertinence et de l'intégralité de cette information quant à l'usage particulier qu'il en fera.

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER	SafeTSorb
CHEMICAL NAME	Montmorillonite Clay, Calcined
CHEMICAL FAMILY	Clay
MATERIAL USE	Oil Absorbent
RESTRICTION ON USE	None Known
MANUFACTURER	EP Minerals, LLC., 9875 Gateway Dr., Reno, NV 89521
TELEPHONE NO.	(775) 824 7600 (Monday – Friday 8:00 am PST – 5:00 pm PST)
EMERGENCY TELEPHONE NO.	(775) 824 7600 (Monday – Friday 8:00 am PST – 5:00 pm PST)
SDS DATE OF PREPARATION	January 28, 2014

SECTION 2: HAZARDS IDENTIFICATION

OSHA GHS HAZARD CLASSIFICATION	Carcinogen Category 1A Specific Target Organ Toxicity, Repeated Exposure Category 1
HAZARDS NOT OTHERWISE CLASSIFIED	None
LABEL ELEMENTS	DANGER May cause cancer by inhalation. Causes damage to lungs through prolonged or repeated exposure. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wear eye protection. If exposed or concerned: Get medical advice. Dispose of contents in accordance with local, state and federal regulations. 

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT IDENTIFICATION	APPROXIMATE CONCENTRATION (%)	C.A.S. NUMBERS
Montmorillonite Clay, Calcined (contains 10-15% Crystalline Silica - Quartz)	100%	70892-59-0 14808-60-7

SECTION 4: FIRST AID MEASURES

EYE	Flush eyes with generous quantities of water or eye rinse solution. Consult physician if irritation persists.
SKIN	Use moisture renewing lotions if dryness occurs.
INGESTION	Drink generous amounts of water to reduce bulk and drying effects.
INHALATION	Remove to fresh air. Blow nose to evacuate dust.
Most important symptoms/effects, acute and delayed	Dust may cause abrasive irritation to eyes. Prolonged skin contact may cause dryness. Dust may cause nose, throat and upper respiratory tract irritation. Prolonged inhalation of respirable dust containing silica may cause a progressive lung disease, silicosis and lung cancer. See Section 11 for additional information.
Indication of immediate medical attention and special treatment, if necessary	Immediate medical attention is not normally required. If dust irritates the eyes, seek medical attention.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA	Not applicable, the material is not combustible.
SPECIFIC HAZARDS ARISING FROM THE CHEMICAL	Not applicable, the material is not combustible.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS	Not applicable, the material is not combustible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS	If dust is present, use respirator fitted with particulate filter as specified in Section 8. Protect eyes with goggles. Do not breathe dust.
ENVIRONMENTAL PRECAUTIONS	This material is not a significant environmental concern.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	Vacuum clean spillage or wet sweep. Avoid creating airborne dust. Place in a container for use or disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	Minimize dust generation. Avoid contact with eyes. Do not breathe dust. Repair or dispose of broken bags. Observe all label precautions and warnings. Flammable or hazardous substances may retain such characteristics after absorption. Care should be taken to store and dispose of waste material in accordance with instructions of manufacturer of substance absorbed and applicable laws. Do not use with hydrofluoric acid or concentrated caustic solutions.
CONDITIONS FOR SAFE STORAGE	Store in a dry place to maintain packaging integrity and product quality. Store product separately from feed, food, pesticides and fertilizers so that cross contaminations does not occur. Do not store near hydrofluoric acid or concentrated caustic solutions.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Component	OSHA PEL	ACGIH TLV	MSHA PEL	NIOSH REL
Montmorillonite Clay, Calcined (as Particulates not otherwise classified)	5 mg/m^3 respirable dust 15 mg/m^3 total dust	None Established	5 mg/m^3 respirable dust 15 mg/m^3 total dust	None Established
Crystalline Silica (Quartz)	$\frac{30 \text{ mg/m}^3}{\% SiO_2+2}$ total dust $\frac{10 \text{ mg/m}^3}{\% SiO_2+2}$ Respirable dust	0.025 mg/ m^3 Respirable dust	$\frac{30 \text{ mg/m}^3}{\% SiO_2+2}$ total dust $\frac{10 \text{ mg/m}^3}{\% SiO_2+2}$ Respirable dust	0.05 mg/ m^3 Respirable dust

ENGINEERING CONTROLS	Use general or local exhaust ventilation to control dust within recommended exposure limits. Refer to ACGIH publication “Industrial Ventilation” or similar publications for design of ventilation systems.
PERSONAL PROTECTIVE EQUIPMENT:	
EYE / FACE PROTECTION	Goggles to protect from dust
SKIN PROTECTION	No special equipment is needed.
RESPIRATORY PROTECTION	Respirators fitted with filters certified to standard 42CFR84 under series N95 should be worn when dust is present. If the dust concentration is less than ten (10) times the Permissible Exposure Limit (PEL) use a quarter or half-mask respirator with a N95 dust filter or a single use dust mask rated N95. If dust concentration is greater than ten (10) times and less than fifty (50) times the PEL, a full-face piece respirator fitted with replaceable N95 filters is recommended. If dust concentration is greater than fifty (50) and less than two hundred (200) times the PEL use a power air-purifying (positive pressure) respirator with a replaceable N95 filter. If dust concentration is greater than two hundred (200) times the PEL use a type C, supplied air respirator (continuous flow, positive pressure), with full face piece, hood or helmet.
GENERAL HYGIENE	Avoid breathing dust. Avoid contact with eyes. Wash hands after handling and before eating or drinking.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE, COLOR	Tan to gray	**ODOR**	Odorless
PHYSICAL STATE	Solid	**ODOR THRESHOLD**	Not applicable
VAPOR PRESSURE	Not applicable	**VAPOR DENSITY**	Not applicable
BOILING POINT	Not applicable	**MELTING POINT**	Unknown
FLASH POINT	Not applicable	**pH (10% SUSPENSION)**	Unknown
FLAMMABILITY LIMITS	Not applicable	**EVAPORATION RATE**	Not applicable
DECOMPOSITION TEMPERATURE	Unknown	**SPEC. GRAVITY / RELATIVE DENSITY**	2.2
AUTOIGNITION TEMPERATURE	Not applicable	**PARTITION COEFFICIENT – n-OCTANOL/WATER**	Not applicable
FLAMMABILITY (solid/gas)	Not applicable	**SOLUBILITY – WATER**	< 1.0%
		VISCOSITY	Not applicable

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY	Material is not reactive.
CHEMICAL STABILITY	Material is stable.
POSSIBILITY OF HAZARDOUS REACTIONS	Material is not reactive under normal conditions of handling unless mixed with incompatible substances below.
CONDITIONS TO AVOID	Not applicable
INCOMPATIBLE MATERIALS	Unsaturated organic compounds, such as turpentine and vegetable oil, hydrofluoric acid and concentrated caustic solutions may react violently with the product.
HAZARDOUS DECOMPOSITION PRODUCTS	Not applicable

SECTION 11: TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS	
Likely Routes of Exposure	See below
EYE	May cause irritation (tear formation and redness) if dust gets in eyes.
SKIN	Not absorbed by the skin, but may cause dryness if prolonged exposure.
INGESTION	Ingestion of small quantities is not considered harmful, but may cause irritation of the mouth, throat and stomach.
INHALATION	Acute inhalation can cause dryness of the nasal passage and lung congestion, coughing and general throat irritation. Acute inhalation of high concentrations of respirable crystalline silica may cause acute silicosis.
CHRONIC EFFECTS	This product contains naturally occurring crystalline silica. Respirable crystalline silica may cause lung cancer and lung disease (silicosis) if inhaled for prolonged periods. Symptoms of silicosis include wheezing, cough and shortness of breath.
CARCINOGENICITY	This natural product is composed predominantly of clay, but contains some crystalline silica. Respirable crystalline silica (quartz) is classified by IARC and NTP as a known human carcinogen. Crystalline silica is only known to cause cancer when inhaled in a respirable form. It is not known to cause cancer by any other route of exposure.
NTP	Respirable crystalline silica (quartz) is classified as a known human carcinogen.
IARC	Respirable crystalline silica (quartz) is classified as a known human carcinogen.
NUMERICAL MEASURES OF TOXICITY	No data available

CORROSIVENESS, SENSITIZATION, IRRITANCY	Not applicable
REPRODUCTIVE TOXICITY	Not available
TERATOGENICITY, MUTAGENICITY	Not available

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	No toxicity is expected
PERSISTENCE AND DEGRADABILITY	Non-biodegradable, inert.
BIOACCUMULATIVE POTENTIAL	Little potential for bioaccumulation
MOBILITY IN SOIL	No mobility
OTHER ADVERSE EFFECTS	None known

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL	If this material as supplied becomes a waste, use solid waste disposal common to landfill type operations or in slurry to sumps. Not considered a hazardous waste under RCRA (4OCFR Part 261).
PACKAGING DISPOSAL	Dispose of in accordance with applicable laws and regulations, typically solid waste disposal common to landfill type operations.

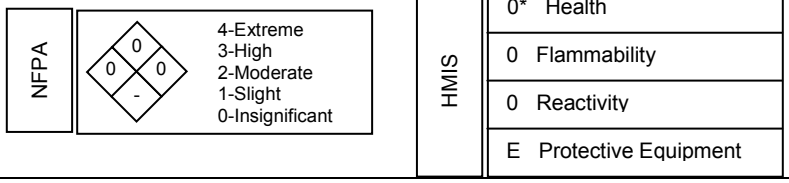
SECTION 14: TRANSPORT INFORMATION

BASIC SHIPPING INFORMATION	DOT shipping classification 55 (no restrictions). Technical name is “Calcined Clay”.
ADDITIONAL INFORMATION	No special requirements or placarding necessary.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL:	
TSCA	Montmorillonite and Quartz appear on the EPA TSCA inventory list.
CERCLA	Montmorillonite is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR 302.
SARA TITLE III	Not listed.
California Proposition 65:	This product contains crystalline silica, a chemical known to the State of California to cause cancer.
INTERNATIONAL:	
WHMIS Classification	Class D-2-A
WHMIS Ingredient Disclosure List	Silica, crystalline, quartz

SECTION 16: OTHER INFORMATION



ORIGINAL ISSUE DATE	January 14, 2014
REVISION DATE	October 28, 2014
REVISION NO.	2

Disclaimer: As of the date of the preparation of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable federal and state laws. No warranty, representation or guaranty of any kind, express or implied, is hereby provided or intended with respect to the completeness of the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by the purchase, resale, use or exposure to our product. Customer users of silica must comply with all applicable health and safety laws, regulations and orders, including OSHA Hazardous Communication Standard.

GH INTERNATIONAL SEALANTS ULC
2540 RENA ROAD
MISSISSAUGA, ONTARIO, L4T 3C9
CANADA
1-905-677-5522

PRODUCT: SHUR-STIK 66, VINYL TO VINYL BORDER AND SEAM ADHESIVE **CODE: 8766**

SECTION 01: IDENTIFICATION

Supplier identifier	GH INTERNATIONAL SEALANTS ULC 2540 Rena Road Mississauga, ON. L4T 3C9 1-905-677-5522
Product identifier	SHUR-STIK 66, VINYL TO VINYL BORDER AND SEAM ADHESIVE
Product code	8766
Product use	Wall covering adhesive.
Emergency telephone number	CANUTEC 24-hour number (613-996-6666). CHEMTREC 1-800-424-9300.

SECTION 02: HAZARD IDENTIFICATION

Hazard classification	Carcinogenicity — Category 2. Reproductive Toxicity — Category 2. Specific Target Organ Toxicity — Repeated Exposure — Category 2 (liver, kidney, blood).
Signal word	WARNING.
Hazard statement	H351 Suspected of causing cancer. H361 Suspected of damaging fertility or the unborn child. H373 May cause damage to organs (liver, kidney, blood) through prolonged or repeated exposure.
Precautionary statements	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P280 Wear protective gloves/protective clothing/eye protection/face protection. P260 Do not breathe mist/vapours/spray. P308+P313 IF exposed or concerned: Get medical advice/attention. P405 Store locked up. P501 Dispose of contents/container to an approved waste disposal plant.
Other hazards	None.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Ethylene glycol	107-21-1	3-3.5
2-Butoxyethanol	111-76-2	2.5-2.8
Vinyl acetate	108-05-4	0.1-0.8
Non-hazadous and other ingredients below reportable level	not available	>92

SECTION 04: FIRST-AID MEASURES

Routes of exposure

Inhalation	Remove to fresh air. If irritation persists, consult a physician.
Ingestion	Rinse mouth and then drink plenty of water. Do not induce vomiting. Seek medical attention if necessary. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists. Take off contaminated clothing and wash before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Medical attention and special treatment	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 05: FIRE-FIGHTING MEASURES

Extinguishing media	Not flammable. Use an extinguishing agent suitable for the surrounding fire. Use water spray or fog, foam, carbon dioxide or dry chemical. Do not use water jet as an extinguisher, as this will spread the fire.
Hazardous combustion products	Harmful vapours. Carbon monoxide, carbon dioxide, hydrocarbons.
Special protective equipment and precautions	Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.
Sensitivity to static discharge	Product is not sensitive to static discharge.
Sensitivity to mechanical impact	Product is not sensitive to mechanical impact.
Further information	During fire, gases hazardous to health may be formed. Cool closed containers exposed to fire with water spray.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protective clothing. Ventilate area if indoor.
Environmental precautions	Do not discharge into drains/surface waters/groundwater.
Methods and materials for containment and cleaning up	Absorb in vermiculite, dry sand or earth and place into container. Contaminated absorbent material may pose the same hazards as the spilled product . Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. Dispose of absorbed material in accordance with regulations.

SECTION 07: HANDLING AND STORAGE

Handling precautions	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact during pregnancy/while nursing. Wear appropriate personal protective equipment. Do not get in eyes, on skin or on clothing. Avoid inhalation of mists/vapours/fumes. Wash thoroughly after handling. Keep container tightly closed .
Storage needs	Keep containers tightly closed when not in use. Keep containers from excessive heat and freezing.
Materials to avoid	Keep away from oxidizing agents.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Ethylene glycol	50 ppm	not available	50 ppm	not available	not available
2-Butoxyethanol	20 ppm	not available	50 ppm	not available	not available
Vinyl acetate	10 ppm	15 ppm	10 ppm	20 ppm	not available
Non-hazadous and other ingredients below reportable level	not available	not available	not available	not available	not available

Engineering controls	Good general ventilation (typically 10 air changes per hour) should be used .
Individual protection measures	
Eye/type	Safety glasses with side-shields.
Clothing/type	Wear clean long legged, long sleeved work clothes.
Gloves/ type	Wear chemical resistant protective gloves.
Respiratory/type	Generally not required. Wear respiratory protection if ventilation is inadequate.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke during work. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	liquid.
Color	off-white.
Odour	latex.
Odour threshold	no data available.
pH	5-7.
Melting point (ºC)	no data available.
Freezing point (ºC)	0.
Initial boiling point (ºC)	100.
Flash point (ºC), Method	>100°C, closed cup.
Evaporation rate	no data available.
Upper flammability limit (% vol)	no data available.
Lower flammability limit (% vol)	no data available.
Vapour pressure (mm Hg)	17.5.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Vapour density (air=1)	no data available.
Relative density/Specific Gravity	0.97-1.03.
Water solubility	dispersible.
Solubility in other solvents	no data available.
Partition coefficient — n-octanol/water	no data available.
Auto ignition temperature (ºC)	> 200 °C.
Thermal decomposition temperature	no data available.
Viscosity	no data available.
% volatile by volume:	55-65.
VOC g/l	<200.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	No hazardous reactions if stored and handled as prescribed/indicated.
Chemical stability	The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to instructions. The product is chemically stable.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Decomposition will not occur if handled and stored properly. In case of fire, oxides of carbon (CO and CO2), fumes and smoke may be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Ethylene glycol	10.9 mg/L (Inhalation-rat, 4H), mist	1,600 mg/kg (oral-human); 9,530 mg/kg (dermal-rat)
2-Butoxyethanol	2.2 mg/l (Inhl-rat, 4 h)	530 mg/kg (oral-rat); 450 mg/kg (dermal-rabbit)
Vinyl acetate	11.4 mg/l (inhalation-rat, 4H)	2,920 mg/kg (oral-rat); 2,320 mg/kg (dermal-rabbit)
Non-hazadous and other ingredients below reportable level	not available	not available

Routes of exposure

Inhalation	May cause irritation.
Ingestion	Ingestion of this product may cause nausea, vomiting and diarrhea.
Skin contact	May cause irritation.
Eye contact	Contact may cause eyes irritation.

Acute effects

Acute oral toxicity	Acute toxicity estimate > 2,000 mg/kg. Virtually nontoxic after a single ingestion. Method: calculation method.
Acute dermal toxicity	LD50 (Rabbit) : > 2,000 mg/kg. Virtually nontoxic after a single skin contact. Method: calculation method.
Acute inhalation toxicity	Acute toxicity estimate : > 20 mg/l. Exposure time: 4 h. Method: calculation method. Virtually nontoxic by inhalation.
Skin corrosion/irritation	Result: slight irritation.
Serious eye damage/eye irritation	Result: mild eye irritation.
Respiratory or skin sensitisation	Non-sensitizing.
Specific target organ toxicity (STOT) single exposure	Based on the available information there is no specific target organ toxicity to be expected after a single exposure.
Aspiration hazard	No aspiration hazard expected.

Chronic toxicity/effects

Specific target organ toxicity (STOT) repeated exposure	The substance may cause damage to the kidney after repeated ingestion (Ethylene glycol). Absorption of 2-Butoxyethanol by inhalation and/or repeated skin contact may cause injury to liver, kidney and blood damage .
Carcinogenicity	Vinyl acetate is listed as IARC Group 2B (possibly carcinogenic to humans).
Reproductive toxicity	May cause adverse reproductive effects. Possible risk of harm to the unborn child (Ethylene glycol). 2-Butoxyethanol is considered fetotoxic; has caused toxic reproductive effects in laboratory animals at maternally toxic doses .
Germ cell mutagenicity	No known significant effects or critical hazards.
Remarks	The product has not been tested. The statement has been derived from the properties of the individual components.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	There is a high probability that the product is not acutely harmful to aquatic organisms.
Persistence and degradability	The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods	Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: TRANSPORT INFORMATION

TDG classification	Not regulated as a dangerous good.

SECTION 15: REGULATORY INFORMATION

WHMIS regulatory status	This product has been classified in accordance with the hazard criteria of the Canadian Hazardous Products Regulations and the Safety Data Sheet contains all the information required by the Hazardous Products Regulations (WHMIS 2015). This product is WHMIS 2015 controlled.

SECTION 16: OTHER INFORMATION

Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.
Prepared by:	CanChem Consultant
Preparation date	MAY 11/2017

SAFETY DATA SHEET
CE001 Carbon steel Covered Electrodes

Version number: 1

Replaces SDS: 2009-11-23

Issued: 2020-03-05

Not for sale in the USA

Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Trade name Solid STRIKE 110 MSS and Solid STRIKE 115 MSS Carbon Steel Covered Electrodes

Article-№ .

Product/Article	Diameter (mm/Inch)	Packaging (kg)	Part Number
Solid STRIKE 110 Electrode E6010IP	4.0	20	11023636
Solid STRIKE 110 Electrode E6010IP	5.0	20	11023637
Solid STRIKE 110 Electrode E6011	2.4	16	11023638
Solid STRIKE 110 Electrode E6011	3.2	20	11023639
Solid STRIKE 110 Electrode E6011	4.0	20	11023640
Solid STRIKE 110 Electrode E6013V	2.4	16	11023643
Solid STRIKE 110 Electrode E6013V	3.2	20	11023644
Solid STRIKE 110 Electrode E7014IP	2.4	16	11023645
Solid STRIKE 110 Electrode E7014IP	3.4	20	11023646
Solid STRIKE 110 Electrode E7024IP	3.2	20	11023665
Solid STRIKE 110 Electrode E7024IP	4.0	20	11023666
Solid STRIKE 110 Electrode E7024IP	5.0	20	11023667
Solid STRIKE 110 Electrode E7018-1MRP	2.4	16	11023668
Solid STRIKE 110 Electrode E7018-1MRP	3.2	20	11023669
Solid STRIKE 110 Electrode E7018-1MRP	4.0	20	11023670
Solid STRIKE 110 Electrode E7018 MR PLUS	4.8	20	11023671
Solid STRIKE 110 Electrode E7018 AC	2.4	16	11023682
Solid STRIKE 110 Electrode E7018 AC	3.2	20	11023684
Solid STRIKE 110 Electrode 7018AC	3.2	20	11023685
Solid STRIKE 110 Electrode E7018AC	4.0	20	11023686
Solid STRIKE 110 Electrode 7018AC	4.0	20	11023687
Solid STRIKE 110 Electrode 7018 Extra	2.4	16	11101709
Solid STRIKE 110 Electrode 7018 Extra	3.2	20	11101710
Solid STRIKE 110 Electrode 7018 Extra	4.0	20	11101711
Solid STRIKE 110 Electrode 7018 Extra	4.8	20	11101712
Solid STRIKE 110 Electrode 7018 Extra	6.4	20	11101713
Solid STRIKE 110 Electrode E7017IP	3.2	20	11183120
Solid STRIKE 110 Electrode 7018	2.4	16	11183121
Solid STRIKE 110 Electrode E7024IP	3.2	20	11183124
Solid STRIKE 110 Electrode 7018	3.2	20	11183122
Solid STRIKE 110 Electrode 7018AC	3.2	20	11226918
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	3.4	11312710
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	4.2	11312711
Solid STRIKE115 Electrode E7018-1H4R	3.2(1/8)	4.2	11312712
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	4.6	11312713
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	5.8	11312714
Solid STRIKE 115 Electrode E7018-1H4R	5.0 (3/16)	5.6	11312715
Solid STRIKE 115 Electrode E7018-1H4R	6.0 (1/4)	5.8	11312716

Version number: 1
Replaces SDS: 2009-11-23
Issued: 2020-03-05

1.2 Relevant identified uses of the substance or mixture and uses advised against

Article type	SMAW Un- and Low-alloyed electrodes Classification: AWS SFA 5.1/5.5 or other
Use	Electric arc welding

1.3 Details of the supplier of the safety data sheet

Supplier	Messer Canada Inc.
Street address	5860 Chedworth Way, Mississauga
	Ontario L5R 0A2
	Canada
Telephone	**1-866-385-5349**
Fax	**905-501-1717**
Email	Info.mg.ca@messer-ca.com

1.4 Emergency telephone number

Available outside office hours	Yes
Emergency phone number	(24 Hour) : (905) 501-0802 or CHEMTREC (800) 424-9300

Other

Additional product information	**Web site:** **www.messer-ca.com**

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to applicable national regulations.

2.2 Label elements

Refer to label.

2.3 Other hazards

When the product is used in the welding process the most important hazards are:
Overexposure to fumes and gases from welding can be dangerous to health.
Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire.
Arc rays can injure eyes and burn skin. Electric shock can kill. Avoid touching live electrical parts.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture and please refer to Section 3.2

3.2 Mixtures

Mild steel core	Fe	Mn	Cr	Ni	Cu	Si
Typical	98-99	<0.6	<0.1	<0.1	<0.1	<0.2

Flux coating	High Cellulose E6010, 6011	Rutile E6012, 6013	Basic Low Hydrogen E7016, 7018	Rutile Iron Powder E7024	Basic Iron Powder E7028	Cas No.
Limestone and/or Calcium Carbonate	-	<10	20-30	<10	10-20	1317-65-3
Magnesite (total inhalable dust) (respirable dust)	5-10	<5	-	-	-	546-93-0
Cellulose (total inhalable dust) (respirable dust)	25-60	<15	-	-	-	9004-34-6
Iron Oxides (as Fe)	<10	<10	<10	<10		1309-37-6
Inorganic Fluorides (as F)	-	<10	10-30	<10	5-15	16984-48-8
Iron powder	-	<10	10-35	10-60	10-60	7439-89-6
Manganese and its Inorganic compounds (as Mn)	5-15	5-15	<15	<15	<10	7439-96-5 and others
Rutile/Titanium Dioxide (total inhalable dust) (respirable dust)	10-35	15-60	<10	10-30	<10	13463-67-7
Silicon and Silicon Alloys, (as Si)	-	-	<5	<5	<5	7440-21-3
Silicate Binders	<5	<5	<5	<5	<5	1344-09-8
Mica (total inhalable dust) (respirable dust)	<5	<20	<5	<5	<5	12001-26-2
Quartz/Silica Respirable crystalline	<10	<15	5-60	<10	<5	14808-60-7
Kaolin (respirable dust)	-	<20	-	<5	<5	1332-58-7
Other Mineral Silicates	5-30	5-30	5-10	5-30	5-10	1332-58-7

Section 4. FIRST AND MEASURES

4.1 Description of first aid measures

Inhalation	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.
Skin contact	Burns should be treated by a doctor.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor.
Ingestion	Contact a doctor if more than an insignificant amount has been swallowed.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation	Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons.

4.3 Indication of any immediate medical attention and special treatment needed

Not available

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO_2), powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.

5.2 Special hazards arising from the substance or mixture

Not available

5.3 Advice for fire fighters

Special protective equipment for fire fighters	No specific measures required for these electrodes prior to gouging. Gouging should not be carried out in the presence of flammable materials, vapours, tanks, cisterns and pipes and other containers which have held flammable substances unless these have been checked and certified safe. During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Skin contact should be avoided to prevent possible allergic reactions.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3 Methods and material for containment and cleaning up

Not applicable

6.4 Reference to other sections

Personal protection see section 8 and for disposal see section 13. Environmental precautions, paragraph 12. See also section 7 Precautions for safe handling.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Preventive handling precautions	Ensure adequate ventilation for the welder and others. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Remove all flammable materials and liquids before welding.
General hygiene	Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

7.3 Specific end use(s)

Welding process.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Welding fume component	CAS №	TLV- TWA	TLV-STEL	OTHER
Total welding fume (particulate)				
Iron oxide fume (as Fe)	1309-37-1	5 mg/m^3 Respirable particulate mass	N/Av	N/Av
Manganese and its inorganic compounds (as Mn)	7439-96-5	0.2 mg/m^3	N/Av	N/Av
Silica, amorphous (total inhalable particles) (respirable particles)	N/Av	N/Av	N/Av	10 mg/m^3 3 mg/m^3
Magnesium oxide (as Mg) (total inhalable dust) (fume and respirable dust)	1309-48-4	10 mg/m^3 (Inhalable fraction)	N/Av	N/Av
Titanium dioxide (total inhalable dust) (respirable dust)	13463-67-7	10 mg/m^3	N/Av	N/Av
Calcium Oxide	1305-78-8	2 mg/m^3	N/Av	N/Av
Calcium Silicate (total inhalable dust) (respirable dust)	1344-95-2	10 mg/m^3	N/Av	N/Av
Fluoride, inorganic (as F)	16984-48-8	N/Av	N/Av	N/Av
Nitrogen dioxide (NO_2)	10102-44-0	0.2 ppm	N/Av	N/Av
Ozone (O_3)	10028-15-6	*	N/Av	N/Av
Nitrogen monoxide (NO)	10102-43-9	25 ppm	N/Av	N/Av

8.2 Exposure controls

Environmental Exposure Control – Refer to Section 6 of this SDS

Technical precaution measures	General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.
Eye / face protection	Wear eye protection appropriate for welding.
Safety gloves	Skin contact should be avoided to prevent possible allergic reactions.
Other skin protection	Wear body protection which helps to prevent injury from radiation, sparks and electric shock.
Respiratory protection	Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance, colour	Grey
Appearance, physical state	Rod
Auto-ignition temperature	Not applicable
Auto-flammability	Not auto-flammable
Decomposition temperature	Not applicable
Evaporation rate	Not applicable
Explosive properties	Not explosive
Flammability (solid gas)	Not applicable
Flash point	Not applicable
Form	Metal wire with flux coating
Initial boiling point and boiling range	Not applicable
Melting point / Freezing point	Not available
Odour	Odourless
Odour threshold	Not available
Oxidising properties	Not available
Partition coefficient: n-octanol / water	Not applicable
pH value	Not applicable
Relative density	Not applicable
Solubility	Not available
Solubility in water	Insoluble
Upper / lower flammability or explosive limits	Not applicable
Vapour density	Not applicable
Vapour pressure	Not applicable
Viscosity	Not applicable

9.2 Other information

Not applicable

Other

Density	7.98g/cm^3

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 Chemical stability

Stable under the recommended storage and handling conditions prescribed. Hazardous polymerization will not occur. Incompatible materials and conditions to avoid are usually related to welding.

10.3 Possibility of hazardous reactions

Not available

10.4 Conditions to avoid

None under normal conditions

10.5 Incompatible materials

Not available

10.6 Hazardous decomposition products

Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.
Hazardous combustion products - Carbon oxides and other irritating/toxic fumes and smoke.

Welding fume component	№ CAS	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Aluminium oxide (Al)	1344-28-1	-	-	-	1.8 to 1.2
Barium (Ba)	7440-39-3	-	-	-	≤0.1
Bismuth oxide (Bi)	12640-40-3	-	-	-	≤0.1
Calcium (Ca)	1305-78-8	-	-	-	0.1 to 11.6
Cobalt oxide (Co)	1307-96-6	R22: Harmful if swallowed R43: May cause sensitisation by contact	Acute tox 4 (oral) Skin sens. 1	H302 H317	≤0.1
Chromium III compounds (as Cr)	24613-89-6	R45: May cause cancer R35: Causes severe burns R43: May cause sensitisation by skin contact	Carc. 1B Skin Corr. 1A Skin Sens. 1	H350 H314 H317	≤0.1
Copper oxide (Cu)	1317-38-0	-	-	-	≤0.1
Iron oxide (Fe)	1332-37-2	-	-	-	11.9 to 54.9
Potassium (K)	7440-09-7	R34: Causes burns	Skin Corr. 1B	H314	0.6 to 23.8
Lithium (Li)	7439-93-2	R34: Causes burns	Skin Corr. 1B	H314	0.1 to 0.8

Magnesium oxide (Mg)	1309-48-4	-	-	-	0.1 to 5.3
Manganese (Mn)	7439-96-5	-	-	-	0.7 to 8.2
Molybdenum (Mo)	7439-98-7	Molybdenum trioxide R36/37: Irritating to eyes and respiratory system R40: Limited evidence of carcinogenic effect	Molybdenum trioxide Carc. 2 Eye Irrit. 2 STOT SE 3	H351 H319 H335	≤0.1
Sodium (Na)	7440-23-5	R34: Causes burns	Skin Corr. 1B	H314	0.5 to 8.7
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	0.1 to 0.2
Lead (Pb)	7439-92-1	-	-	-	0.1 to 1.8
Silicon (Si)	7440-21-3	-	-	-	2.1 to 16.3
Titanium dioxide (Ti)	13463-67-7	-	-	-	0.1 to 3.2
Vanadium (V)	7440-62-2	-	-	-	≤0.1
Zinc (Zn)	7440-66-6	-	-	-	0.1 to 3.5
Fluoride (F-)	16984-48-8	-	-	-	0.1 to 21.4

F		
	H	**T**
Skin corrosion/irritation: Category 1B	H314	Causes severe skin burns and eye damage
Carcinogenicity: Category 1B	H350	May cause cancer

The classification information above relates to the fume during use

Fume analysis: wt %	**Fume analysis: wt %**
Al 0.1 to 1.2	Ni 0.1 to 0.2
Ca 0.1 to 11.6	Pb 0.1 to 1.8
Fe 11.9 to 54.9	Si 2.1 to 16.3

K 0.6 to 23.8	Ti 0.1 to 3.2
Li 0.1 to 0.8	Zn 0.1 to 3.5
Mg 0.1 to 5.3	F- 0.1 to 21.4
Na 0.5 to 8.7	

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied

When welding, fumes and gases generated can be dangerous to health.

Acute toxiciy	Excessive exposures may affect human health, as follows: Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
Irritation	Not available
Corrosive effects	Not available
Sensitisation	May cause sensitisation by skin contact
Mutagenicity	Not available
Carcinogenicity	Welding fumes are possibly carcinogenic to humans
Repeated dose toxicity	Not available
Reproductive toxicity	Not available
Synergistic materials	Not available

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

The welding process can effect the environment if fume is released directly into the atmosphere. Residues from welding consumables could degrade and accumulate into soils and ground water.

12.2 Persistence and degradability

Not available

12.3 Bio accumulative potential

Not available

12.4 Mobility in Soil

Not available

12.5 Results of PBT and vPvB assessment

Not available

12.6 Other adverse effects

Not available

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal considerations	Dispose of any product, residue or packing material according to national and local regulations. Spent fume extraction filters shall be disposed of as dangerous waste.

Other

Waste code	Packaging and rod scrap should be disposed of as general waste or recycled. No special precautions are required for this product. Fume collected from extraction units should be disposed of in accordance with local regulations (including Provincial and Federal Regulations). Collect all spillage.

Section 14. TRANSPORT INFORMATION

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk

Not applicable

Other

Dangerous goods	No special requirements are necessary in transporting these products. Transportation of Dangerous Goods Regulations (TDGR): TDG Classification: NOT REGULATED Special case: N/Ap

Section 15. REGUATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.

EU reguations	Refer to national Regulations.
National regulations	WHMIS Label Information: **WARNING.** Do not remove or cover this Warning. Protect yourself and others. Read and understand this information. Electric shock can kill. Keep your head out of the fume. Arc rays and fume can affect others in your workplace. Comply with your employer's safety practices and procedures: protect others. Safety data sheet available on request from www.messer-ca.com. WHMIS information: Product is regulated according to the Controlled Product Regulations (CPR) in Canada. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR. WHMIS classification: D2A - Toxic Material with other effects.

15.2 Chemical safety assessment

Not available

Section 16. OTHER INFORMATION

References to key literature and data sources	The customer should provide this Safety Data Sheet to any person involved in the materials use or further distribution. The Messer World requests the users (or distributors) of this product to read this Safety Data Sheet carefully before usage. **Prepared by Messer Canada Inc.** **References** Safety Data Sheets from manufacturer/supplier. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2014.
Phrase meaning	**Abbreviations** ACGIH American Conference of Governmental Industrial Hygienists CAS Chemical Abstract Service IARC International Agency for Research on Cancer LC Lethal concentration LD Lethal Dosage N/Ap Not applicable N/Av Not available NIOSH National Institute for Occupational Safety and Health STEL Short-term Exposure Limit TLV Threshold Limit Value TWA Time Weighted Average WHMIS Workplace Hazardous Materials Information System

Other

Manufacturer's notes	The information contained in this Safety Data Sheet relates only to the specific materials designated and may not be valid for such material used in combination with any other material or in any process. Information is given in good faith and is based on the latest information available to The Messer World and is, to the best of The Messer Canada's knowledge and belief, accurate and reliable at the time of preparation. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness of the information, and Messer World assumes no responsibility and disclaims any liability incurred in using this information.

The product is supplied on the condition that the user accepts the responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. Freedom from patent rights must not be assumed.

Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.

End of document

FICHE DE DONNÉES DE SÉCURITÉ
CE001 Électrodes de soudage d'acier au carbone enrobées

Numéro de version : 1
Remplace FDS : 2009-11-23
Date d'émission : 2020-03-05

Ce produit ne peut être vendu aux États-Unis

Section 1. IDENTIFICATION DE LA SUBSTANCE / DU MÉLANGE ET DE LA COMPAGNIE

1.1 Identificateur du produit

Nom commercial Solid STRIKE 110 MSS et Solid STRIKE 115 MSS.

(Électrodes de soudage d'acier au carbone enrobées)

№ d'article .

Produit/Article	Diamètre (mm)	Emballage (kg)	Numéro de pièce
Solid STRIKE 110 Electrode E6010IP	4.0	20	11023636
Solid STRIKE 110 Electrode E6010IP	5.0	20	11023637
Solid STRIKE 110 Electrode E6011	2.4	16	11023638
Solid STRIKE 110 Electrode E6011	3.2	20	11023639
Solid STRIKE 110 Electrode E6011	4.0	20	11023640
Solid STRIKE 110 Electrode E6013V	2.4	16	11023643
Solid STRIKE 110 Electrode E6013V	3.2	20	11023644
Solid STRIKE 110 Electrode E7014IP	2.4	16	11023645
Solid STRIKE 110 Electrode E7014IP	3.4	20	11023646
Solid STRIKE 110 Electrode E7024IP	3.2	20	11023665
Solid STRIKE 110 Electrode E7024IP	4.0	20	11023666
Solid STRIKE 110 Electrode E7024IP	5.0	20	11023667
Solid STRIKE 110 Electrode E7018-1MRP	2.4	16	11023668
Solid STRIKE 110 Electrode E7018-1MRP	3.2	20	11023669
Solid STRIKE 110 Electrode E7018-1MRP	4.0	20	11023670
Solid STRIKE 110 Electrode E7018 MR PLUS	4.8	20	11023671
Solid STRIKE 110 Electrode E7018 AC	2.4	16	11023682
Solid STRIKE 110 Electrode E7018 AC	3.2	20	11023684
Solid STRIKE 110 Electrode 7018AC	3.2	20	11023685
Solid STRIKE 110 Electrode E7018AC	4.0	20	11023686
Solid STRIKE 110 Electrode 7018AC	4.0	20	11023687
Solid STRIKE 110 Electrode 7018 Extra	2.4	16	11101709
Solid STRIKE 110 Electrode 7018 Extra	3.2	20	11101710
Solid STRIKE 110 Electrode 7018 Extra	4.0	20	11101711
Solid STRIKE 110 Electrode 7018 Extra	4.8	20	11101712
Solid STRIKE 110 Electrode 7018 Extra	6.4	20	11101713
Solid STRIKE 110 Electrode E7017IP	3.2	20	11183120
Solid STRIKE 110 Electrode 7018	2.4	16	11183121
Solid STRIKE 110 Electrode E7024IP	3.2	20	11183124
Solid STRIKE 110 Electrode 7018	3.2	20	11183122
Solid STRIKE 110 Electrode 7018AC	3.2	20	11226918
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	3.4	11312710
Solid STRIKE 115 Electrode E7018-1H4R	2.5 (3/32)	4.2	11312711
Solid STRIKE115 Electrode E7018-1H4R	3.2(1/8)	4.2	11312712
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	4.6	11312713
Solid STRIKE 115 Electrode E7018-1H4R	4.0 (5/32)	5.8	11312714
Solid STRIKE 115 Electrode E7018-1H4R	5.0 (3/16)	5.6	11312715
Solid STRIKE 115 Electrode E7018-1H4R	6.0 (1/4)	5.8	11312716

FICHE DE DONNÉES DE SÉCURITÉ
CE001 Électrodes de soudage d'acier au carbone enrobées

Numéro de version : 1
Remplace FDS : 2009-11-23
Date d'émission : 2020-03-05

1.2 Usage recommandé et restrictions d'utilisation du produit chimique

Type d'article	SMAW Un- and Low-alloyed electrodes Classification: AWS SFA 5.1/5.5 or other (Électrodes non alliées ou à faible alliage)
Usage	Soudage à l'arc sous protection gazeuse

1.3 Données relatives au fournisseur

Fournisseur	Messer Canada Inc.
Adresse complète	5860 Chedworth Way, Mississauga Ontario L5R 0A2 Canada
Téléphone	**1-866-385-5349**
Télécopieur	**905-501-1717**
Courriel	info.lg.ca@messer-ca.com

1.4 Numéro de téléphone en cas d'urgence

Disponible hors des heures d'ouverture	Oui
Numéro de téléphone d'urgence	(24 Heures) : (905) 501-0802 or CHEMTREC (800) 424-9300

Autre

Information additionnelle sur le produit	**Site Internet : www.messer-ca.com**

Section 2. IDENTIFICATION DES DANGERS

2.1 Classification de la substance ou du mélange

Classification conformément aux règlements nationaux en vigueur.

2.2 Éléments d'étiquetage

Consulter l'étiquette

2.3 Autres dangers

Lorsque le produit est utilise dans le processus de soudage les dangers les plus importants sont:
Surexposition à la fumée et aux gaz de soudage qui peuvent être dangereux pour la santé.
Éviter les éclaboussures, les métaux chauds et les scories. Cela peut causer une brûlure à la peau et causer un incendie.
Les rayonnements lumineux de l'arc de soudage peuvent causer des blessures aux yeux et à la peau. Des chocs électriques peuvent tuer. Éviter de toucher des pièces électriques branchées.

Section 3. COMPOSITION / INFORMATION SUR LES COMPOSANTS

3.1 Substances
Ce produit est un mélange. Consulter la Section 3.2.

3.2 Mélanges

Âme acier doux	Fe	Mn	Cr	Ni	Cu	Si
Typique	98-99	<0.6	<0.1	<0.1	<0.1	<0.2

Flux d'enrobage	Haute teneur en cellulose E6010, 6011	Rutile E6012, 6013	Basique à basse teneur en hydrogène E7016, 7018	Poudre fer rutile E7024	Poudre basique fer rutile E7028	No CAS
Calcaire et/ou carbonate de calcium	-	<10	20-30	<10	10-20	1317-65-3
Calcaire et/ou carbonate de calcium	5-10	<5	-	-	-	546-93-0
Magnésite (poussières inhalables totales) (poussières respirables)	25-60	<15	-	-	-	9004-34-6
Cellulose (poussières inhalables totales) (poussières respirables)	<10	<10	<10	<10		1309-37-6
Fluorures inorganiques (sous forme de F)	-	<10	10-30	<10	5-15	16984-48-8
Poudre de fer	-	<10	10-35	10-60	10-60	7439-89-6
Manganèse et ses composés inorganiques (sous forme de Mn)	5-15	5-15	<15	<15	<10	7439-96-5 et autres
Dioxyde de titane/rutile (poussières inhalables totales) (poussières respirables)	10-35	15-60	<10	10-30	<10	13463-67-7
Silicium et alliages de silicium (sous forme de Si)	-	-	<5	<5	<5	7440-21-3
Liants silicatés	<5	<5	<5	<5	<5	1344-09-8
Mica (poussières inhalables totales) (poussières respirables)	<5	<20	<5	<5	<5	12001-26-2
Quartz/Silice cristalline respirable	<10	<15	5-60	<10	<5	14808-60-7
Kaolin (poussières respirables)	-	<20	-	<5	<5	1332-58-7
Autres silicates minéraux	5-30	5-30	5-10	5-30	5-10	1332-58-7

Section 4. PREMIERS SOINS

4.1 Description des premiers soins nécessaires

Inhalation EN CAS D'INHALATION : Transporter la personne à l'extérieur et la maintenir dans une

	position où elle peut confortablement respirer. Appeler un médecin en cas de symptômes.
Contact avec la peau	Brûlures devraient être traitées par un médecin.
Contact avec les yeux	EN CAS DE CONTACT AVEC LES YEUX : Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Brûlures par les rayonnements. Consulter un médecin.
Ingestion	Appeler un médecin si une quantité significative a été avalée.

4.2 Symptômes/effets les plus importants, aigus ou retardés

Inhalation	L'inhalation des vapeurs peut causer une irritation respiratoire chez les personnes sensibles.

4.3 Indications quant à la nécessité éventuelle d'une prise en charge médicale immédiate ou d'un traitement spécial

Pas disponible

Section 5. MESURES À PRENDRE EN CAS D'INCENDIE

5.1 Agents extincteurs appropriés

Agents extincteurs appropriés	Dioxyde de carbone (CO2), poudre ou jets d'eau. En cas d'incendie majeur: Éteindre l'incendie avec des jets d'eau ou de la mousse.

5.2 Dangers spécifiques du produit

Pas disponible

5.3 Mesures spéciales de protection pour les pompiers

Équipement spécifique de protection contre les incendies	Avant le soudage, aucune mesure spécifique requise. On ne doit pas souder en présence de matières et vapeurs inflammables, de bouteilles, citernes, tuyaux et autres contenants ayant contenu des matières inflammables sauf s'ils ont été vérifiés et certifiés sans danger. En cas d'incendie, des fumées et émanations irritantes et toxiques peuvent être générées. Ne pas entrer dans une zone d'incendie sans un équipement de protection approprié. Les pompiers devraient porter l'équipement de protection adéquat et un appareil respiratoire autonome avec masque respiratoire complet. Protéger le personnel contre l'échappement des gaz, la rupture ou l'éclatement des contenants. Retirer les contenants de la zone en feu si cela peut être effectué sans risque. Refroidir les contenants et équipements exposés aux flammes et à la chaleur en les arrosant d'eau.

Section 6. MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTEL

6.1 Précautions individuelles, équipements de protection et mesures d'urgence

Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de

protection et une protection oculaire appropriée pour le soudage à l'arc. Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.

6.2 Précautions relatives à l'environnement

Essayer d'empêcher le produit d'entrer dans les égouts ou les cours d'eau.

6.3 Méthodes et matériaux pour l'isolation et le nettoyage

Sans objet

Section 7. MANUTENTION ET STOCKAGE

7.1 Précautions à prendre pour assurer la manutention

Précautions à prendre pour la manutention	S'assurer que la ventilation est adéquate pour le soudeur et les autres. Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc. Retirer tous les liquides et produits inflammables avant de souder.
Hygiène générale	Se laver les mains avant les pauses et immédiatement après avoir manipulé le produit.

7.2 Stockage dans des conditions de sécurité en tenant compte de toutes incompatibilités éventuelles

Stocker les produits de soudage dans une pièce sans humidité. Ne pas stocker les produits de soudage directement au sol ou près de murs. Stocker le produit loin des substances chimiques comme les acides qui pourraient causer des réactions chimiques.

7.3 Usage(s) spécifique(s)

Processus de soudage.

Section 8. CONTRÔLES DE L'EXPOSITION / PROTECTION INDIVIDUELLE

8.1 Paramètres de contrôle

Composant des fumées de soudage	№ CAS	VLE-MPT (TLV- TWA)	VLE-LECT (TLV-STEL)	AUTRE
Total - fumée de soudage (particule)				
Fumées d'oxyde de fer (sous forme de Fe)	1309-37-1	5 mg/m^3 masse de particules respirables	P/D	P/D
Manganèse et ses composés inorganiques (sous forme de Mn)	7439-96-5	0.2 mg/m^3	P/D	P/D
Silice, amorphe (poussières inhalables totales) (poussières respirables)	P/D	P/D	P/D	10 mg/m^3 3 mg/m^3
Oxyde de magnésium (sous forme de Mg) (poussières inhalables totales) (fumées et poussières respirables)	1309-48-4	10 mg/m^3 (Inhalable fraction)	P/D	P/D
Dioxyde de titane (poussières inhalables totales) (poussières respirables)	13463-67-7	10 mg/m^3	P/D	P/D
Oxyde de calcium	1305-78-8	2 mg/m^3	P/D	P/D
Silicate de calcium (poussières inhalables totales) (poussières respirables)	1344-95-2	10 mg/m^3	P/D	P/D
Fluorure, inorganique (sous forme de F)	16984-48-8	P/D	P/D	P/D
Dioxyde d'azote (NO_2)	10102-44-0	0.2 ppm	P/D	P/D
Ozone (O_3)	10028-15-6	*	P/D	P/D
Monoxyde d'azote (NO)	10102-43-9	25 ppm	P/D	P/D

8.2 Contrôles d'exposition

Contrôles d'exposition environnementale – Consulter la Section 6 de cette FDS

Mesures de précaution technique	Ventilation générale et aspiration de fumées à la source doivent être suffisantes pour garder les concentrations de fumées dans les limites sécuritaires.
Protection des yeux/du visage	Porter une protection oculaire appropriée pour le soudage.
Gants sécuritaires	Le contact avec la peau devrait être évité pour empêcher les réactions allergiques possibles.
Autre protection de la peau	Porter des vêtements de protection qui aident à prévenir les blessures causées par les rayonnements, les étincelles et les chocs électriques.
Protection respiratoire	Utiliser l'équipement respiratoire pendant le soudage dans des espaces restreints. Porter des vêtements de protection et une protection oculaire appropriée pour le soudage à l'arc.

Section 9. PROPRIÉTÉS PHYSIQUES ET CHMIQUES

9.1 Information concernant les propriétés physiques et chimiques de base

Apparence, couleur	Gris
Apparence, état physique	Baguette
Température d'auto-inflammation	Sans objet
Auto-inflammation	Non auto-inflammable
Température de décomposition	Sans objet
Taux d'évaporation	Sans objet
Propriété d'explosibilité	Non explosif
Inflammabilité (solide, gaz)	Sans objet
Point d'éclair	Sans objet
Formation	Fils en métal avec flux enrobé
Domaine et point d'ébullition initial	Sans objet
Point de fusion / Point de congélation	Pas disponible
Odeur	Inodore
Seuil olfactif	Pas disponible
Propriétés oxydantes	Pas disponible
Coefficient de partage: n-octanol / eau	Sans objet
pH	Sans objet
Densité relative	Sans objet
Solubilité	Pas disponible
Solubilité dans l'eau	Insoluble
Limites supérieures/inférieures d'inflammabilité ou d'explosibilité	Sans objet
Densité de vapeur	Sans objet
Pression de vapeur	Sans objet
Viscosité	Sans objet

9.2 Autre information

Sans objet

Autre

Densité	7,98 g/cm^3

Section 10. STABILITÉ ET RÉACTIVITÉ

10.1 Réactivité

Pas disponible

10.2 Stabilité chimique

Stable dans des conditions prescrites de stockage et de manutentions recommandées. Une polymérisation dangereuse ne se produira pas. Les matières et conditions incompatibles à éviter sont en général liées au soudage.

10.3 Risque de réactions dangereuses

Pas disponible

10.4 Conditions à éviter

Aucune dans des conditions normales

10.5 Matériaux incompatibles

Pas disponible

10.6 Produits de décomposition dangereux

Gaz et fumées de soudage. Fumées additionnelles peuvent provenir de revêtements et contaminants sur le produit de base. Produits de combustion dangereux - Oxydes de carbone et autres fumées et émanations irritantes ou toxiques.

Composant des fumées de soudage	**№** CAS	Classification (67/548EEC)	CLP (1272/2008)		Concentration des composants de fumée classifiée
Oxyde d'aluminium (Al)	1344-28-1	-	-	-	1.8 - 1.2
Baryum (Ba)	7440-39-3	-	-	-	≤0.1
Oxyde de bismuth (Bi)	12640-40-3	-	-	-	≤0.1
Calcium (Ca)	1305-78-8	-	-	-	0.1 to 11.6
Oxyde de cobalt (Co)	1307-96-6	R22 Nocif en cas d'ingestion R43: Peut entraîner une sensibilisation par contact avec la peau	Tox aiguë 4 (oral) Sensib. cut. 1	H302 H317	≤0.1
Chrome III composant (comme Cr)	24613-89-6	R45: Peut provoquer le cancer R35: Provoque de graves brûlures R43: Peut entraîner une sensibilisation par contact avec la peau	Cancérog. 1B Corr. cut. 1A Sensib. cut. 1	H350 H314 H317	≤0.1
Oxyde de cuivre (Cu)	1317-38-0	-	-	-	≤0.1
Oxyde de fer (Fe)	1332-37-2	-	-	-	11.9 - 54.9
Potassium (K)	7440-09-7	R34 Provoque des brûlures	Corr. cut. 1B	H314	0.6 - 23.8
Lithium (Li)	7439-93-2	R34 Provoque des brûlures	Corr. cut. 1B	H314	0.1 - 0.8
Oxyde de magnésium (Mg)	1309-48-4	-	-	-	0.1 - 5.3

Manganèse (Mn)	7439-96-5	-	-	-	0.7 - 8.2
Molybdène (Mo)	7439-98-7	Trioxyde de molybdène R36/37: Irritant pour les yeux et les voies respiratoires R40: Effet cancérogène suspecté – preuves insuffisantes	Trioxyde de molybdène Cancérog. 2 Irritat. oculaire. 2 Toxicité pour certains organes cible, exposition unique 3	H351 H319 H335	≤0.1
Sodium (Na)	7440-23-5	R34 Provoque des brûlures	Corr. cut. 1B	H314	0.5 - 8.7
Nickel (Ni)	7440-02-0	R40: Effet cancérogène suspecté – preuves insuffisantes R43: Peut entraîner une sensibilisation par contact avec la peau R48/23: Toxique : risque d'effets graves pour la santé en cas d'exposition prolongée par inhalation et par contact avec la peau R52/53: Nocif pour les organismes aquatiques, peut entraîner des effets néfastes à long terme pour l'environnement aquatique	Cancérog.. 2 Sensib. cut. 1 Toxicité pour certains org. cibles, toxic.Répét. 1	H351 H317 H372	0.1 - 0.2
Plomb (Pb)	7439-92-1	-	-	-	0.1 - 1.8
Silice (Si)	7440-21-3	-	-	-	2.1 - 16.3
Dioxyde de titane (Ti)	13463-67-7	-	-	-	0.1 - 3.2
Vanadium (V)	7440-62-2	-	-	-	≤0.1
Zinc (Zn)	7440-66-6	-	-	-	0.1 - 3.5
Fluorures (F-)	16984-48-8	-	-	-	0.1 - 21.4

Classification finale des fumées

Classification	**Code H**	**Mention de danger**
Corrosion/Irritation cutanée : Catégorie 1B	H314	Provoque des brûlures de la peau et des lésions oculaires graves
Cancérogénicité : Catégorie 1B	H350	Peut provoquer le cancer

Classification - information relative aux fumées pendant l'usage

Analyse fumées : % poids	**Analyse fumées** : % poids
Al 0.1 - 1.2	Ni 0.1 - 0.2
Ca 0.1 - 11.6	Pb 0.1 - 1.8
Fe 11.9 - 54.9	Si 2.1 - 16.3
K 0.6 - 23.8	Ti 0.1 - 3.2
Li 0.1 - 0.8	Zn 0.1 - 3.5
Mg 0.1 - 5.3	F- 0.1 - 21.4
Na 0.5 - 8.7	

Section 11. DONNÉES TOXICOLOGIQUES

11.1 Information sur les effets toxicologiques

Conditions à éviter: aucune pour le produit tel quel

Lors du soudage, gaz et fumées générées peuvent être dangereuses pour la santé.

Toxicité immédiate	Expositions excessives peuvent affecter la santé humaine comme suit: Aspiration peut causer un oedème pulmonaire. Surexposition à court-terme peut causer étourdissements, nausée et irritation du nez de la gorge ou des yeux.
Irritation	Pas disponible
Effets corrosifs	Pas disponible
Sensibilisation	Peut causer une sensibilisation de la peau
Mutagénicité	Pas disponible
Cancérogénicité	Fumées de soudage sont possiblement cancérogènes pour les humains
Toxicité chronique	Pas disponible
Toxicité sur la reproduction	Pas disponible
Matières synergiques	Pas disponible

Section 12. DONNÉES ÉCOLOGIQUES

12.1 Toxicité

Le processus de soudage peut affecter l'environnement si les fumées sont libérées directement dans l'atmosphère. Les résidus des produits de soudage peuvent se dégrader et s'accumuler dans le sol et l'eau de surface.

12.2 Persistance et dégradabilité

Pas disponible

12.3 Potentiel de bioaccumulation

Pas disponible

12.4 Mobilité dans le sol

Not available

12.5 Résultats de PBT et détermination vPvB

Pas disponible

12.6 Autres effets nocifs

Pas disponible

Section 13. DONNÉES SUR L'ÉLIMINATION

13.1 Méthodes d'élimination

Méthodes d'élimination	Élimination de n'importe quel produit, résidu ou matériau d'emballage conformément aux règlements nationaux ou locaux. Les filtres usés d'extraction des fumées doivent être éliminés comme résidu dangereux.

Autre

Code de résidu	Les emballages et rebuts de fils et baguettes devraient être évacués comme des déchets ordinaires ou recyclés. Aucune précaution spéciale n'est requise pour ces produits de soudage. Les fumées recueillies dans les systèmes d'aspiration devraient être éliminées conformément aux règlements fédéraux, provinciaux et municipaux. Recueillir tous les déversements accidentels.

Section 14. INFORMATIONS RELATIVES AU TRANSPORT

14.1 Numéro ONU

Sans objet

14.2 Désignation officielle de transport de l'ONU

Sans objet

14.3 Classe(s) relative(s) au transport

Sans objet

14.4 Groupe d'emballage

Sans objet

14.5 Dangers environnementaux

Sans objet

14.6 Précautions spéciales pour l'utilisateur

Sans objet

14.7 Transport en vrac

Sans objet

Autre

Marchandises dangereuses	Il n'existe aucune exigence spéciale relative au transport de ces produits. **Règlement sur le transport des marchandises dangereuses (RTMD) :** Classification du TMD : NON RÉGLEMENTÉ Cas particulier : Sans objet

Section 15. INFORMATION SUR LA RÉGLEMENTATION

15.1 Réglementation relative à la sécurité, à la santé et à l'environnement applicable au produit en question

Règlements EU ***Règlements nationaux***	Consulter les règlements nationaux. **Étiquette du SIMDUT** : **MISE EN GARDE**. Ne pas retirer ou couvrir cette mise en garde. Se protéger et protéger les autres Lire et bien comprendre ces informations Les décharges électriques peuvent

causer la mort. Ne placez pas votre tête directement dans la fumée. Les rayons de l'arc et la fumée peuvent incommoder d'autres personnes dans l'espace de travail. Respectez les pratiques et procédures de votre employeur en matière de sécurité; protégez les autres.
Fiche de données de sécurité disponible sur demande auprès de www.messer-ca.com.
Information du SIMDUT : Ce produit est réglementé en vertu du Règlement sur les produits contrôlés (RPC) au Canada. Ce produit a été classé conformément aux critères de danger énoncés dans le Règlement sur les produits contrôlés (RPC) et cette fiche de données de sécurité contient tous les renseignements exigés par le Règlement sur les produits contrôlés (RPC).
Classification du SIMDUT : D2A - Matières toxiques ayant d'autres effets.

15.2 Détermination chimique du produit

Pas disponible

Section 16. AUTRES INFORMATIONS

Références importantes et sources de données

Le client devrait fournir cette fiche de données de sécurité à toute personne intervenant dans l'utilisation ou la distribution ultérieure de ces produits. Messer World demande aux utilisateurs (ou distributeurs) de lire attentivement cette fiche avant d'utiliser le produit.
Préparé par MESSER CANADA INC.

Références

Fiches de données de sécurité du fabricant/fournisseur.
Centre canadien d'hygiène et de sécurité du travail, CCInfoWeb databases, 2014.

Signification

Abréviations

ACGIH American Conference of Governmental Industrial Hygienists
CAS Chemical Abstract Service
CIRC Centre international de recherche sur le cancer
CL Concentration létale
DL Dose létale
S/O Sans objet
P/D Pas disponible
NIOSH National Institute for Occupational Safety and Health
LECT Limite d'exposition à court terme
VLE Valeur limite d'exposition
MPT Moyenne pondérée en fonction du temps
SIMDUT Système d'information sur les matières dangereuses utilisées au travail

Autre

Notes du fabricant

Les informations contenues dans cette fiche de données de sécurité ne traitent que des produits spécifiques désignés et ne peuvent servir pour un tel produit utilisé en association avec tout autre produit ou dans tout procédé.

Les présents renseignements sont donnés de bonne foi et sont basés sur les dernières informations disponibles chez Messer World et sont, à la connaissance de Messer World, précises et fiables au moment de la préparation. Toutefois, The Messer World n'accorde aucune garantie quant à la précision, la fiabilité ou l'intégralité des renseignements et, Messer World décline toute responsabilité quant à l'utilisation de ces informations.

Le produit est fourni à la condition que l'utilisateur accepte la responsabilité de se vérifier lui-même la pertinence et l'intégralité de ces informations pour son propre usage. Les obligations liées aux droits de brevets doivent être respectées.
Lire cette fiche de données de sécurité et devenir conscient des dangers identifiés et de l'information concernant la santé.

Fin du document

Material Safety Data Sheet

Revision Date *28-Apr-2014*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code P80795
Product name SPEEDY500 W/SPOUT QT
Recommended Use Solvent

Supplier Kent Automotive
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Flammable Liquid. Harmful if swallowed.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Eyes. Inhalation. Skin contact. Ingestion.

Potential health effects

Eyes Direct contact may cause the following effects. Irritation. Redness. Swelling. Blurred vision.

Skin May cause the following effects: . Moderate irritation. Defatting. Dermatitis.

Inhalation May cause the following effects. Nausea. Fatigue. Headaches. Dizziness. Respiratory irritation. Extreme overexposure may cause. Possible unconsciousness. Possible asphyxiation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause chemical pneumonitis if aspirated into lungs.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Dimethylbenzene	1330-20-7	50-80
Odorless Mineral Spirits	8052-41-3	20-40
Ethylbenzene	100-41-4	10-30

4. FIRST AID MEASURES

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention.

Skin contact Wash area thoroughly with soap and water. Remove and wash contaminated clothing before re-use. Seek medical attention if irritation persists.

Ingestion Vomiting may cause aspiration pneumonia. Do Not induce vomiting without medical advice. Call a physician or Poison Control Center immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep warm and quiet. Call a physician immediately.

5. FIRE FIGHTING MEASURES

Flash point °C 26.67
Flash point °F 80
Method Tag Closed Cup

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 6.7
Lower 1

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical powder. Foam. Water fog.

Extinguishing media which must NOT be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire .

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific hazards
In the event of fire and/or explosion do not breathe fumes. Keep product and empty container away from heat and sources of ignition.

Fire and Explosion Hazards
Empty containers contain residue and/or vapors. Do not weld, cut, pressurize, braze, solder, drill, grind, or expose such containers to heat, sparks, flame, static electricity, or other sources of ignition. They may explode and cause injury or death. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Sensitivity to shock
No information available..

Sensitivity to static discharge
No information available..

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions
Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs.

Methods for cleaning up
Ventilate area to maintain exposure below permissible exposure limits. Dam up. Absorb with fire resistant absorbent. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling
Do not use power or high pressure spray equipment. Use only according to label directions.

Storage
Keep away from open flames, hot surfaces and sources of ignition. Store large amounts in structures made for OSHA class -other liquids- 1910.106. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Ethylbenzene	100 ppm 435 mg/m^3	-	20 ppm	-
Dimethylbenzene	100 ppm 435 mg/m^3	-	100 ppm	150 ppm
Odorless Mineral Spirits	500 ppm 2900 mg/m^3	-	100 ppm	-

Ventilation and Environmental Controls
Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Exhaust fans should be explosion proof or set up in a way that explosive concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

Hygiene measures
No information available. Remove and wash contaminated clothing before re-use.

Other precautions
Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Respiratory protection
Use a NIOSH/MSHA respirator unless adequate local exhaust is provided and air testing shows exposure levels are within recommended exposure guidelines.

Hand Protection
Nitrile rubber.

Eye protection
Use safety eyewear designed to protect against splash of liquids.

Skin and body protection
None necessary under normal conditions

Other Protective Equipment
None under normal conditions of use. An eye wash station should be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color	Clear
Odor	Slight
Odor Threshold	No information available
pH	No data available
Specific Gravity	0.84908
Vapor pressure	9 @ 68F
Vapor density	No data available
Evaporation Rate	No data available
Water solubility	No data available
VOC Content	7.08 lb/gl
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	136.11-204.44
Boiling point/range °F	277-400
Melting point/range °C	No data available
Melting point/range °F	No data available
Flash point °C	26.67
Flash point °F	80

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
Avoid heat. Avoid open flames.

Incompatability
Strong oxidizers.

Hazardous Decomposition Products
Carbon monoxide. Carbon dioxide. Various hydrocarbons.

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Ethylbenzene 100-41-4	3500 mg/kg	15354 mg/kg	17.2 mg/L
Dimethylbenzene 1330-20-7	4300 mg/kg	-	47635 mg/L
Odorless Mineral Spirits 8052-41-3	-	-	-

Synergistic Products None known

Potential health effects

Sensitization May cause sensitization of susceptible persons..

Chronic toxicity Prolonged exposure may cause chronic effects .

Mutagenic effects None known

Teratogenic effects No information available.

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects See section 11 for toxicological information.

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Ethylbenzene	A3	Group 2B	Not Listed	Not Listed	Listed
Dimethylbenzene	A4	Not Listed	Not Listed	Not Listed	Not Listed
Odorless Mineral Spirits	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Dimethylbenzene

Microtox Data
Photobacterium phosphoreum EC50=0.0084 mg/L (24 h)
Water Flea Data
water flea hEC50 48 (3.82 mg/L)
Gammarus lacustris hLC50 48 (0.6 mg/L)
water flea hEC50 48 (3.82 mg/L)

Ethylbenzene

Microtox Data
Photobacterium phosphoreum EC50=9.68 mg/L (30 min)
Nitrosomonas EC50=96 mg/L (24 h)
Water Flea Data
Daphnia magna EC501.8 - 2.4 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products
Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D.

TDG
UN1993 FLAMMABLE LIQUID, N.O.S.(Dimethylbenzene/Ethylbenzene), Class 3, PG III

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Ethylbenzene	Listed
Dimethylbenzene	Listed

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Ethylbenzene	Not Listed	Listed	Carcinogen
Dimethylbenzene	Not Listed	Listed	Not Listed
Odorless Mineral Spirits	Not Listed	Listed	Not Listed

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Ethylbenzene	X	X	-	X
Dimethylbenzene	X	X	-	X
Odorless Mineral Spirits	X	X	-	X

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations.

16. OTHER INFORMATION

HMIS
HMIS
Health - 2
Flammability - 3
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Shell Spirax S4 TXM

Product code : 001D8246

Manufacturer or supplier's details

Supplier : Viva Energy Australia Pty Ltd
(Formerly: The Shell Company of Australia)
(ABN 46 004 610 459)
720 Bourke Street
Docklands
Victoria 3008
Australia

Telephone : +61 (0)3 8823 4444 ;

Telefax : +61 (0)3 8823 4800

Emergency telephone number : 1800 651 818 (Australia). POISONS INFORMATION CENTRE: 13 11 26 (Australia).

Recommended use of the chemical and restrictions on use

Recommended use : Transmission oil.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

GHS label elements

Hazard pictograms : No Hazard Symbol required

Signal word : No signal word

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
Not classified as a health hazard under GHS criteria.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements :

Prevention:
No precautionary phrases.

Response:
No precautionary phrases.

Storage:
No precautionary phrases.

Disposal:

No precautionary phrases.

Sensitising components : Contains borated ester.May produce an allergic reaction.

Other hazards which do not result in classification

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.Used oil may contain harmful impurities.Not classified as flammable but will burn.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

: * contains one or more of the following CAS-numbers: 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-65-0, 68037-01-4, 72623-86-0, 72623-87-1, 8042-47-5, 848301-69-9.

Hazardous components

Chemical name	CAS-No.	Classification	Concentration [%]
Zinc dialkyldithiophosphate	4259-15-8	Eye Dam.1; H318 Aquatic Chronic2; H411	1 - 2.4
Borated ester	Not Assigned	Skin Sens.1; H317	0.1 - 0.9
Interchangeable low viscosity base oil (<20,5 cSt @40°C) *	Not Assigned	Asp. Tox.1; H304	0 - 90

For explanation of abbreviations see section 16.

SECTION 4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal conditions.

If inhaled : No treatment necessary under normal conditions of use.
If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.
If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed	:	Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Protection of first-aiders	:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use water in a jet.
Specific hazards during firefighting	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
Hazchem Code	:	NONE

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid contact with skin and eyes.
Environmental precautions	:	Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
Additional advice	:	For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

General Precautions	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Avoidance of contact	:	Strong oxidising agents.
Product Transfer	:	This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations.

Storage

Other data	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Store at ambient temperature.
Packaging material	:	Suitable material: For containers or container linings, use mild steel or high density polyethylene. Unsuitable material: PVC.
Container Advice	:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	AU OEL
Oil mist, mineral	Not Assigned	TWA ((inhalable fraction))	5 mg/m3	US. ACGIH Threshold Limit Values
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	Australia. Workplace Exposure Standards for Airborne Contaminants.
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	OSHA Z-1
	Not Assigned	TWA (Inhalable fraction)	5 mg/m3	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control

measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.

Personal protective equipment

Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point >65°C (149°F)].

Hand protection
Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but

recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection	:	If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
Skin and body protection	:	Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.
Thermal hazards	:	Not applicable

Environmental exposure controls

General advice	:	Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid at room temperature.
Colour	:	amber
Odour	:	Slight hydrocarbon
Odour Threshold	:	Data not available
pH	:	Not applicable
pour point	:	-42 °C / -44 °FMethod: ISO 3016
Melting / freezing point		Data not available
Initial boiling point and boiling range	:	> 280 °C / 536 °Festimated value(s)
Flash point	:	220 °C / 428 °F Method: ISO 2592
Evaporation rate	:	Data not available
Flammability (solid, gas)	:	Data not available

Upper explosion limit	:	Typical 10 %(V)
Lower explosion limit	:	Typical 1 %(V)
Vapour pressure	:	< 0.5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapour density	:	> 1estimated value(s)
Relative density	:	0.882 (15 °C / 59 °F)
Density	:	882 kg/m3 (15.0 °C / 59.0 °F) Method: ISO 12185
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	Pow: > 6(based on information on similar products)
Auto-ignition temperature	:	> 320 °C / 608 °F
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	60 mm2/s (40.0 °C / 104.0 °F) Method: ISO 3104
		9.4 mm2/s (100 °C / 212 °F) Method: ISO 3104
Explosive properties	:	Not classified
Oxidizing properties	:	Data not available
Conductivity	:	This material is not expected to be a static accumulator.
Decomposition temperature	:	Data not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	Stable.
Possibility of hazardous reactions	:	Reacts with strong oxidising agents.

Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Strong oxidising agents.
Hazardous decomposition products	:	Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment	:	Information given is based on data on the components and the toxicology of similar products.Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Exposure routes	:	Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity	:	LD50 rat: > 5,000 mg/kg Remarks: Expected to be of low toxicity:
Acute inhalation toxicity	:	Remarks: Not considered to be an inhalation hazard under normal conditions of use.
Acute dermal toxicity	:	LD50 Rabbit: > 5,000 mg/kg Remarks: Expected to be of low toxicity:

Skin corrosion/irritation

Product:

Remarks: Expected to be slightly irritating., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be slightly irritating.

Components:

Zinc dialkyldithiophosphate:
Remarks: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not expected to be a skin sensitiser.

Components:

Borated ester:
Remarks: May cause an allergic skin reaction in sensitive individuals.

Chronic toxicity

Germ cell mutagenicity

Product:

: Remarks: Not considered a mutagenic hazard.

Carcinogenicity

Product:

Remarks: Not expected to be carcinogenic.

Remarks: Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies., Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

Material	GHS/CLP Carcinogenicity Classification
Highly refined mineral oil	No carcinogenicity classification.

Reproductive toxicity

Product:

: Remarks: Not expected to impair fertility., Not expected to be a developmental toxicant.

STOT - single exposure

Product:

Remarks: Not expected to be a hazard.

STOT - repeated exposure

Product:

Remarks: Not expected to be a hazard.

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Further information

Product:

Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Slightly irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Ecotoxicological data have not been determined specifically for this product.
Information given is based on a knowledge of the components and the ecotoxicology of similar products.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) :
Remarks: Expected to be practically non toxic:
LL/EL/IL50 > 100 mg/l

Toxicity to crustacean (Acute toxicity) :
Remarks: Expected to be practically non toxic:
LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic plants (Acute toxicity) :
Remarks: Expected to be practically non toxic:
LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) : Remarks: Data not available

Persistence and degradability

Product:

Biodegradability : Remarks: Expected to be not readily biodegradable., Major constituents are expected to be inherently biodegradable, but contains components that may persist in the environment.

Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Contains components with the potential to bioaccumulate.
Partition coefficient: n-octanol/water	:	Pow: > 6Remarks: (based on information on similar products)

Mobility in soil

Product:

Mobility	:	Remarks: Liquid under most environmental conditions., If it enters soil, it will adsorb to soil particles and will not be mobile. Remarks: Floats on water.

Other adverse effects

no data available

Product:

Additional ecological information	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities., Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential. Poorly soluble mixture., May cause physical fouling of aquatic organisms. Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste. Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.
Contaminated packaging	:	Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

ADG
Not regulated as a dangerous good

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category	:	Not applicable
Ship type	:	Not applicable
Product name	:	Not applicable
Special precautions	:	Not applicable

Special precautions for user

Remarks	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
Additional Information	**:**	MARPOL Annex 1 rules apply for bulk shipments by sea.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)	:	No poison schedule number allocated

Product classified as per Work Health Safety Regulations – Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) 2012 and SDS prepared as per national model code of practice for preparation of safety data sheet for Hazardous chemicals 2011 based on Globally Harmonized Classification version 3.

National Model Code of Practice for the Labelling of Workplace Hazardous Chemicals (2011).

Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG code).

Other international regulations

The components of this product are reported in the following inventories:

EINECS	:	All components listed or polymer exempt.
TSCA	:	All components listed.
AICS	:	All components listed.

SECTION 16. OTHER INFORMATION

Full text of H-Statements

H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Dam.	Serious eye damage
Skin Sens.	Skin sensitisation

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

Date of preparation or review : 05.09.2016

Further information

Other information : A vertical bar (|) in the left margin indicates an amendment from the previous version.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

Revision Date 04-Sep-2015 **Version** 3

1. IDENTIFICATION

Product identifier

Product Name Spray Nine® 4L

Other means of identification

Product Code C26804
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Disinfectant Cleaner
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

NOTE: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label elements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Clear **Physical state** Liquid **Odor** Citrus

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
WATER	7732-18-5	60 - 100	*
ETHOXYLATED C9-C11 ALCOHOLS	68439-46-3	1 - 5	*
DIPROPYLENE GLYCOL MONONBUTYL ETHER	29911-28-2	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes and skin.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep from freezing.

Incompatible materials Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .
NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Eyewash stations

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as

appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Odor	Citrus
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	100 °C / 212 °F	
Flash point	> 93 °C / > 200 °F	Tag Closed Cup
Evaporation rate	< 1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	18 mm Hg	
Vapor density	>1	Air = 1
Relative density	1.02 g/ml	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	<0.5%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.

Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

Skin contact May cause skin irritation and/or dermatitis.

Ingestion Ingestion may cause irritation to mucous membranes.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
WATER 7732-18-5	> 90 mL/kg (Rat)	-	-
ETHOXYLATED C9-C11 ALCOHOLS 68439-46-3	= 1378 mg/kg (Rat) = 1400 mg/kg (Rat)	> 2 g/kg (Rabbit)	-
DIPROPYLENE GLYCOL MONONBUTYL ETHER 29911-28-2	= 1620 µL/kg (Rat)	= 5860 µL/kg (Rabbit)	= 42.1 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 39421 mg/kg
ATEmix (dermal) 76980 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

3.17 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
DIPROPYLENE GLYCOL MONONBUTYL ETHER 29911-28-2	-	841: 96 h Poecilia reticulata mg/L LC50 static	-

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

14. TRANSPORT INFORMATION

DOT
Proper shipping name: Not regulated

IATA
Proper shipping name: Not regulated

IMDG
Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not determined
ENCS	Not determined
IECSC	Complies
KECL	Not determined
PICCS	Not determined
AICS	Not determined

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
ETHANOL - 64-17-5	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
SODIUM HYDROXIDE 1310-73-2	X	X	X
ETHANOL 64-17-5	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number 6659-3
EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

WHMIS Hazard Class
Non-controlled

NFPA	**Health hazards** 1	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 1	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 04-Sep-2015

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Pro Form Products Ltd.
604 McGeachie Drive
Milton, Ontario, L9T 3Y5
Canada
905-878-4990

PRODUCT: PF 535 SPRAYABLE PAINT STRIPPER

SECTION 01: Chemical product and company identification

Manufactured for.....	Pro Form Products Ltd. 604 McGeachie Drive Milton, Ontario L9T3Y5 Tel (905) 878-4990 Fax (905) 878-1189
Product name.....	PF 535 SPRAYABLE PAINT STRIPPER
Recommended use and restrictions on use..	Paint stripper. This product should not be used for any other purpose other than the ones described in this section.
Chemical family.....	Mixture.
NFPA rating.....	Health: 3 Fire: 4 Reactivity: 0.
HMIS.....	H: 3 F: 4 R: 0.
24 hour emergency number:.....	IN THE UNITED STATES CALL INFOTRAC (800) 535-5053.

SECTION 02: Hazards identification

Signal Word.....	DANGER.
Hazard Classification.....	Flammable Aerosol 2. Gases Under Pressure: Liquefied Gas. Acute Toxicity 3. Eye Irritant 1. Skin Irritant 2. Single Target Organ Toxicity - Single Exposure 3. Carcinogen 1B. Reproductive 1B. STOT SE 1.
Hazard Description.....	H223 Flammable aerosol . H280 Contains gas under pressure; may explode if heated. H301 Toxic if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H350 This product contains ingredients that may cause cancer. H360 May damage fertility or the unborn child. H370 Causes damage to the liver and kidneys.
Prevention.....	P201 Obtain special instructions before use. P202 Do not handle this product until all safety instructions have been read and understood. P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P211 Do not spray on an open flame or other ignition sources. P251 Do not pierce or burn container, even after use. P264 Wash hands thoroughly after handling. P270 Do not eat drink or smoke while using this product. P260 Do not breathe mist, vapours, or spray. P280 Wear protective gloves and eye protection. P261 Avoid breathing mists, vapours and sprays. P271 Use only outdoors or in a well ventilated area.
Response	P301 + P310 If swallowed IMMEDIATELY CALL A POISON CONTROL CENTRE and follow instructions provided by the centre. P330 Rinse mouth. P331 Do NOT induce vomiting. P302 + P352 - If on skin: wash with plenty of water. . P321 - For specific treatment see section 4 on this SDS. P332 + P313 - If skin irritation occurs get medical attention or advice. P362 + P364 - Take off contaminated clothing and wash before reuse. P304 + P340 - If inhaled remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. P308 + P313 If exposed or concerned, get medical advice/attention. P308 + P311 If exposed or concerned; call a poison center or doctor.
Storage.....	P410 Protect from sunlight. P412 Do not expose to temperature exceeding 50°C / 122°F. P403 + P233 Store in a well ventilated area. Keep container tightly closed. P405 Store locked up.
Disposal.....	P501 Dispose all unused, waste or empty containers in accordance with local regulations.

SECTION 03: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS	CAS #	WT. %
Dichloromethane	75-09-2	50-70
Propane	74-98-6	10-30
Isobutane	75-28-5	7-13
Methanol	67-56-1	1-5

PRODUCT: PF 535 SPRAYABLE PAINT STRIPPER

SECTION 03: Composition/Information on Ingredients

2-Phenoxyethanol	122-99-6	1-5
Light aromatic naphtha	64742-95-6	1-5
2-Amino-2-methyl-1-propanol	124-68-5	<2

SECTION 04: First aid measures

Eye contact..... In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at least 15 minutes. Obtain medical attention immediately.

Skin contact..... Remove all contaminated clothing and immediately wash the exposed areas with copious amounts of water for a minimum of 30 minutes or up to 60 minutes for critical body areas. If irritation persists, seek medical attention.

Inhalation..... If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, obtain medical attention.

Ingestion..... If ingestion is suspected, contact physician or poison control center immediately. Do not induce vomiting. If spontaneous vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into the lungs. Never give anything by mouth to an unconscious person.

Additional information..... Treat victims symptomatically. In the event of an incident involving this product ensure that medical authorities are provided a copy of this safety data sheet.

SECTION 05: Fire fighting measures

Suitable and unsuitable extinguishing media "Alcohol" foam, CO2, dry chemical. Halon. In cases of larger fires, water spray should be used.

Hazardous combustion products..... Oxides of carbon (CO, CO2).

Special fire fighting procedures..... Firefighter should be equipped with self-contained breathing apparatus and full protective clothing to protect against potentially toxic and irritating fumes. Solvent vapours may be heavier than air and may build up and travel along the ground to an ignition source, which may result in a flash back to the source of the vapours. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture. Keep run-off water from entering sewers and other waterways. Dike for water control.

SECTION 06: Accidental release measures

Leak/spill..... Ventilate. Eliminate all sources of ignition. Contain the spill. Avoid all personal contact. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, provincial, state, and federal regulations. Evacuate all non-essential personnel. Prevent runoff into drains, sewers, and other waterways. Absorb with earth, sand, or another dry inert material.

SECTION 07: Handling and storage

Handling procedures..... Keep away from heat, sparks, and open flame. Avoid breathing vapours or mist. Avoid skin and eye contact. Ventilate adequately, otherwise wear an appropriate breathing apparatus. Handle and open container with care. Employees should wash hands and face before eating or drinking.

Storage needs..... Keep away from heat, sparks, and open flames. Keep container closed when not in use. Store away from oxidizing and reducing materials. Store away from sunlight.

SECTION 08: Exposure controls / personal protection

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Dichloromethane	50 ppm	Not established	25 ppm	Not established	Not established
Propane	1,000 ppm	Not established	1,000 ppm	Not established	1,000 ppm
Isobutane	Not established	Not established	Not established	Not established	800 ppm
Methanol	200 ppm	250 ppm skin	200 ppm	Not established	200 ppm / STEL 250 ppm
2-Phenoxyethanol	No data No data	No data	No data	No data	No data
Light aromatic naphtha	Not established	Not established	Not established	Not established	Not established
2-Amino-2-methyl-1-propanol	Not Established	Not Established	Not Established	Not Established	Not Established

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SECTION 08: Exposure controls / personal protection

Protective equipment

Eye/type	Liquid chemical goggles.
Respiratory/type	Local exhaust ventilation is recommended. Wear an appropriate, properly fitted respirator when contaminant levels exceed the recommended exposure limits.
Gloves/ type	Chemical resistant gloves.
Clothing/type	Wear adequate protective clothes.
Footwear/type	Safety boots per local regulations.
Other/type	Emergency showers and eye wash stations should be available.
Appropriate engineering controls	Local exhaust at points of emission.

SECTION 09: Physical and chemical properties

Physical state	Aerosol.
Colour	Clear.
Odour	Hydrocarbon odour.
Odour threshold (ppm)	Not available.
Vapour pressure (mm Hg)	70 @ 20c.
Vapour density (air=1)	>1.
pH	Not applicable.
Relative Density (Specific Gravity)	Liquid: 1.084 aerosol: 0.999.
Melting / Freezing point (deg C)	Not Available.
Solubility	Slightly soluble in water.
Initial boiling point / boiling range (deg C)	40 °C.
Evaporation rate	Not available.
Flash point (deg C), method	-104°C.
Auto ignition temperature (deg C)	Not available.
Upper flammable limit (% vol)	36.
Lower flammable limit (% vol)	1.2.
Coefficient of water\oil distribution	Not available.
% Volatile by weight	98.
VOC	1.064 g/L - 8.88 lb/usg.

SECTION 10: Stability and reactivity

Chemical stability	Stable at normal temperatures and pressures.
Reactivity	Avoid heat, sparks and flames. Explosive reactions can occur in the presence of strong oxidizing agents.
Conditions to avoid	Keep away from heat. Incompatible with strong oxidizers. May attack plastics, rubber and coatings. Active metals. Strong bases.
Hazardous decomposition products	Oxides of carbon (CO,CO2). Phosgene. Hydrogen chloride.
Possibility of hazardous reactions	Hazardous polymerization will not occur.

SECTION 11: Toxicological information

INGREDIENTS	LC50	LD50
Dichloromethane	52,000 mg/m3 rat 2 hr	1,600 mg/kg rat oral
Propane	>1,464 mg/L 15 minutes rat	Not available
Isobutane	52 mg/L 1 hour mouse	Not available
Methanol	128.2 mg/L, 4h rat	5,628 mg/kg rat oral 15,800 mg/kg rabbit dermal
2-Phenoxyethanol	No data	1260 mg/kg Oral Rat
Light aromatic naphtha	Not available	Not available
2-Amino-2-methyl-1-propanol	Not Available	2900 mg/kg (oral, rat)

Route of entry	Eye contact. Skin contact. Inhalation.
Skin contact	Can cause reddening, itching, swelling burning and possible blistering. Prolonged contact may result in skin burns.
Eye contact	May cause severe irritation and burning.
Ingestion	May be harmful if swallowed. Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression. Swallowing can cause gastrointestinal irritation, inebriation, headache, nausea, vomiting, leading to severe illness, blindness, even death. Aspiration of material into lungs can cause chemical pneumonitis which can be fatal. May cause liver and kidney effects.
Inhalation (acute)	Excessive inhalation of vapours can cause respiratory irritation, dizziness, headache, vomiting and unconsciousness. May cause pulmonary edema. May cause blood changes. Overexposure may cause an increase in carboxyhemaglobin in the blood.

PRODUCT: PF 535 SPRAYABLE PAINT STRIPPER

SECTION 11: Toxicological information

Effects of chronic exposure	Breathing high concentrations of vapour may cause anesthetic effects and serious health effects. Prolonged or repeated skin contact may cause drying or cracking of skin. Possible damage to liver and kidneys. May cause reproductive and mutagenic effects. May cause cancer.
Reproductive effects	Methanol is listed on California's Proposition 65 as causing developmental toxicity.
Carcinogenicity of material	Methylene chloride (Dichloromethane) is listed as a class 2B carcinogen and is listed on Prop 65 as causing cancer. ACGIH A3.

SECTION 12: Ecological information

Environmental	Do not allow to enter waters, waste water or soil.
Persistence and degradability	Not available.

SECTION 13: Disposal considerations

Waste disposal	This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Spilled material and water rinses are classified as chemical waste and must be disposed of in accordance with current local, provincial and federal regulations. Contents under pressure. Do not puncture, incinerate or expose to heat, even when empty.

SECTION 14: Transport information

TDG Classification	UN1950 - AEROSOLS, flammable - Class 2.1 - This product meets limited quantity exemption when shipped in containers less than 1 Litre.
DOT Classification (Road)	UN1950 - AEROSOLS, flammable - Class 2.1 - Ltd Qty (1 Liter/0.26 Gallons).
IATA Classification (Air)	UN1950 - AEROSOLS, flammable - Class 2.1 - Limited Quantity.
IMDG Classification (Marine)	UN1950 - AEROSOLS - Class 2.1 - EmS: F-D, S-U - Limited Quantity.
Marine Pollutant	Potential marine pollutant.
Proof of Classification	In accordance with Part 2.2.1 of the Transportation of Dangerous Goods Regulations (July 2, 2014) - we certify that classification of this product is correct. .

SECTION 15: Regulatory information

WHMIS 1988 classification	A. D1B. D2A. B5.
CEPA status	On Domestic Substances List (DSL).
TSCA inventory status	All components are listed.
OSHA	This product is considered hazardous under the OSHA Hazard Communication Standard.
SARA Title III	
Section 302 - extremely hazardous substances	None.
Section 311/312 - hazard categories	Immediate health, delayed health, fire hazard. Pressure.
Section 313	Methylene Chloride (Dichloromethane). Methanol.
EPA hazardous air pollutants (HAPS) 40CFR63	Methylene Chloride (Dichloromethane). Methanol.
California Proposition 65	*WARNING: This product contains a chemical known to the State of California to cause cancer. (Dichloromethane). *WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. (Methanol).

SECTION 16: Other information

Prepared by:	REGULATORY AFFAIRS. Trivalent Data Systems Ltd. www.trivalent.com.
Telephone number:	(800) 387-7981.
Disclaimer:	DISCLAIMER: All information appearing herein is based upon data obtained from experience and recognized technical sources. To the best of our knowledge, it is believed to be correct as of the date of issue but we make no representations as to its accuracy or sufficiency and do not suggest or guarantee that any hazards listed herein are the only ones which exist. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. The information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.
Preparation date:	DEC 23/2016

MATERIAL SAFETY DATA SHEET

SC0740000
05 00

DATE OF PREPARATION
Aug 25, 2017

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
SC0740000
PRODUCT NAME
WL™740 Zinc-Rich Galvanizing Compound Aerosol
MANUFACTURER'S NAME
SPRAYON PRODUCTS
SPRAYON PRODUCTS GROUP
101 W. Prospect Avenue,
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.sprayon.com
Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
14	**74-98-6**	**Propane**		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
14	**106-97-8**	**Butane**		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
11	**64742-89-8**	**Lt. Aliphatic Hydrocarbon Solvent**		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
0.1	**100-41-4**	**Ethylbenzene**		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
6	**78-93-3**	**Methyl Ethyl Ketone**		
		ACGIH TLV	200 PPM	90.6 mm
		ACGIH TLV	300 PPM STEL	
		OSHA PEL	200 PPM	
		OSHA PEL	300 PPM STEL	
5	**123-86-4**	**n-Butyl Acetate**		
		ACGIH TLV	150 PPM	10 mm
		ACGIH TLV	200 PPM STEL	
		OSHA PEL	150 PPM	
		OSHA PEL	200 PPM STEL	
44	**7440-66-6**	**Zinc**		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	3
Reactivity	1

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the hematopoietic (blood-forming) system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Propellant < 0 °F	0.9	10.0

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.93 lb/gal	1070 g/l
SPECIFIC GRAVITY	1.08	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	90%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	> 2.0, < 11.5	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

Volatile Weight 52.85% Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
106-97-8	Butane			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
100-41-4	Ethylbenzene			
		LC50 RAT	4HR	Not Available
		LD50 RAT		3500 mg/kg
78-93-3	Methyl Ethyl Ketone			
		LC50 RAT	4HR	Not Available
		LD50 RAT		2740 mg/kg
123-86-4	n-Butyl Acetate			
		LC50 RAT	4HR	2000 ppm
		LD50 RAT		13100 mg/kg
7440-66-6	Zinc			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, EmS F-D, S-U

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY, MARINE POLLUTANT, (ZINC OXIDE)

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	0.1	
	Zinc Compound	2	43.1

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: SS-25 NC
Manufacturer's Product Code: 0019
Other Names: Non-chlorinated solvent degreaser.
Major Recommended Uses: For cleaning electric motors, tank cleaning and general degreasing.
Date of Issue: Feb 2010

Supplier's Details: Chemsearch Australia
5 Ralph Street, Alexandria
Sydney NSW 2015
Telephone Number (Office Hours): (02) 9669 0260
Fax Number: (02) 9693 1562
Emergency Telephone Number: (02) 9214 0755

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SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification: Classified as hazardous according to the criteria of ASCC.
Dangerous Goods Class: Class 3, no sub-risk.
Poisons Schedule: Schedule 5.

Risk Phrases: Flammable.
Harmful: May cause lung damage if swallowed and aspirated into lungs.
Irritant. May cause sensitisation by skin contact in individuals sensitive to orange oils.
Toxic to aquatic organisms. May cause long-term adverse effects in aquatic environments.

Safety Phrases: Keep out of reach of children.
Avoid contact with the skin; wear suitable gloves for repeated or prolonged use.
Do not breathe vapour.
If swallowed, do not induce vomiting: seek medical advice immediately and show label.
Avoid release to the (aquatic) environment.

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SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	CAS No	Proportion	Synonyms
Mineral spirits	64742-88-7	>60%	Solvent naphtha, medium aliph.
Aliphatic petroleum distillate	64742-47-8	30-60%	Hydrotreated light distillates
d-Limonene	5989-27-5	<10%	Orange terpenes
'Ingredients determined not to be hazardous'		to 100%	

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SECTION 4 – FIRST AID MEASURES

Skin: Remove contaminated clothing and flush affected skin and hair with running water. Seek medical attention if irritation develops or persists. Wash clothing and clean shoes before reuse.

Eye: Hold eyelids apart and flush the eye continuously with running water for at least 15-minutes. Seek medical attention if irritation develops or persists.

Inhalation: Remove person to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion: Do not induce vomiting. Give 2 or 3 glasses of water. If vomiting occurs, give fluids again. Seek medical attention.

First Aid Facilities: An eye wash station and normal washroom facilities should be available.

Advice to Doctor: Do not induce vomiting. Gastric lavage is indicated. Keep patient's head below hips to avoid pulmonary aspiration of liquid into lungs.

Additional Information: Medical conditions aggravated by exposure are pre-existing skin and respiratory disporders such as asthma, emphysema and dermatitis. May cause skin sensitisation by skin contact. Target organs: central nervous system.

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SECTION 5 – FIRE FIGHTING MEASURES

Product is flammable and spills may be slippery.
Suitable Extinguishing Media: In the event of a fire, powder, foam, and CO_2 are the recommended extinguishing agents.

Special Protective Equipment and Precautions for Fire Fighters: Fire fighters should wear self-contained breathing apparatus and full protective gear when in confined area. Extinguishing media should be chosen based on the nature of the surrounding fire.

Fire/Explosive Hazards: Eliminate all sources of ignition. Vapours may travel considerable distances to a source of ignition and may accumulate in low areas. Cool fire-exposed containers with water to prevent rupture. Forms oxides of carbon, fumes and acrid smoke on thermal decomposition.

Hazchem Code: 3[Y]

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SECTION 6 – ACCIDENTAL RELEASE MEASURES

Eliminate all ignition sources. Wear appropriate protective clothing. Floor may be slippery.

Methods and Materials for Containment and Clean Up: Wear appropriate protective clothing and equipment to minimise skin and inhalation exposure (See Section 8). Extinguish or remove all sources of ignition, increase ventilation, and stop leak if safe to do so. Contain spill if possible. Evacuate all unnecessary personnel. Clean up the spill with an inert absorbent such as vermiculite, sand or dirt. Use clean non-sparking tools to collect the material and place into a suitable labelled container - mop up the remaining material and place into the same container.
Prevent product from contaminating soil and waterways and from entering sewerage and drainage systems. If large quantities of this material enter the waterways contact the Environmental Protection Authority, or your local Waste Management Authority. Confine spill if possible and remove from surface by skimming or with suitable absorbents.

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SECTION 7 – HANDLING AND STORAGE

Precautions for Safe Handling: Observe all precautions stated on the product label, and follow industry safety regulations. Repeated or prolonged skin exposure without protection should be prevented. Maintain high standards of personal hygiene - i.e. always wash hands prior to eating, drinking, smoking or using toilets. Keep away from open flames, hot surfaces and sources of ignition and sparks - product is flammable. Open containers cautiously as contents may be under pressure. Avoid inhalation of vapour and mists, and use only in a well ventilated area. Do not store or use in confined spaces.

Conditions for Safe Storage: Always store original container indoors in a cool, dry, well-ventilated area in an upright position. Store below 38°C. Keep container closed when not in use, and keep away from direct sunlight, heat or flames. Take precautions against static electricity discharges and use proper grounding procedures. Do not pressurise, cut, heat or weld containers. Avoid contact with incompatible materials that support combustion, such as strong oxidising agents.

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SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standards: None established for this mixture. The ASCC recommends exposure to ‘refined mineral oil mist’ be kept under TWA 5mg/m³.

Engineering Controls: General ventilation is normally adequate, although local exhaust ventilation (drawing vapours/mists away from workers breathing zone) is strongly recommended if vapours or mists are generated and vapour exposure exceeds Exposure Standards and when using in a confined space.

(Refer to *AS 1940 - The storage and handling of flammable and combustible liquids* and *AS 2430 - Explosive gas atmospheres* for further information concerning ventilation requirements.)

Personal Protective Equipment:
Eye/Face Protection: Avoid contact. Safety glasses with side shields or goggles should be worn if eye contact is likely. If splashing of material is likely, a face shield should be worn. AS1336 and AS/NZS1337 should be consulted for information on eye protection.

Skin Protection: Wear appropriate impervious chemical resistant gloves – e.g. nitrile, neoprene, PVC - should be worn when handling this product, especially if repeated or prolonged skin contact is anticipated. Reference should be made to *AS/NZS 2161 Occupational protective gloves- Selection, use and maintenance*. Wear appropriate clothing including chemical resistant apron if clothing is likely to be contaminated.

Respiratory Protection: Whilst not required in normal conditions of use with sufficient ventilation, if engineering controls are not effective in controlling airborne exposure then an air purifying respirator with a combined Organic Vapour/Class P1 filter is recommended. The respirator should meet the requirements outlined in AS/NZS 1715 and AS/NZS 1716.

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SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	A transparent, colourless, non-viscous liquid with a hydrocarbon odour.
pH (100%):	Not measurable
Boiling Point:	193ºC
Melting Point:	Not applicable
Solubility in Water (g/L):	Negligible
Specific Gravity:	0.79
Flashpoint:	40°C
Flashpoint Method:	P.M.C.C.
Flashpoint Limits:	L.E.L. – 1.5; U.E.L. - Not available
% Volatiles by Volume:	100%
Vapour Density:	6.6 (Air = 1)
Evaporation Rate:	<0.2 (Butyl acetate = 1)

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SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable.
Hazardous Polymerisation: Will not occur.
Conditions/Materials to Avoid: Incompatible with strong oxidising agents such as chlorine bleach and concentrated hydrogen peroxide; acids; and iodine pentafluorethylene.
Hazardous Decomposition Products: Forms oxides of carbon, fumes and acrid smoke on thermal decomposition.

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SECTION 11 – TOXICOLOGICAL INFORMATION

Health Effects:
Acute - Swallowed: Can cause nausea, cramps, vomiting and diarrhoea. Aspiration of this product into lungs may cause lung damage.

Acute - Eye: May cause irritation seen as redness, tearing and blurred vision.

Acute - Skin: May cause irritation seen as reddening and defattening. May cause sensitisation in individuals sensitive to products containing orange oils.

Acute - Inhaled: May cause nasal and respiratory irritation, dizziness, weakness and nausea. Inhalation of high concentrations of vapour can cause anaesthesia, drowsiness, unconsciousness and central nervous system effects.

Chronic: May cause skin sensitisation by skin contact in sensitive individuals.

Target Organs: Central nervous system.

Product Contains Chemicals Listed as Carcinogens by:
International Agency for the Research of Cancer (IARC): NO
Other: NO

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SECTION 12 – ECOLOGICAL INFORMATION

Persistence/Degradability: No specific toxicology data on this product is available. When used as directed, no adverse environmental effects are foreseen.
Prevent product from entering drains, waterways, sewers and bodies of water - d-limonene is toxic to aquatic organisms and may cause adverse effects in the aquatic environment.

Mobility in Soil: The product is not soluble in water.

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SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of waste in a closed, labelled container in accordance with EPA, local, state and Commonwealth laws. Do not dispose of into natural waterways as it may cause adverse effects to aquatic organisms. Empty containers can be land filled after cleaning, when in compliance with local regulations and after thorough rinsing.

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SECTION 14 – TRANSPORT INFORMATION

UN Number: UN1993
UN Proper Shipping Name: Flammable liquids, n.o.s.
Transport Hazard Class: Dangerous Goods Class 3. No sub-risk.
It is incompatible in a placard load with any of the following: - Class 1, Explosives; - Class 2.1, Flammable Gases, if both the Class 3 and Class 2.1 dangerous goods are in bulk; - Class 2.3, Toxic Gases; - Class 4.2 Spontaneously Combustible Substances; - Class 5.1 Oxidising Agents and Class 5.2, Organic Peroxides; - Class 7 Radioactive Substances.
Packaging Group: Packaging Group III.
Hazchem Code: 3[Y].

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SECTION 15 - REGULATORY INFORMATION

Poisons Schedule: Schedule 5;

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IRRITANT

- - - - - - - - - - - - -

SECTION 16 – OTHER INFORMATION

March 2008 - Initial copy of 16-header MSDS.

Kleen-Start Starting Fluid

SAFETY DATA SHEET

According to Canada's Hazardous Products Regulations (HPR) SOR/2015-17

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade Name	Kleen start starting fluid
Product Code	730

Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	Engine starting aid
Uses Advised Against	None
Company Identification	Kleen-Flo Tumbler Ind. Ltd. 75 Advance Blvd. Brampton, ON L6T 4N1
Telephone	905-793-4311
Fax	905-793-4318

Emergency telephone number

Emergency Phone No.	**CANUTEC: 613-996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

HPR/WHIMIS 2015/GHS Classification: Flam. Aerosol 1; Compressed dissolved gas; Asp. Tox. 1; Carc. 2; Repr. 2; STOT SE 3; Skin Irrit. 2

Label elements

Hazard Symbol

Signal word(s): **DANGER**

Hazard Statement(s)

Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
May cause drowsiness or dizziness.
Causes skin irritation.
Suspected of causing cancer.
Suspected of damaging the unborn child.
May be fatal if swallowed and enters airways

Precautionary Statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Protect from sunlight and do not expose to temperatures exceeding 50 ºC/122 ºF.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and exposed skin thoroughly after handling.

Other hazards: Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Additional Information: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	% wt. *	CAS No.	Hazard classification
Heptane, branched, cyclic and linear	40 - 50	426260-76-6	Flam. Liq. 2, H225 Asp. Tox. 1; H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 2; H401 Aquatic Chronic 3, H412
Diethyl ether	40 - 50	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4;H302 STOT SE 3; H336
Carbon dioxide	5 - 10	124-38-9	Compressed dissolved gas; H280
Ethanol	1-5	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2; H319
Chloroethane	0.1-1	75-00-3	Flam. Gas 1; H220 Carc. 2; H351
Toluene	0.1-1	108-88-3	Flam. Liq. 2; H225 Repr. 2; H361 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Asp. Tox. 1; H304 STOT SE 3; H336 STOT RE 2; H373 Aquatic Acute 2; H401 Aquatic Chronic 3; H412

Additional Information - Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.: None

* The exact percentage withheld as a trade secret in accordance with 29 CFR 1910.1200.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation	Move person to fresh air. If breathing is labored, administer oxygen. If symptoms persist, obtain medical attention.
Skin Contact	Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Ingestion	Do not give anything by mouth to an unconscious person. Seek medical treatment. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	Aspiration into the lungs may cause chemical pneumonitis, which can be fatal.
Indication of any immediate medical attention and special treatment needed	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

-Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or water spray.
-Unsuitable Extinguishing Media	Do not use water jet.

Special hazards arising from the substance or mixture — Contains gas under pressure; may explode if heated.

Advice for fire-fighters — A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Keep containers cool by spraying with water if exposed to fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures — Eliminate sources of ignition. Avoid contact with skin and eyes. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing gas / vapours.

Environmental precautions — Prevent liquid entering sewers, basements and work pits. Avoid release to the environment.

Methods and material for containment and cleaning up — Cover spills with inert absorbent material. Transfer to a container for disposal or recovery.

Reference to other sections — None

Additional Information — None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling — Wear protective gloves/eye protection. Wash hands and exposed skin thoroughly after handling. Avoid release to the environment. Protect from sunlight and do not expose to temperatures exceeding 50 ºC/122 ºF.

Conditions for safe storage, including any incompatibilities

-Storage temperature	Keep in a cool, well ventilated place. Store at temperatures not exceeding 50 °C / 122 °F.
-Incompatible materials	This product should be stored away from sources of strong heat or oxidizing chemicals.

Specific end use(s) — Engine starting aid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA) OEL (Canada)	(8hr TWA) TLV (ACGIH)	(STEL) OEL (Canada)	(STEL) TLV (ACGIH)	Note:
Heptane, branched, cylic and linear	426260-76-6	400 ppm	400 ppm	500 ppm	500 ppm	----
Carbon dioxide	124-38-9	5,000 ppm	5,000 ppm	30,000 ppm	30,000 ppm	#
Diethyl ether	60-29-7	400 ppm	400 ppm	500 ppm	500 ppm	----
Chloroethane	75-00-3	100 ppm	100 ppm	-----	-----	*A3

#Assure minimum oxygen content of work atmosphere. *A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans

Recommended monitoring method — NIOSH 1500 (hydrocarbons, B.P. 36 - 126 ºC); NIOSH 6603 (Carbon dioxide); NIOSH 1610 (Ethyl ether); NIOSH 2519 (Ethyl chloride)

Exposure controls

Appropriate engineering controls — Provide adequate ventilation to ensure that the occupational exposure limit is not exceeded.

Personal protection equipment

Eye/face protection 	Wear protective eyewear (goggles, face shield, or safety glasses).
Skin protection (Hand protection/ Other) 	Wear suitable gloves if prolonged skin contact is likely. Check with protective equipment manufacturer's data. Use gloves only once.
Respiratory protection 	In case of insufficient ventilation, wear suitable respiratory equipment. Check with protective equipment manufacturer's data.
Thermal hazards	Not normally required. Use gloves with insulation for thermal protection, when needed.
Environmental Exposure Controls	Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Color.	Colorless
Odor	Sweetish, Hydrocarbon-like
Odor Threshold (ppm)	Not available
pH (Value)	Not available
Melting Point (°C) / Freezing Point (°C)	Not available
Boiling point/boiling range (°C):	34 - 35 (Diethylether)
Flash Point (°C)	-45 (Diethylether)
Evaporation Rate	Not available
Flammability (solid, gas)	Extremely flammable
Explosive Limit Ranges	1.85% - 36.5% v/v (Diethylether)
Vapor pressure (Pascal)	7.16×10^4 (Diethylether)
Vapor Density (Air=1)	Not available
Density (g/ml)	Not available
Solubility (Water)	Not available
Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Point (°C)	175 (Diethylether)
Decomposition Temperature (°C)	Not available
Kinematic Viscosity (cSt)	<20 @ 40 °C
Explosive properties	Not available
Oxidizing properties	Not available

Other information Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	None anticipated.
Conditions to avoid	Avoid contact with heat and ignition sources.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition product(s)	Carbon monoxide, Carbon dioxide, Acrid smoke

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation**,** Skin Contact**,** Eye Contact

Information on toxicological effects

Heptane, branched, cylic and linear (CAS# 426260-76-6) - By analogy with similar materials:

Acute toxicity	Oral: LD50 >5 g/kg-bw Dermal: LD50 >2 g/kg-bw Inhalation: LC50 = 65 - 103 mg/L (Vapour), 4-hr. rat May cause drowsiness or dizziness. May be fatal if swallowed and enters airways.
Irritation/Corrosivity	Causes skin irritation. Repeated exposure may cause skin dryness or cracking. May cause eye irritation.
Sensitisation	It is not a skin sensitiser.
Repeated dose toxicity	NOAEC: 12350 mg/m3 (2 yr, inhal., rat, Systemic effects) LOAEC: 1650 mg/m3 (2 hr, inhal., rat, CNS effects) May cause drowsiness or dizziness.
Carcinogenicity	No data. It is unlikely to present a carcinogenic hazard to man.

NTP	IARC	ACGIH	OSHA	NIOSH
No.	No.	No.	No.	No.

Mutagenicity	There is no evidence of mutagenic potential.
Toxicity for reproduction	No information available

Diethyl Ether (CAS# 60-29-7):

Acute toxicity	Oral: LD50 = 1600 mg/kg-bw (rat) Dermal: LD50 >20000 mg/kg-bw (rabbit) May cause drowsiness or dizziness.
Irritation/Corrosivity	Non-irritant to skin and eye.
Sensitisation	It is not a skin sensitiser.
Repeated dose toxicity	Not to be expected.
Carcinogenicity	Not to be expected.

NTP	IARC	ACGIH	OSHA	NIOSH
No.	No.	No.	No.	No.

Mutagenicity	Not to be expected.
Toxicity for reproduction	Not to be expected.

Toluene (CAS#108-88-3):

Acute toxicity	Oral LD50 = 5580 mg/kg (rat) Dermal LD50 >5000 mg/kg (rabbit) Inhalation LC50 (4 hour(s)) 28.1 mg/l (rat) - Vapours may cause drowsiness and dizziness.
Irritation / Corrosivity	Causes serious eye irritation. Causes skin irritation.
Sensitisation	It is not a skin sensitiser.
Repeated dose toxicity	Inhalation NOAEC = 1131 mg/m^3 (rat), 2 Year(s) - May cause damage to organs through prolonged or repeated exposure: neuropsychological effects, auditory dysfunction and effects on colour vision.
Carcinogenicity	It is unlikely to present a carcinogenic hazard to man.

NTP	IARC	ACGIH	OSHA	NIOSH
No.	No.	No.	No.	No.

Mutagenicity	There is no evidence of mutagenic potential.
Reproductive toxicity	Suspected of damaging the unborn child. NOAEC: 2.8 mg/liter (rat)

Chloroethane (CAS# 75-00-3)

Carcinogenicity

NTP	IARC	ACGIH	OSHA	NIOSH
Clear Evidence in Female Mice	No.	A3 - Confirmed Animal Carcinogen	No.	Yes.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Heptane, branched, cylic and linear (CAS# 426260-76-6) - By analogy with similar materials:

Acute toxicity	LL50 (96 hour): >13.4 mg/L (*Oncorhynchus mykiss*) EL50 (48 hour): 3 mg/l (*Daphnia magna,* mobility*)* EC50 (96 hour): 13 mg/l (*Pseudokirchnerella subcapitata*)
Long Term Toxicity	NOELR (28 days) 1.5 mg/l *(Fish*) QSAR LOEC (21 days): 0.32 mg/l (*Daphnia magna*) NOEL (96 hour) 6.3 mg/l (Algae)

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods — Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

SECTION 14: TRANSPORT INFORMATION

	Land transport (TDG)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	1950	1950	1950
Proper Shipping Name	Aerosols, flammable	Aerosols, flammable	Aerosols, flammable
Transport hazard class(es)	2.1	2.1	2.1
Packing group	Not applicable	Not applicable	Not applicable
Environmental hazards	None assigned	None assigned	None assigned
Special precautions for user	None assigned	None assigned	None assigned

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance to CPR Section 12 and the MSDS contains all the information required by the HPR.

Canada (DSL/NDSL) - All chemicals listed.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

Date of preparation: May 3, 2017

Hazard Statement(s) and Risk Phrases Listed in: SECTION 2:/ SECTION 3:

Hazard Statement(s)

- H220: Extremely flammable gas.
- H224: Extremely flammable liquid and vapour.
- H225: Highly flammable liquid and vapor.
- H280: Contains gas under pressure; may explode if heated.
- H302: Harmful if swallowed.
- H304: May be fatal if swallowed and enters airways.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness.
- H351: Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H401: Toxic to aquatic life.
- H412: Harmful to aquatic life with long lasting effects.

Training advice: None.

Guidelines for SDS use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal foreseeable conditions. This SDS is designed to provide additional valuable safety and handling information.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Fluide Pour Demarrage

FICHE DE DONNÉES DE SÉCURITÉ

Selon le Règlement sur les produits dangereux (HPR) DORS Canada / 2015-17

SECTION 1: PRODUIT ET LA IDENTIFICATION DE LA SOCIÉTÉ

Identificateur de produit

Nom Commercial	Fluide Pour Demarrage
Code du produit.	730

Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées

Utilisation Identifiée	Engine starting aid
Utilisations Déconseillées	Aucun
Identification de la société	Les Entreprises Kleen-Flo Tumbler Limitée 75 Advance Blvd., Brampton, ON L6T 4N1
Téléphone	905-793-4311
Fax	905-793-4318

Numéro d'appel d'urgence

Tél. d'urgence	**CANUTEC: 613-996-6666**

SECTION 2: IDENTIFICATION DES DANGERS

Classification de la substance ou du mélange

HPR/WHIMIS 2015/GHS Classification: Flam. Aerosol 1; Gaz comprimé dissous; Asp. Tox. 1; Carc. 2; Repr. 2; STOT SE 3; STOT RE 2Skin Irrit. 2

Éléments d'étiquetage

Symbole de Danger

Mention(s) d'Avertissement: **DANGER**

Mention(s) de Danger

Aérosol extrêmement inflammable.

Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.

Peut provoquer somnolence ou vertiges.

Provoque une irritation cutanée.

Susceptible de provoquer le cancer.

Susceptible de nuire au foetus.

May be fatal if swallowed and enters airways

Conseil(s) de Prudence

Se procurer les instructions avant utilisation.

Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité.

Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.

Ne pas vaporiser sur une flamme nue ou sur toute autre source d'ignition.

Ne pas percer ou brûler même après usage.

Protéger du rayonnement solaire et ne pas exposer à une température supérieure à 50 ºC/122 ºF.

Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/ aérosols.

Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/ du visage.

Se laver mains et la peau exposée soigneusement après manipulation.

Autres dangers: Toxique pour la vie aquatique. Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

Autres informations: Aucun

SECTION 3: COMPOSITION/INFORMATIONS SUR LES COMPOSANTS

Composants Dangereux	% wt. *	N° CAS	Classification des dangers
Heptane, branched, cyclic and linear	40 - 50	426260-76-6	Flam. Liq. 2, H225 Asp. Tox. 1; H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 2; H401 Aquatic Chronic 3, H412
Diethyl ether	40 - 50	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4;H302 STOT SE 3; H336
Carbon dioxide	5 - 10	124-38-9	Gaz comprimé dissous; H280
Ethanol	1-5	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2; H319
Chloroethane	0.1-1	75-00-3	Flam. Gas 1; H220 Carc. 2; H351
Toluene	0.1-1	108-88-3	Flam. Liq. 2; H225 Repr. 2; H361 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Asp. Tox. 1; H304 STOT SE 3; H336 STOT RE 2; H373 Aquatic Acute 2; H401 Aquatic Chronic 3; H412

Autres informations - Les substances dans le produit qui pourraient présenter un danger sanitaire ou environnemental, ou qui ont des limites d'exposition professionnelle, sont détaillées ci-dessous.: Aucun

* The exact percentage withheld as a trade secret in accordance with 29 CFR 1910.1200.

SECTION 4: PREMIERS SECOURS

Description des premiers secours

Inhalation	Transporter la victime hors de la zone contaminée. Si la victime respire difficilement, la placer sous oxygène. Si les symptômes persistent alerter un médecin.
Contact avec la Peau	Laver abondamment à l'eau. En cas d'irritation ou d'éruption cutanée: consulter un médecin. Enlever les vêtements contaminés.
Contact avec les yeux	Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si l'irritation oculaire persiste, consulter un médecin.
Ingestion	Ne rien administrer par la bouche à une personne inconsciente. Requérir le secours d'un médecin. NE PAS faire vomir.
Principaux symptômes et effets, aigus et différés	Une aspiration dans les poumons peut provoquer une pneumonie chimique, pouvant être fatale.

Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires	EN CAS D'INGESTION: appeler immédiatement un CENTRE ANTIPOISON ou un médecin. NE PAS faire vomir.

SECTION 5: MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction

-Moyens d'Extinction Appropriés	Eteindre l'incendie avec de l'anhydride carbonique, de la poudre chimique, de la mousse ou de l'eau pulvérisée.
-Moyens d'extinction inappropriés	Ne pas utiliser de jet d'eau.
Dangers particuliers résultant de la substance ou du mélange	Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.
Conseils aux pompiers	Porter un appareil respiratoire autonome et des vêtements de protection appropriés en cas d'incendie. Maintenir les récipients au frais en les arrosant d'eau s'ils sont exposés au feu.

SECTION 6: MESURES À PRENDRE EN CAS DE DÉVERSEMENT ACCIDENTEL

Précautions individuelles, équipement de protection et procédures d'urgence	Eliminer les sources d'ignition. Éviter le contact avec la peau et les yeux. Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/ du visage. Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/ aérosols.
Précautions pour la protection de l'environnement	Empêcher le liquide de pénétrer dans les égouts, dans les caves et dans les fosses et tranchées de travail. Éviter le rejet dans l'environnement.
Méthodes et matériel de confinement et de nettoyage	Couvrir les déversements avec un matériau absorbant inerte. Placer dans un conteneur pour élimination ou récupération.
Référence à d'autres sections	Aucun
Autres informations	Aucun

SECTION 7: MANIPULATION ET STOCKAGE

Précautions à prendre pour une manipulation sans danger	Porter des gants de protection/un équipement de protection des yeux. Se laver mains et la peau exposée soigneusement après manipulation. Éviter le rejet dans l'environnement. Protéger du rayonnement solaire et ne pas exposer à une température supérieure à 50 ºC/122 ºF.

Conditions nécessaires pour assurer la sécurité du stockage, tenant compte d'éventuelles incompatibilités

-Température de stockage	Conserver dans un endroit frais et bien ventilé. Protéger du rayonnement solaire et ne pas exposer à une température supérieure à 50 ºC/122 ºF.
-Matières incompatibles	Ce produit doit être stocké à l'écart des fortes sources de chaleur et des produits chimiques oxydants.
Utilisation(s) finale(s) particulière(s)	Engine starting aid

SECTION 8: CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Limites d'exposition sur le lieu de travail

SUBSTANCE.	N° CAS	(8 h TWA)		(VLE)		Remarque:
		OEL (Canada)	TLV (ACGIH)	OEL (Canada)	TLV (ACGIH)	
Heptane, branched, cylic and linear	426260-76-6	400 ppm	400 ppm	500 ppm	500 ppm	----
Carbon dioxide	124-38-9	5,000 ppm	5,000 ppm	30,000 ppm	30,000 ppm	#
Diethyl ether	60-29-7	400 ppm	400 ppm	500 ppm	500 ppm	----

#Assurez la teneur minimale en oxygène de l'atmosphère de travail. *A3 = Cancérigène confirmé chez les animaux mais sans pertinence connue chez l'homme

Méthode de surveillance recommandée

NIOSH 1500 (hydrocarbons, B.P. 36 - 126 ºC); NIOSH 6603 (Carbon dioxide); NIOSH 1610 (Ethyl ether); NIOSH 2519 (Ethyl chloride)

Contrôles de l'exposition

Contrôles techniques appropriés

Assurer une ventilation efficace afin d'être en conformité avec la limite d'exposition sur le lieu de travail.

Équipement personnel de protection

Protection des yeux/du visage

Porter un équipement de protection pour les yeux (lunettes de protection, écran facial ou lunettes de sûreté).

Protection de la peau (Protection des mains/ Divers)

Porter des gants adaptés si un contact prolongé avec la peau est probable. Vérifier avec les données des équipements de protection du fournisseur. Utiliser des gants à usage unique.

Protection respiratoire

En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Vérifier avec les données des équipements de protection du fournisseur.

Thermal hazards

Non requis normalement. Utilisez des gants de protection thermique, en cas de besoin.

Contrôles D'exposition Liés À La Protection De L'environnement

Éviter le rejet dans l'environnement.

SECTION 9: PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Informations sur les propriétés physiques et chimiques essentielles

Aspect	Liquide
Couleur.	Colorless
Odeur	Sweetish, Hydrocarbon-like
Seuil Olfactif (ppm)	Non disponible
pH	Non disponible
Point de Fusion (°C) / Point de Congélation (°C)	Non disponible
Point/intervalle d'ébullition [°C]:	34 - 35 (Diéthyléther)
Point d'Eclair (°C)	-45 (Diéthyléther)
Taux d'Evaporation	Non disponible
Inflammabilité (solide, gaz)	Extrêmement inflammable
Intervalle de limites d'Explosivité	1.85% - 36.5% v/v (Diéthyléther)
Pression de Vapeur (Pascal)	7.16×10^4 (Diéthyléther)
Densité de Vapeur (Air=1)	Non disponible
Masse volumique (g/ml)	Non disponible
Solubilité (Eau)	Non disponible
Solubilité (Autre)	Non disponible
Coefficient de Partage (n-Octanol/eau)	Non disponible
Température d'Auto-Inflammabilité (°C)	175 (Diéthyléther)
Température de Décomposition (°C)	Non disponible

Viscosité Cinématique (cSt)	<20 @ 40 °C
Propriétés explosives	Non disponibleNon Explosif.
Propriétés comburantes	Non disponible
Autres informations	Non disponible

SECTION 10: STABILITÉ ET RÉACTIVITÉ

Réactivité	Stable dans les conditions normales.
Stabilité chimique	Stable.
Possibilité de réactions dangereuses	Non attribué.
Conditions à éviter	Éviter tout contact avec une source de chaleur ou d'inflammation.
Matières incompatibles	Agents oxydants forts
Produit(s) de décomposition dangereux	Monoxyde de carbone, Dioxyde de carbone, Fumée âcre

SECTION 11 INFORMATIONS TOXICOLOGIQUES

Itinéraire d'expositions: Inhalation**,** Contact avec la Peau**,** Contact avec les yeux

Informations sur les effets toxicologiques

Heptane, branched, cylic and linear (CAS# 426260-76-6) - Par analogie avec des produits apparentés:

Toxicité aiguë	Orale: LD50 >5 g/kg-bw Cutanée: LD50 >2 g/kg-bw Inhalation: LC50 = 65 - 103 mg/L (Vapeur), 4-hr. rat Peut provoquer somnolence ou vertiges. Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.
Irritation/Corrosivité	Provoque une irritation cutanée. L'exposition répétée peut provoquer dessèchement ou gerçures de la peau. Peut provoquer une irritation oculaire.
Sensibilisation	Non sensibilisant pour la peau.
Toxicité à dose répétée	NOAEC: 12350 mg/m3 (2 yr, inhal., rat, Effets systémiques) LOAEC: 1650 mg/m3 (2 hr, inhal., rat, CNS effects) Peut provoquer somnolence ou vertiges.
Cancérogénicité	Pas de données. Il est peu probable de présenter un danger cancérogène à l'homme.

NTP	IARC	ACGIH	OSHA	NIOSH
Non.	Non.	Non.	Non.	Non.

Mutagénicité	Il n'y a aucune preuve de potentiel mutagène.
Toxicity for reproduction	No information available

Diethyl Ether (CAS# 60-29-7):

Toxicité aiguë	Orale: LD50 = 1600 mg/kg-bw (rat) Cutanée: LD50 >20000 mg/kg-bw (rabbit) Peut provoquer somnolence ou vertiges.
Irritation/Corrosivité	Non irritante to skin and eye.
Sensibilisation	Non sensibilisant pour la peau.
Toxicité à dose répétée	Peu probable.
Cancérogénicité	Peu probable.

NTP	IARC	ACGIH	OSHA	NIOSH
Non.	Non.	Non.	Non.	Non.

Mutagénicité	Peu probable.
Toxicity for reproduction	Peu probable.

Toluene (CAS#108-88-3):

Toxicité aiguë
Orale LD50 = 5580 mg/kg (rat)
Cutanée LD50 >5000 mg/kg (lapin)
Inhalation CL50 (4 heure(s)) 28.1 mg/l (rat) - L'inhalation de vapeurs peut provoquer somnolence et vertiges.

Irritation / Corrosivité
Provoque une sévère irritation des yeux. Provoque une irritation cutanée.

Sensibilisation
Non sensibilisant pour la peau.

Toxicité à dose répétée
Inhalation NOAEC = 1131 mg/m^3 (rat), 2 Année(s) - Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée: neuropsychological effects, auditory dysfunction and effects on colour vision.

Cancérogénicité
Il est peu probable de présenter un danger cancérogène à l'homme.

NTP	IARC	ACGIH	OSHA	NIOSH
Non.	Non.	Non.	Non.	Non.

Mutagénicité
Il n'y a aucune preuve de potentiel mutagène.

Toxicité pour la reproduction
Susceptible de nuire au foetus. NOAEC: 2.8 mg/liter (rat)

Chloroethane (CAS# 75-00-3)

Cancérogénicité

NTP	IARC	ACGIH	OSHA	NIOSH
Clear Evidence in Female Mice	Non.	A3 - Confirmed Animal Carcinogen	Non.	Oui.

SECTION 12: INFORMATIONS ÉCOLOGIQUES

Écotoxicité

Heptane, branched, cylic and linear (CAS# 426260-76-6) - Par analogie avec des produits apparentés:

Toxicité aiguë
LL50 (96 heures): >13.4 mg/L (*Oncorhynchus mykiss*)
EL50 (48 heures): 3 mg/l (*Daphnia magna,* mobility*)*
EC50 (96 heures): 13 mg/l (*Pseudokirchnerella subcapitata*)

À long terme Toxicité
NOELR (28 jours) 1.5 mg/l *(Poissons*) QSAR
LOEC (21 jours): 0.32 mg/l (*Daphnia magna*)
NOEL (96 heures) 6.3 mg/l (Algae)

SECTION 13: CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes de traitement des déchets
L'élimination doit être effectuée en accord avec la législation locale, régionale ou nationale. Se renseigner auprès de spécialistes ou auprès des autorités locales.

SECTION 14: INFORMATIONS RELATIVES AU TRANSPORT

	Transports terrestres (TDG)	Transport maritime (IMDG)	Transports aérien (OACI/IATA)
Numéro ONU	1950	1950	1950
Désignation officielle de transport	Aerosols, flammable	Aerosols, flammable	Aerosols, flammable
Classe(s) de danger pour le transport	2.1	2.1	2.1
Groupe d'emballage	Non applicable	Non applicable	Non applicable
Dangers pour l'environnement	Aucun attribué	Aucun attribué	Aucun attribué
Précautions particulières à prendre par l'utilisateur	Aucun attribué	Aucun attribué	Aucun attribué

Transport en vrac conformément à l'annexe II de la convention MARPOL 73/78 et au recueil IBC: Non applicable
This product is exempted under TDG section 1.17 as limited quantity and can be shipped as limited quantity.

SECTION 15: INFORMATIONS RÉGLEMENTAIRES

Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement:

Ce produit a été classé conformément à la section 12 de la CPR et le FDS contient toutes les informations exigées par la HPR.

Canada (DSL / NDSL) - Tous les produits chimiques listés.

SECTION 16: AUTRES INFORMATIONS

Sections contenant des révisions ou mises à jour: 1-16.

Date de préparation: May 3, 2017

Mention(s) de Danger et Phrases de Risque Énuméré dans: SECTION 2:/ SECTION 3:

Mention(s) de Danger
- H220: Gaz extrêmement inflammable.
- H224: Liquide et vapeurs extrêmement inflammables.
- H225: Liquide et vapeurs très inflammables.
- H280: Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.
- H302: Nocif en cas d'ingestion.
- H304: Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.
- H315: Provoque une irritation cutanée.
- H319: Provoque une sévère irritation des yeux.
- H336: Peut provoquer somnolence ou vertiges.
- H351: Susceptible de provoquer le cancer.
- H361d: Susceptible de nuire au foetus.
- H373: Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
- H401: Toxique pour la vie aquatique.
- H412: Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

Conseils en matière de formation : Aucun.

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

SAFETY DATA SHEET

1. Identification

Product identifier **SUPER SURFACE PRIMER RED OXIDE**

Other means of identification

Product code 4401

Recommended use Coating

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Kleen-Flo Tumbler Ind Limited

Address 75 Advance Blvd
Brampton, Ontario L6T 4N1
Canada

Telephone General Assistance 1-905-793-4311

E-mail Not available.

Emergency phone number CANUTEC: 613-996-6666

2. Hazard(s) identification

Physical hazards

Health hazards

Flammable aerosols	Category 1
Serious eye damage/eye irritation	Category 2A
Reproductive toxicity (the unborn child)	Category 2
Specific target organ toxicity, single exposure	Category 3 narcotic effects
Specific target organ toxicity, repeated exposure	Category 2

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe gas. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3

	Hazardous to the aquatic environment, long-term hazard	Category 3

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Acetone		67-64-1	30-60
Propane		74-98-6	10-30
Propylene Glycol Monomethyl Ether Acetate		108-65-6	5-10
Isobutane		75-28-5	5-10
Methyl Isobutyl Ketone		108-10-1	1-5
Toluene		108-88-3	1-5
Xylene		1330-20-7	1-5
n-Butyl Acetate		123-86-4	1-5
Isopropyl Alcohol		67-63-0	0.5-1.5
Nitrocellulose		9004-70-0	0.1-1
Trizinc Bis(orthophosphate)		7779-90-0	0.1-1
Zinc Oxide		1314-13-2	0.1-1
Other components below reportable levels			10-30

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.

Most important symptoms/effects, acute and delayed May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Alcohol resistant foam. Powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe gas. Avoid contact with eyes. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Level 2 Aerosol. Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Methyl Isobutyl Ketone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
n-Butyl Acetate (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
	TWA	2 mg/m3	Respirable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	1800 mg/m3 750 ppm	
	TWA	1200 mg/m3 500 ppm	
Isopropyl Alcohol (CAS 67-63-0)	STEL	984 mg/m3 400 ppm	
	TWA	492 mg/m3 200 ppm	
Methyl Isobutyl Ketone (CAS 108-10-1)	STEL	307 mg/m3 75 ppm	
	TWA	205 mg/m3 50 ppm	
n-Butyl Acetate (CAS 123-86-4)	STEL	950 mg/m3 200 ppm	
	TWA	713 mg/m3 150 ppm	
Propane (CAS 74-98-6)	TWA	1000 ppm	
Toluene (CAS 108-88-3)	TWA	188 mg/m3 50 ppm	
Xylene (CAS 1330-20-7)	STEL	651 mg/m3 150 ppm	
	TWA	434 mg/m3 100 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Methyl Isobutyl Ketone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
n-Butyl Acetate (CAS 123-86-4)	TWA	20 ppm	
Propylene Glycol Monomethyl Ether Acetate (CAS 108-65-6)	STEL	75 ppm	
	TWA	50 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Methyl Isobutyl Ketone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
n-Butyl Acetate (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Isobutane (CAS 75-28-5)	TWA	800 ppm	
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Methyl Isobutyl Ketone (CAS 108-10-1)	STEL	75 ppm	
	TWA	50 ppm	
n-Butyl Acetate (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Propylene Glycol Monomethyl Ether Acetate (CAS 108-65-6)	TWA	270 mg/m3	
		50 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	2380 mg/m3	
		1000 ppm	
	TWA	1190 mg/m3	
		500 ppm	
Isopropyl Alcohol (CAS 67-63-0)	STEL	1230 mg/m3	
		500 ppm	
	TWA	983 mg/m3	
		400 ppm	
Methyl Isobutyl Ketone (CAS 108-10-1)	STEL	307 mg/m3	
		75 ppm	
	TWA	205 mg/m3	
		50 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
n-Butyl Acetate (CAS 123-86-4)	STEL	950 mg/m3	
		200 ppm	
	TWA	713 mg/m3	
		150 ppm	
Propane (CAS 74-98-6)	TWA	1800 mg/m3	
		1000 ppm	
Toluene (CAS 108-88-3)	TWA	188 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	651 mg/m3	
		150 ppm	
	TWA	434 mg/m3	
		100 ppm	
Zinc Oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		10 mg/m3	Total dust.

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
Methyl Isobutyl Ketone (CAS 108-10-1)	1 mg/l	Methyl isobutyl ketone	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations	Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Gas.
Form	Aerosol.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	163.59 °F (73.11 °C) estimated
Flash point	-156.0 °F (-104.4 °C) Propellant estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	2.9 % estimated
Flammability limit - upper (%)	6.5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	765.23 °F (407.35 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	0.805 estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Nitrates. Halogens. Fluorine. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity Narcotic effects.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Guinea pig	> 7426 mg/kg, 24 Hours
		> 9.4 ml/kg, 24 Hours
	Rabbit	> 7426 mg/kg, 24 Hours
		> 9.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	55700 ppm, 3 Hours
		132 mg/l, 3 Hours
		50.1 mg/l
Oral		
LD50	Rat	5800 mg/kg
		2.2 ml/kg
Isobutane (CAS 75-28-5)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	16.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	> 10000 ppm, 6 Hours
Oral		
LD50	Rat	5.84 g/kg
Methyl Isobutyl Ketone (CAS 108-10-1)		
Acute		
Inhalation		
LC50	Rat	2000 - 4000 ppm, 4 Hours
Oral		
LD50	Rat	2.08 g/kg

Components	Species	Test Results
n-Butyl Acetate (CAS 123-86-4)		
Acute		
Dermal		
LD50	Rabbit	> 16 ml/kg, 24 Hours
Inhalation		
LC50	Rat	1087 ppm, 4 Hours
		0.74 mg/l, 4 Hours
Oral		
LD50	Rat	14130 mg/kg
		12.2 ml/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
		658 mg/l/4h
Propylene Glycol Monomethyl Ether Acetate (CAS 108-65-6)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 5000 mg/kg
		> 14.1 ml
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, 24 Hours
Inhalation		
LC50	Mouse	6405 - 7436 ppm, 6 Hours
		5320 ppm, 8 Hours
	Rat	5879 - 6281 ppm, 6 Hours
		25.7 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Trizinc Bis(orthophosphate) (CAS 7779-90-0)		
Acute		
Inhalation		
LC50	Rat	> 5410 mg/m3
Oral		
LD50	Rat	> 5000 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	> 5000 ml/kg, 4 Hours
		12126 mg/kg, 24 Hours
Inhalation		
LC50	Rat	5922 ppm, 4 Hours

Components	Species	Test Results
Oral		
LD50	Mouse	5251 mg/kg
	Rat	3523 mg/kg
		10 ml/kg
Zinc Oxide (CAS 1314-13-2)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 5700 mg/m3
Oral		
LD50	Mouse	2000 - 5000 mg/kg
	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

n-Butyl Acetate (CAS 123-86-4)	Irritant

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

ACGIH Carcinogens

Acetone (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.
Isopropyl Alcohol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.
Methyl Isobutyl Ketone (CAS 108-10-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.
Xylene (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

2-PROPANOL (CAS 67-63-0)	Not classifiable as a human carcinogen.
ACETONE (CAS 67-64-1)	Not classifiable as a human carcinogen.
METHYL ISOBUTYL KETONE (CAS 108-10-1)	Confirmed animal carcinogen with unknown relevance to humans.
TOLUENE (CAS 108-88-3)	Not classifiable as a human carcinogen.
XYLENE (O, M AND P ISOMERS) (CAS 1330-20-7)	Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methyl Isobutyl Ketone (CAS 108-10-1)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure. Central nervous system. Respiratory system. Eyes. Skin. Kidneys. Liver.

Aspiration hazard Not likely, due to the form of the product.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Isopropyl Alcohol (CAS 67-63-0)			
Aquatic			
Algae	IC50	Algae	1000.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Methyl Isobutyl Ketone (CAS 108-10-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	492 - 593 mg/l, 96 hours
n-Butyl Acetate (CAS 123-86-4)			
Aquatic			
Algae	IC50 LC50	Algae	674.7 mg/L, 72 Hours
Fish		Fathead minnow (Pimephales promelas)	17 - 19 mg/l, 96 hours
Propylene Glycol Monomethyl Ether Acetate (CAS 108-65-6)			
Aquatic			
Crustacea	EC50	Daphnia	500.0001 mg/L, 48 Hours
Toluene (CAS 108-88-3)			
Aquatic			
Algae	IC50	Algae	433.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	7.645 mg/L, 48 Hours
		Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours
Trizinc Bis(orthophosphate) (CAS 7779-90-0)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.09 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours
Zinc Oxide (CAS 1314-13-2)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2246 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
Acetone	-0.24
Isobutane	2.76
Isopropyl Alcohol	0.05
Methyl Isobutyl Ketone	1.31
n-Butyl Acetate	1.78
Propane	2.36
Toluene	2.73
Xylene	3.12 - 3.2

Mobility in soil No data available.

Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

This product is exempted under TDG section 1.17 as a limited quantity and may be shipped as a limited quantity.

15. Regulatory information

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Acetone (CAS 67-64-1)	Class B
Toluene (CAS 108-88-3)	Class B

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Issue date	01-18-2017
Version #	01

Guidelines for SDS use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal, foreseeable conditions. This SDS is designed to provide additional safety and handling information.

Disclaimer	We cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
Revision information	Product and Company Identification: Alternate Trade Names

FICHE SIGNALÉTIQUE

1. Identification

Identificateur de produit **OXYDE ROUGE**

Autres moyens d'identification

Code du produit 4401

Usage recommandé Revêtement

Restrictions d'utilisation Aucuns connus.

Renseignements sur le fabricant/importateur/fournisseur/distributeur

Fabricant

Nom de la société Les Entreprises Kleen-Flo Tumbler Limitée

Adresse 75 Advance Blvd
Brampton, Ontario L6T 4N1 Canada

Téléphone Assistance générale 1-905-793-4311

Courriel Non disponible.

Numéro de téléphone d'urgence Emergency CANUTEC: 613-996-6666

Fournisseur Non disponible.

2. Identification des dangers

Dangers physiques	Aérosols inflammables	Catégorie 1
Dangers pour la santé	Lésions oculaires graves/irritation oculaire	Catégorie 2A
	Toxicité pour la reproduction (le fœtus)	Catégorie 2
	Toxicité pour certains organes cibles - exposition unique	Catégorie 3 - effets narcotiques
	Toxicité pour certains organes cibles - expositions répétées	Catégorie 2

Éléments d'étiquetage

Mention d'avertissement Danger

Mention de danger Aérosol extrêmement inflammable. Provoque une sévère irritation des yeux. Peut provoquer somnolence ou vertiges. Susceptible de nuire au fœtus. Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Conseil de prudence

Prévention Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les mesures de sécurité. Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer. Ne pas vaporiser sur une flamme nue ou sur toute autre source d'inflammabilité. Ne pas perforer ni brûler, même après usage. Ne pas respirer les gaz. Lavez vigoureusement après manipulation. Utiliser seulement en plein air ou dans un endroit bien ventilé. Éviter le rejet dans l'environnement. Porter des gants/vêtements de protection/ équipement de protection des yeux/du visage.

Intervention EN CAS D'INHALATION : Déplacer la personne à l'air frais et la maintenir dans une position confortable pour la respiration. EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si exposé(e) ou préoccupé(e) : Obtenir une consultation médicale ou des soins médicaux. Appelez un CENTRE ANTIPOISON/médecin si vous vous sentez mal. Si l'irritation des yeux persiste: Demander un conseil médical/des soins.

Stockage	Entreposer dans un endroit bien ventilé. Garder le contenant fermé hermétiquement. Garder sous clef. Protéger du rayonnement solaire. Ne pas exposer à une température supérieure à 50 °C/122 °F.
Élimination	Éliminer le contenu/les conteneurs selon la loi internationale/nationale/régionale/locale.
Dangers environnementaux	Dangereux pour le milieu aquatique, danger aigu — Catégorie 3
	Dangereux pour le milieu aquatique, danger à long terme — Catégorie 3
Autres dangers	Aucuns connus.
Renseignements supplémentaires	Aucune.

3. Composition/information sur les ingrédients

Mélanges

Dénomination chimique	Nom commun et synonymes	Numéro d'enregistrement CAS	%
Acétone		67-64-1	30-60
Propane		74-98-6	10-30
Acétate d`éther de propylène glycol et de monométhyle.		108-65-6	5-10
Isobutane		75-28-5	5-10
Méthylisobutylcétone		108-10-1	1-5
Toluène		108-88-3	1-5
Xylène		1330-20-7	1-5
Acétate de n-butyle		123-86-4	1-5
Alcool isopropylique		67-63-0	0.5-1.5
NITROCELLULOSE		9004-70-0	0.1-1
bis(orthophosphate) de trizinc		7779-90-0	0.1-1
OXYDE DE ZINC		1314-13-2	0.1-1
Autres composés sous les niveaux déclarables			10-30

Toutes les concentrations sont en pourcentage en poids, sauf si l’ingrédient est un gaz. Les concentrations des gaz sont en pourcentage en volume.

4. Premiers soins

Inhalation	Transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise.
Contact avec la peau	Laver avec de l'eau et du savon. Consulter un médecin si une irritation se développe et persiste.
Contact avec les yeux	Rincer immédiatement les yeux à grande eau pendant au moins 15 minutes. Retirer les lentilles cornéennes, s'il y a possibilité de le faire. Continuer de rincer. Si l'irritation des yeux persiste: Demander un conseil médical/des soins.
Ingestion	Dans le cas peu probable de déglutition, communiquez avec un médecin ou un centre anti-poison. Rincer la bouche.
Symptômes et effets les plus importants, qu'ils soient aigus ou retardés	Peut causer de la somnolence et des étourdissements. Maux de tête. Nausée, vomissements. Irritation grave des yeux. Les symptômes peuvent inclure des picotements, des déchirures, des rougeurs, des gonflements et une vision trouble. Une exposition prolongée peut causer des effets chroniques.
Mention de la nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire	Donner des soins généraux et traiter en fonction des symptômes. Garder la victime en observation. Les symptômes peuvent se manifester à retardement.
Informations générales	Si exposé(e) ou préoccupé(e) : Obtenir une consultation médicale ou des soins médicaux. En cas de malaise, consulter un médecin (si possible lui montrer l'étiquette). S'assurer que le personnel médical est averti des substances impliquées et prend les précautions pour se protéger. Montrer cette fiche technique signalétique au médecin en consultation.

5. Mesures à prendre en cas d’incendie

Agents extincteurs appropriés	Mousse résistante à l'alcool. Poudre. Dioxyde de carbone (CO_2).

Agents extincteurs inappropriés	Ne pas utiliser un jet d'eau comme agent extincteur, car cela propagera l'incendie.
Dangers spécifiques du produit dangereux	Contenu sous pression. Le récipient pressurisé peut exploser lorsqu'il est exposé à la chaleur ou à une flamme. Des gaz dangereux pour la santé peuvent se former pendant l'incendie.
Équipements de protection spéciaux et précautions spéciales pour les pompiers	Les pompiers doivent porter un équipement de protection standard, notamment vêtement ignifuge, casque à masque facial, gants, bottes en caoutchouc et, dans les espaces clos, un appareil respiratoire autonome.
Équipement/directives de lutte contre les incendies	Éloigner les récipients de l'incendie si cela peut se faire sans risque. Les conteneurs doivent être refroidis à l'eau pour prévenir la création de pression de vapeur. En cas d'incendie majeur dans la zone de chargement : utiliser des supports de tuyaux autonomes et des lances à eau autonomes; sinon, se retirer et laisser brûler.
Méthodes particulières d'intervention	Employer des méthodes normales de lutte contre l'incendie et tenir compte des dangers associés aux autres substances présentes. Éloigner les récipients de l'incendie si cela peut se faire sans risque. Les récipients fermés peuvent être refroidis par eau pulvérisée. En cas d'incendie et/ou d'explosion, ne pas respirer les émanations.
Risques d'incendie généraux	Aérosol extrêmement inflammable.

6. Mesures à prendre en cas de déversement accidentel

Précautions individuelles, équipements de protection et mesures d'urgence	Tenir à l'écart le personnel dont la présence sur les lieux n'est pas indispensable. Garder les personnes à l'écart de l'endroit du déversement/de la fuite et en amont du vent. Porter un équipement et des vêtements de protection appropriés durant le nettoyage. Ne pas respirer les gaz. Ne pas toucher les récipients endommagés ou le produit déversé à moins de porter des vêtements de protection appropriés. Aérer les espaces fermés avant d'y entrer. Prévenir les autorités locales si des fuites significatives ne peuvent pas être contenues. Pour s'informer sur la protection individuelle, voir la rubrique 8.
Méthodes et matériaux pour le confinement et le nettoyage	Se reporter aux fiches signalétiques et/ou aux modes d'emploi joints. Arrêter la fuite si cela peut se faire sans risque. Déplacer le cylindre vers une zone sûre et ouverte si la fuite est irréparable. Isoler la zone jusqu'à dispersion du gaz. Éliminer toutes les sources d'inflammation (interdiction de fumer, d'avoir des torches, étincelles ou flammes dans la zone immédiate). Tenir les matériaux combustibles (bois, papier, huile, etc.) à l'écart du produit déversé. Éviter que le produit pénètre dans les égouts. Recouvrir d'une feuille de plastique pour empêcher la dispersion. Absorber avec de la vermiculite, du sable sec ou de la terre, puis placer en récipient. Après avoir récupéré le produit, rincer la zone à l'eau. Déversement accidentel peu important: Essuyer avec une matière absorbante (p.ex. tissu, laine). Nettoyer la surface à fond pour éliminer la contamination résiduelle. Pour se renseigner sur l'élimination, voir la rubrique 13.
Précautions relatives à l'environnement	Éviter le rejet dans l'environnement. Informer le personnel de direction et de supervision de tous les rejets dans l'environnement. Éviter un déversement ou une fuite supplémentaire, si cela est possible sans danger. Éviter le rejet dans les égouts, les cours d'eau ou sur le sol.

7. Manutention et stockage

Précautions relatives à la sûreté en matière de manutention	Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les mesures de sécurité. Récipient sous pression: ne pas perforer, ni brûler, même après usage. Ne pas utiliser si le bouton de vaporisation est manquant ou défectueux. Ne pas pulvériser contre une flamme nue ou tout autre objet incandescent. Ne pas fumer pendant l'utilisation ou jusqu'à ce que la surface vaporisée soit sèche. Ne pas couper, souder, braser, percer, broyer ou exposer les récipients à de la chaleur, à une flamme, à des étincelles ou à d'autres sources d'ignition. Tout matériel utilisé pour la manutention de ce produit doit être mis à la terre. Ne pas réutiliser des récipients vides. Ne pas respirer les gaz. Éviter le contact avec les yeux. Les femmes enceintes ou allaitantes ne doivent pas manipuler ce produit. Si possible, manipuler dans un système clos. Utiliser seulement dans les zones bien ventilées. Porter un équipement de protection individuelle approprié. Éviter le rejet dans l'environnement. Observer de bonnes pratiques d'hygiène industrielle.
Conditions de sûreté en matière de stockage, y compris les incompatibilités	Aérosol niveau 2. Garder sous clef. Récipient sous pression. À protéger contre les rayons solaires et à une température supérieure à 50 °C. Ne pas perforer, incinérer ou écraser. Ne pas manier ou stocker à proximité d'une flamme nue, d'une source de chaleur ou d'autres sources d'ignition. Ce matériau peut accumuler des charges statiques pouvant causer des étincelles et devenir une source d'ignition. Conserver à l'écart de matières incompatibles (voir rubrique 10).

8. Contrôle de l’exposition/protection individuelle

Limites d'exposition professionnelle

ÉTATS-UNIS. Valeurs limites d’exposition de l’ACGIH

Composants	Type	Valeur	Forme
Acétate de n-butyle (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Acétone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Alcool isopropylique (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
Méthylisobutylcétone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
OXYDE DE ZINC (CAS 1314-13-2)	STEL	10 mg/m3	Fraction respirable.
	TWA	2 mg/m3	Fraction respirable.
Toluène (CAS 108-88-3)	TWA	20 ppm	
Xylène (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. LEMT pour l’Alberta (Code de l’hygiène et de la sécurité au travail, Annexe 1, Tableau 2)

Composants	Type	Valeur	Forme
Acétate de n-butyle (CAS 123-86-4)	STEL	950 mg/m3	
		200 ppm	
	TWA	713 mg/m3	
		150 ppm	
Acétone (CAS 67-64-1)	STEL	1800 mg/m3	
		750 ppm	
	TWA	1200 mg/m3	
		500 ppm	
Alcool isopropylique (CAS 67-63-0)	STEL	984 mg/m3	
		400 ppm	
	TWA	492 mg/m3	
		200 ppm	
Méthylisobutylcétone (CAS 108-10-1)	STEL	307 mg/m3	
		75 ppm	
	TWA	205 mg/m3	
		50 ppm	
OXYDE DE ZINC (CAS 1314-13-2)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.
Propane (CAS 74-98-6)	TWA	1000 ppm	
Toluène (CAS 108-88-3)	TWA	188 mg/m3	
		50 ppm	
Xylène (CAS 1330-20-7)	STEL	651 mg/m3	
		150 ppm	
	TWA	434 mg/m3	
		100 ppm	

Canada. LEMT pour la Colombie-Britannique. (Valeurs limites d'exposition en milieu de travail pour les substances chimiques, Réglementation sur la santé et sécurité au travail 296/97, ainsi modifiée

Composants	Type	Valeur	Forme
Acétate d`éther de propylène glycol et de monométhyle. (CAS 108-65-6)	STEL	75 ppm	

Canada. LEMT pour la Colombie-Britannique. (Valeurs limites d'exposition en milieu de travail pour les substances chimiques, Réglementation sur la santé et sécurité au travail 296/97, ainsi modifiée

Composants	Type	Valeur	Forme
	TWA	50 ppm	
Acétate de n-butyle (CAS 123-86-4)	TWA	20 ppm	
Acétone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Alcool isopropylique (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Méthylisobutylcétone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
OXYDE DE ZINC (CAS 1314-13-2)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.
Toluène (CAS 108-88-3)	TWA	20 ppm	
Xylène (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. LEMT de Manitoba (Règlement 217/2006, Loi sur la sécurité et l'hygiène du travail)

Composants	Type	Valeur	Forme
Acétate de n-butyle (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Acétone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Alcool isopropylique (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
Méthylisobutylcétone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
OXYDE DE ZINC (CAS 1314-13-2)	STEL	10 mg/m3	Fraction respirable.
	TWA	2 mg/m3	Fraction respirable.
Toluène (CAS 108-88-3)	TWA	20 ppm	
Xylène (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. LEMT pour l'Ontario. (Contrôle de l'exposition à des agents biologiques et chimiques)

Composants	Type	Valeur	Forme
Acétate d`éther de propylène glycol et de monométhyle. (CAS 108-65-6)	TWA	270 mg/m3	
		50 ppm	
Acétate de n-butyle (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Acétone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Alcool isopropylique (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Isobutane (CAS 75-28-5)	TWA	800 ppm	
Méthylisobutylcétone (CAS 108-10-1)	STEL	75 ppm	
	TWA	50 ppm	
OXYDE DE ZINC (CAS 1314-13-2)	STEL	10 mg/m3	Fraction respirable.

Canada. LEMT pour l’Ontario. (Contrôle de l’exposition à des agents biologiques et chimiques)

Composants	Type	Valeur	Forme
	TWA	2 mg/m3	Fraction respirable.
Toluène (CAS 108-88-3)	TWA	20 ppm	
Xylène (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. LEMT du Québec, (Ministère du Travail. Règlement sur la qualité du milieu de travail)

Composants	Type	Valeur	Forme
Acétate de n-butyle (CAS 123-86-4)	STEL	950 mg/m3	
		200 ppm	
	TWA	713 mg/m3	
		150 ppm	
Acétone (CAS 67-64-1)	STEL	2380 mg/m3	
		1000 ppm	
	TWA	1190 mg/m3	
		500 ppm	
Alcool isopropylique (CAS 67-63-0)	STEL	1230 mg/m3	
		500 ppm	
	TWA	983 mg/m3	
		400 ppm	
Méthylisobutylcétone (CAS 108-10-1)	STEL	307 mg/m3	
		75 ppm	
	TWA	205 mg/m3	
		50 ppm	
OXYDE DE ZINC (CAS 1314-13-2)	STEL	10 mg/m3	Fumées.
	TWA	5 mg/m3	Fumées.
		10 mg/m3	Poussières totales.
Propane (CAS 74-98-6)	TWA	1800 mg/m3	
		1000 ppm	
Toluène (CAS 108-88-3)	TWA	188 mg/m3	
		50 ppm	
Xylène (CAS 1330-20-7)	STEL	651 mg/m3	
		150 ppm	
	TWA	434 mg/m3	
		100 ppm	

Valeurs biologiques limites

Indices d’exposition biologique de l’ACGIH

Composants	Valeur	Déterminant	Échantillon	Temps d'échantillonnage
Acétone (CAS 67-64-1)	25 mg/l	Acétone	Urine	*
Alcool isopropylique (CAS 67-63-0)	40 mg/l	Acétone	Urine	*
Méthylisobutylcétone (CAS 108-10-1)	1 mg/l	méthylisobutylcétone	Urine	*
Toluène (CAS 108-88-3)	0.3 mg/g	o-crésol, avec hydrolyse	Créatinine dans l’urine	*
	0.03 mg/l	Toluène	Urine	*
	0.02 mg/l	Toluène	Sang	*
Xylène (CAS 1330-20-7)	1.5 g/g	Acides méthylhippuriques	Créatinine dans l’urine	*

* - Pour des détails sur l’échantillonnage, veuiller consulter le document source.

Directives au sujet de l'exposition

Canada - LEMT pour l’Alberta : Désignation cutanée

Toluène (CAS 108-88-3)	Peut être absorbé par la peau.

Canada - LEMT pour le Québec : Désignation cutanée

Toluène (CAS 108-88-3)	Peut être absorbé par la peau.

Canada - LEMT pour la Saskatchewan : Désignation cutanée

Toluène (CAS 108-88-3)	Peut être absorbé par la peau.

Contrôles d'ingénierie appropriés

Il faut utiliser une bonne ventilation générale (habituellement dix changements d'air l'heure). Les débits de ventilation doivent être adaptés aux conditions. S'il y a lieu, utiliser des enceintes d'isolement, une ventilation locale ou d'autres mesures d'ingénierie pour maintenir les concentrations atmosphériques sous les limites d'exposition recommandées. Si des limites d'exposition n'ont pas été établies, maintenir les concentrations atmosphériques à un niveau acceptable. Assurer l'accès à une douche oculaire.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection du visage/des yeux

Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques).

Protection de la peau

Protection des mains

Porter des gants appropriés et résistant aux produits chimiques. Les gants appropriés peuvent être indiqués par le fournisseur de gants.

Autre

Porter un vêtement de protection approprié. L'emploi d'un tablier imperméable est recommandé.

Protection respiratoire

Si les niveaux admissibles sont dépassés, utiliser un filtre mécanique / une cartouche contre les vapeurs organiques NIOSH ou un respirateur avec alimentation d'air.

Dangers thermiques

Porter des vêtements de protection thermique appropriés, lorsque nécessaire.

Considérations d'hygiène générale

Suivre toutes les exigences de surveillance médicale. Ne pas fumer pendant l'utilisation. Toujours adopter de bonnes pratiques d'hygiène personnelle, telles que se laver après avoir manipulé la substance et avant de manger, de boire ou de fumer. Nettoyer régulièrement la tenue de travail et l'équipement de protection pour éliminer les contaminants.

9. Propriétés physiques et chimiques

Apparence

État physique	Gaz.
Forme	Aérosol
Couleur	Non disponible.
Odeur	Non disponible.
Seuil olfactif	Non disponible.
pH	Non disponible.
Point de fusion et point de congélation	Non disponible.
Point initial d'ébullition et domaine d'ébullition	73.11 °C (163.59 °F) estimation
Point d'éclair	-104.4 °C (-156.0 °F) Propulseur estimation
Taux d'évaporation	Non disponible.
Inflammabilité (solides et gaz)	Non disponible.

Limites supérieures et inférieures d'inflammabilité ou d'explosibilité

Limites d'inflammabilité - inférieure (%)	2.9 % estimation
Limites d'inflammabilité - supérieure (%)	6.5 % estimation
Limite d'explosibilité - inférieure (%)	Non disponible.
Limite d'explosibilité - supérieure (%)	Non disponible.
Tension de vapeur	Non disponible.
Densité de vapeur	Non disponible.
Densité relative	Non disponible.

Solubilité

Solubilité (eau)	Non disponible.
Coefficient de partage n-octanol/eau	Non disponible.
Température d'auto-inflammation	407.35 °C (765.23 °F) estimation
Température de décomposition	Non disponible.
Viscosité	Non disponible.

Autres informations

Propriétés explosives	Non explosif.
Propriétés comburantes	Non oxydant.
Densité	0.805 estimation

10. Stabilité et réactivité

Réactivité	Le produit est stable et non réactif dans des conditions normales d'utilisation, d'entreposage et de transport.
Stabilité chimique	La substance est stable dans des conditions normales.
Risque de réactions dangereuses	Une polymérisation dangereuse ne se produit pas.
Conditions à éviter	Éviter les températures supérieures au point d'éclair. Contact avec des matériaux incompatibles.
Matériaux incompatibles	Acides forts. Les agents oxydants forts. Nitrates. Halogènes Fluor Chlore
Produits de décomposition dangereux	Aucun produit dangereux de décomposition n'est connu.

11. Données toxicologiques

Renseignements sur les voies d'exposition probables

Inhalation	Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée par inhalation. Peut causer de la somnolence et des étourdissements. Maux de tête. Nausée, vomissements.
Contact avec la peau	Aucun effet indésirable par contact avec la peau n'est attendu.
Contact avec les yeux	Provoque une sévère irritation des yeux.
Ingestion	Faible danger présumé en cas d'ingestion.
Les symptômes correspondant aux caractéristiques physiques, chimiques et toxicologiques	Peut causer de la somnolence et des étourdissements. Maux de tête. Nausée, vomissements. Irritation grave des yeux. Les symptômes peuvent inclure des picotements, des déchirures, des rougeurs, des gonflements et une vision trouble.

Renseignements sur les effets toxicologiques

Toxicité aiguë Effets narcotiques.

Composants	Espèces	Résultats d'épreuves
Acétate d`éther de propylène glycol et de monométhyle. (CAS 108-65-6)		
Aiguë		
Cutané		
DL50	Rat	> 2000 mg/kg, 24 heures
Orale		
DL50	Rat	> 5000 mg/kg
		> 14.1 ml
Acétate de n-butyle (CAS 123-86-4)		
Aiguë		
Cutané		
DL50	Lapin	> 16 ml/kg, 24 heures
Inhalation		
CL50	Rat	1087 ppm, 4 heures
		0.74 mg/l, 4 heures

Composants	Espèces	Résultats d'épreuves
Orale		
DL50	Rat	14130 mg/kg
		12.2 ml/kg
Acétone (CAS 67-64-1)		
Aiguë		
Cutané		
DL50	Cobaye	> 7426 mg/kg, 24 heures
		> 9.4 ml/kg, 24 heures
	Lapin	> 7426 mg/kg, 24 heures
		> 9.4 ml/kg, 24 heures
Inhalation		
CL50	Rat	55700 ppm, 3 heures
		132 mg/l, 3 heures
		50.1 mg/l
Orale		
DL50	Rat	5800 mg/kg
		2.2 ml/kg
Alcool isopropylique (CAS 67-63-0)		
Aiguë		
Cutané		
DL50	Lapin	16.4 ml/kg, 24 heures
Inhalation		
CL50	Rat	> 10000 ppm, 6 heures
Orale		
DL50	Rat	5.84 g/kg
bis(orthophosphate) de trizinc (CAS 7779-90-0)		
Aiguë		
Inhalation		
CL50	Rat	> 5410 mg/m3
Orale		
DL50	Rat	> 5000 mg/kg
Isobutane (CAS 75-28-5)		
Aiguë		
Inhalation		
CL50	Rat	1355 mg/l
	Souris	1237 mg/l, 120 minutes
		52 %, 120 minutes
Méthylisobutylcétone (CAS 108-10-1)		
Aiguë		
Inhalation		
CL50	Rat	2000 - 4000 ppm, 4 heures
Orale		
DL50	Rat	2.08 g/kg
OXYDE DE ZINC (CAS 1314-13-2)		
Aiguë		
Cutané		
DL50	Rat	> 2000 mg/kg, 24 heures
Inhalation		
CL50	Rat	> 5700 mg/m3

Composants	Espèces	Résultats d'épreuves
Orale		
DL50	Rat	> 5000 mg/kg
	Souris	2000 - 5000 mg/kg
Propane (CAS 74-98-6)		
Aiguë		
Inhalation		
CL50	Rat	1355 mg/l
		658 mg/l/4h
	Souris	1237 mg/l, 120 minutes
		52 %, 120 minutes
Toluène (CAS 108-88-3)		
Aiguë		
Cutané		
DL50	Lapin	> 5000 mg/kg, 24 heures
Inhalation		
CL50	Rat	5879 - 6281 ppm, 6 heures 25.7 mg/l, 4 heures
	Souris	6405 - 7436 ppm, 6 heures
		5320 ppm, 8 heures
Orale		
DL50	Rat	> 5000 mg/kg
Xylène (CAS 1330-20-7)		
Aiguë		
Cutané		
DL50	Lapin	> 5000 ml/kg, 4 heures
		12126 mg/kg, 24 heures
Inhalation		
CL50	Rat	5922 ppm, 4 heures
Orale		
DL50	Rat	3523 mg/kg 10 ml/kg
	Souris	5251 mg/kg

* Les estimations pour le produit peuvent être basées sur d'autres données de composants non montrées.

Corrosion cutanée/irritation cutanée Un contact prolongé avec la peau peut entraîner une irritation temporaire. Provoque une sévère irritation des yeux.

Lésions oculaires graves/irritation oculaire

Sensibilisation respiratoire ou cutanée

Canada - LEMT pour l'Alberta : Irritant

Acétate de n-butyle (CAS 123-86-4)	Irritant

Sensibilisation respiratoire N'est pas un sensibilisant respiratoire.

Sensibilisation cutanée Ce produit ne devrait pas causer une sensibilisation de la peau.

Mutagénicité sur les cellules germinales Il n'existe pas de données indiquant que ce produit, ou tout composant présent à des taux de plus de 0,1 %, soit mutagène ou génétoxique.

Cancérogénicité Le risque d'un cancer ne peut pas être exclu suite à une exposition prolongée.

Carcinogènes selon l'ACGIH

Acétone (CAS 67-64-1)	A4 Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
Alcool isopropylique (CAS 67-63-0)	A4 Ne peut pas être classé quant à sa cancérogénicité pour l'homme.

Méthylisobutylcétone (CAS 108-10-1)	A3 Cancérogène confirmé chez les animaux, mais inconnu chez l'homme.
Toluène (CAS 108-88-3)	A4 Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
Xylène (CAS 1330-20-7)	A4 Ne peut pas être classé quant à sa cancérogénicité pour l'homme.

Canada - LEMT pour le Manitoba : cancérogénicité

2-propanol (CAS 67-63-0)	Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
ACÉTONE (CAS 67-64-1)	Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
MÉTHYLISOBUTYLCÉTONE (CAS 108-10-1)	Cancérogène confirmé chez les animaux, mais inconnu chez l'homme.
TOLUÈNE (CAS 108-88-3)	Ne peut pas être classé quant à sa cancérogénicité pour l'homme.
XYLÈNE (ISOMÈRES O, M ET P) (CAS 1330-20-7)	Ne peut pas être classé quant à sa cancérogénicité pour l'homme.

Monographies du CIRC. Évaluation globale de la cancérogénicité

Méthylisobutylcétone (CAS 108-10-1)	2B Peut-être cancérogène pour l'homme.
Toluène (CAS 108-88-3)	3 Ne peut pas être classé quant à la cancérogénicité pour l'homme.
Xylène (CAS 1330-20-7)	3 Ne peut pas être classé quant à la cancérogénicité pour l'homme.

Toxicité pour la reproduction	Il a été montré que des composants de ce produit provoquent des défauts de naissance et des désordres reproductifs chez les animaux de laboratoire. Susceptible de nuire au fœtus.
Toxicité pour certains organes cibles - exposition unique	Peut causer de la somnolence et des étourdissements.
Toxicité pour certains organes cibles - expositions répétées	Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée. Système nerveux central. Système respiratoire. Yeux. Peau. Reins. Foie.
Danger par aspiration	Peu probable du fait de la forme du produit.
Effets chroniques	Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée. Une exposition prolongée peut causer des effets chroniques.

12. Données écologiques

Écotoxicité Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme

Composants	Espèces	Résultats d'épreuves
Acétate d`éther de propylène glycol et de monométhyle. (CAS 108-65-6)		
Aquatique		
Crustacés CE50	Daphnia	500.0001 mg/L, 48 heures
Acétate de n-butyle (CAS 123-86-4)		
Aquatique		
Algues IC50	Algues	674.7 mg/L, 72 heures
Poisson CL50	tête-de-boule (pimephales promelas)	17 - 19 mg/l, 96 heures
Acétone (CAS 67-64-1)		
Aquatique		
Crustacés CE50	Puce d'eau (daphnia magna)	21.6 - 23.9 mg/l, 48 heures
Poisson CL50	Truite arc-en-ciel (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 heures
Alcool isopropylique (CAS 67-63-0)		
Aquatique		
Algues IC50	Algues	1000.0001 mg/L, 72 heures
Crustacés CE50	Daphnia	13299 mg/L, 48 heures
Poisson CL50	Perche-soleil bleue (Lepomis macrochirus)	> 1400 mg/l, 96 heures
bis(orthophosphate) de trizinc (CAS 7779-90-0)		
Aquatique		
Poisson CL50	Truite arc-en-ciel (Oncorhynchus mykiss)	0.09 mg/l, 96 heures

Composants		Espèces	Résultats d'épreuves
Méthylisobutylcétone (CAS 108-10-1)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	492 - 593 mg/l, 96 heures
OXYDE DE ZINC (CAS 1314-13-2)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	2246 mg/l, 96 heures
Toluène (CAS 108-88-3)			
Aquatique			
Algues	IC50	Algues	433.0001 mg/L, 72 heures
Crustacés	CE50	Daphnia	7.645 mg/L, 48 heures
		Puce d'eau (daphnia magna)	5.46 - 9.83 mg/l, 48 heures
Poisson	CL50	Saumon coho, (Oncorhynchus kisutch)	8.11 mg/l, 96 heures
Xylène (CAS 1330-20-7)			
Aquatique			
Poisson	CL50	Perche-soleil bleue (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 heures

* Les estimations pour le produit peuvent être basées sur d'autres données de composants non montrées.

Persistance et dégradation Aucune donnée n'est disponible sur la biodégradabilité du produit.

Potentiel de bioaccumulation

Potentiel de bioaccumulation

Log Koe du coefficient de répartition octanol/eau	
Acétate de n-butyle	1.78
Acétone	-0.24
Alcool isopropylique	0.05
Isobutane	2.76
Méthylisobutylcétone	1.31
Propane	2.36
Toluène	2.73
Xylène	3.12 - 3.2

Mobilité dans le sol Aucune donnée disponible.

Autres effets nocifs On ne prévoit aucun autre effet environnemental négatif (par ex., appauvrissement de la couche d'ozone, potentiel de formation photochimique d'ozone, perturbation endocrinienne, potentiel de réchauffement de la planète) causé par ce composant.

13. Données sur l'élimination

Instructions pour l'élimination Recueillir et réutiliser ou éliminer dans des récipients scellés dans un site d'élimination des déchets autorisé. Contenu sous pression. Ne pas perforer, incinérer ou écraser. Ne pas laisser la substance
s'infiltrer dans les égoûts/les conduits d'alimentation en eau. Ne pas contaminer les étangs, les voies navigables ou les fossés avec le produit ou le récipient utilisés. Éliminer le contenu/les conteneurs selon la loi internationale/nationale/régionale/locale.

Règlements locaux d'élimination Détruire conformément à
toutes les réglementations applicables.

Code des déchets dangereux Les codes de déchets doivent être attribués dans le cadre d'une consultation entre l'utilisateur, le fabricant et l'entreprise de décharge.

Déchets des résidus / produits non utilisés Éliminer le produit conformément avec la réglementation locale en vigueur. Des résidus de produit peuvent demeurer dans les contenants vides et sur les toiles d'emballage. Ce produit et son contenant doivent être éliminés de façon sécuritaire (voir les instructions d'élimination).

Emballages contaminés Comme les récipients vides peuvent contenir des résidus de produit, respecter les avertissements sur l'étiquette même après avoir vidé le récipient. Les contenants vides doivent être acheminés vers une installation certifiée de traitement des déchets en vue de leur élimination ou recyclage. Ne pas réutiliser des récipients vides.

14. Informations relatives au transport

TMD

Numéro ONU UN1950

Désignation officielle de transport de l'ONU AÉROSOLS, inflammables

Classe de danger relative au transport

Classe 2.1

Danger subsidiaire -

Groupe d'emballage Sans objet.

Dangers environnementaux D

Précautions spéciales pour l'utilisateur Lire les instructions de sécurité, la FS et les procédures d'urgence avant de manipuler.

This product is exempted under TDG section 1.17 as a limited quantity and may be shipped as a limited quantity.

15. Informations sur la réglementation

Réglementation canadienne

Loi réglementant certaines drogues et autres substances

Non réglementé.

Liste des marchandises d'exportation contrôlée (LCPE 1999, Annexe 3)

Non inscrit.

Gaz à effet de serre

Non inscrit.

Règlements sur les précurseurs

Acétone (CAS 67-64-1)	Classe B
Toluène (CAS 108-88-3)	Classe B

Règlements internationaux

Convention de Stockholm

Sans objet.

Convention de Rotterdam

Sans objet.

Protocole de Kyoto

Sans objet.

Montreal Protocol

Sans objet.

Convention de Bâle

Sans objet.

Inventaires Internationaux

Pays ou région	Nom de l'inventaire	En stock (Oui/Non)*
Australie	Inventaire australien des substances chimiques (AICS)	Non
Canada	Liste intérieure des substances (LIS)	Oui
Canada	Liste extérieure des substances (LES)	Non
Chine	Inventaire des substances chimiques existantes en Chine (IECSC)	Non
Europe	Inventaire européen des substances chimiques commerciales existantes (EINECS)	Non
Europe	Liste européenne des substances chimiques notifiées (ELINCS)	Non
Japon	Inventaire des substances chimiques existantes et nouvelles (ENCS)	Non
Corée	Liste des produits chimiques existants (ECL)	Non
Nouvelle-Zélande	Inventaire de la Nouvelle-Zélande	Oui
Philippines	Inventaire philippin des produits et substances chimiques (PICCS)	
États-Unis et Porto Rico	Inventaire du TSCA (Toxic Substances Controls Act - Loi réglementant les substances toxiques)	

*La réponse « Oui » indique que tous les composants du produit sont conformes aux exigences d'entreposage du pays ayant compétence Un « Non » indique qu'un ou plusieurs composant(s) du produit n'est/ne sont pas inscrit(s) ou exempt(s) d'une inscription sur l'inventaire administré par le(s) pays ayant compétence.

16. Renseignements divers

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

Date de publication	18-Janvier-2017
Version n°	01
Avis de non-responsabilité	We ne peut prévoir toutes les conditions d'utilisation des présentes informations et de son produit, ou des produits d'autres fabricants associés à son produit. Il relève de la responsabilité de l'utilisateur de veiller à assurer une manipulation, un entreposage et une élimination du produit en toute sécurité. L'utilisateur est responsable en cas de perte, de blessure, de dommage ou de frais causés par une utilisation inadéquate. Les renseignements contenus dans cette fiche ont été écrits selon les meilleures connaissances et la meilleure expérience actuellement disponibles.
Informations relatives à la révision	Identification du produit et de l'entreprise : Autres noms commerciaux

ISSUE DATE: 1/1/1990 REVISION DATE: 5/25/2015

I PRODUCT AND COMPANY IDENTIFICATION

GHS PRODUCT IDENTIFIER:

TRADE NAME; SUPER WATER WETTER

OTHER MEANS OF IDENTIFICATION: **PRODUCT #AS205**

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:

RECOMMENDED USE: WETTING AGENT

SUPPLIER'S DETAILS:

ABATEMENT TECHNOLOGIES
605 SATELLITE BLVD.
SUWANEE, GA. 30024
(678)889-4200

24 HOURS TRANSPORTATION EMERGENCY NUMBER:
CHEMTREC: (800)424-9300; (703) 527-3887 INTERNATIONAL

II HAZARD IDENTIFICATION

GHS CLASSIFICATION:

GHS CLASSIFICATION SCALE: (1=SEVERE HAZARD, 4=SLIGHT HAZARD)

SERIOUS EYE DAMAGE/ IRRITATION CATEGORY 2

LABEL ELEMENTS:

SIGNAL WORD: WARNING

HAZARD STATEMENTS:

Causes serious eye irritation

HAZARD SYMBOLS:

PRECAUTIONARY STATEMENTS:

Keep out of reach of children
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection

PRECAUTIONARY STATEMENTS (RESPONSE):

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

PRECAUTIONARY STATEMENTS (STORAGE)
Keep out of reach of children

PRECAUTIONARY STATEMENTS (DISPOSAL):
Dispose of contents/container to an approved waste disposal plant in accordance with applicable local/regional/national and international regulations and product characteristics at time of disposal.

OTHER HAZARDS:
Repeated or prolonged exposure can cause skin dryness or cracking.

III COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT IDENTITY	CAS NUMBER	PERCENTAGE
ETHOXYLATED, NONYLPHENOL	127087-87-0	PROPRIETARY

REMAINING INGREDIENTS ARE NOT REPORTABLE UNDER OSHA/SDS GUIDELINES. THE EXACT PERCENTAGES OF SOME INGREDIENTS HAVE BEEN WITHELD AS (CBI) CONFIDENTIAL BUSINESS INFORMATION TRADE SECRET.

IV FIRST AID MEASURES

INGESTION: If swallowed, wash out mouth with water. Do not induce vomiting unless told to do so by a doctor or professional healthcare provider. If spontaneous vomiting occurs, keep head below hips to prevent aspiration of liquid into the lung. Never give anything by mouth to an unconscious person.

SKIN CONTACT: In case of accidental skin contact, remove contaminated clothing. Wash with soap and plenty of water for 15 minutes. Wash contaminated clothing before reuse. If irritation occurs get medical advice.

INHALATION: No irritation expected; however if irritation occurs, move individual away from exposure and into fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

EYE CONTACT: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing. If eye irritation persists, get medical attention/advice.

Most Important Symptoms and Effects, Acute and Delayed

INGESTION: Symptoms may include diarrhea, gastric pain, and vomiting.
SKIN CONTACT:Not expected; however symptoms may include redness, dryness and cracking of skin.
INHALATION: Not expected; however symptoms could include irritation of respiratory tract.
EYE CONTACT: Symptoms may include stinging, tearing, redness and blurred vision.

Indication of immediate medical attention and special treatment needed, if necessary.
Treat Symptomatically.

V FIRE FIGHTING MEASURES

Suitable extinguishing media: Use fire extinguishers suitable for surrounding fire.
Unsuitable extinguishing media- Not flammable

Specific hazards arising from the chemical: In a fire or if heated, a pressure increase can occur and the container may burst.

Hazardous thermal decomposition products: carbon monoxide and CO2, possibly ammonia, irritating gases

Special protective actions for fire-fighters: Keep product containers and surrounding areas cool with water spray. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters: Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

VI ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Avoid breathing mists. Put on appropriate personal protective equipment. Wear appropriate respirator when ventilation is inadequate.

.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of information in section 8 for further information. See also information in non-emergency personnel above.

Environmental precautions: Avoid dispersal of spilled material with waterways, drains and sewers. See section 12 for additional ecological information.

Methods and materials for containment and cleaning up.

Small spill: Stop leak if without risk. Move containers from the spill area Absorb with an inert dry material such as diatomaceous earth or vermiculite and place in an appropriate waste disposal container. Mop any remaining residues with soap and water and dispose of wastes via a licensed waste disposal contractor according to federal, state and local regulations.

Large spill: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, drains, water courses and confined areas. Wash spillages into an effluent treatment plant or absorb with an inert dry material such as diatomaceous earth or vermiculite and place in a appropriate waste disposal containers. Mop any remaining residues with soap and water and dispose of wastes via a licensed waste disposal contractor according to federal, state and local regulations.

VII HANDLING AND STORAGE

Precautions for Safe Handling:

Safe Handling Advice: Utilize appropriate personal protective equipment when handling product. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mists. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container and tightly closed when not in use. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection and face protection during use. Emptied containers can contain product residues and require handling with all safety precautions in mind listed on this sds. Do not reuse container and dispose of in accordance with federal, state and local regulations.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional hygiene information.

Conditions for safe storage including any incompatibilities:

Store in original container in a dry, cool and well ventilated area away from strong oxidizing agents (see section 10) and food and drink. Keep container tightly closed when not in use and away from children. Do not store in unlabeled containers. Do not freeze.

VIII EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters Occupational Exposure Limits

Ingredient Identity	ACGIH TLV	OSHA PEL	NIOSH IDLH

None listed for materials above .1% De minimis levels.

Appropriate Engineering Controls

Engineering Controls: Use only with adequate ventilation. General room ventilation is required. Local mechanical ventilation may be necessary if working with this product in enclosed areas and/or at elevated temperatures. Maintain adequate ventilation. Avoid creating dust or mist. Do not use in closed or confined spaces.

Individual protection measures, such as personal protective equipment. (PPE)

Eye/Face Protection: Wear approved tightly sealed safety glasses. Wear additional eye protection such as chemical safety goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material.

Skin & Body Protection: Wear chemical resistant, impervious gloves at all times when handling chemical products. Check during use that gloves and aprons are still retaining their impervious properties, as the time for breakthrough can change from different manufacturers and chemical mixtures cannot always be accurately measured. Appropriate footwear and suitable protective clothing should be worn for the degree and risk of exposure.

Respiratory Protection: If workplace exposure limits of product or any component is exceeded, utilize proper respiratory protection program guidelines (see OSHA 1910.134 and American National Standard ANSI Z88.2) Use a properly fitted,NIOSH/MSHA air-purifying or air-fed respirator with organic vapor cartridge and dust/mist filter in compliance with the above mentioned standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

IX PHYSICAL AND CHEMICAL PROPERTIES

Appearance: blue liquid
Odor: near odorless
Odor threshold: not available
pH: neutral zone
Melting Point/Freezing Point: N.D.
Initial Boiling Point/Range: not applicable
Flash Pt: not flammable
Evaporation Rate: N.D. (butyl acetate=1)
Lower explosive limits: not applicable
Upper explosive limits: not applicable
Vapor Pressure: N.D.
Vapor Density: N.D. (air=1)
Relative Density: .99
Solubility in water: Soluble
Partition coefficient: not applicable
Auto ignition temp: not applicable
Decomposition Temp: not available
Viscosity: pourable liquid, water thin viscosity

X STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available

Conditions to Avoid: elevated temperatures

Incompatible Materials: Oxidizing materials

Hazardous Decomposition Products: Carbon monoxide and Carbon Dioxide,

XI TOXICOLOGICAL INFORMATION

Acute toxicity: not classified,

Skin corrosion irritation: not classified,

Serious Eye damage: classified, category 2, causes serious eye irritation

Sensitization: Not classified,

Mutagenicity: Not classified,

Carcinogenicity: Not classified

Reproductive Toxicity: No data evailable

Teratogenicity: No data Available

Specific target Organ Toxicity (single exposure)
Not classified

Specific target Organ Toxicity (repeated exposure):

Name	category	route of exposure	target organs
Not classified			

Aspiration Hazard:
No Data

Information on the likely routes of exposure:
Ingestion: May be harmful if swallowed.
Inhalation: Not likely; however, do not breathe vapors or mists of this or any chemical product.
Skin: Not likely; however, wash skin with soap and water for 15 minutes.
Eye: Causes serious eye irritation

Symptoms related to the physical, chemical and toxicological characteristics
Ingestion: See section iv, most important symptoms and effects, acute and delayed.
Inhalation: See section iv, most important symptoms and effects, acute and delayed.
Skin: See section iv, most important symptoms and effects, acute and delayed.
Eye: See section iv, most important symptoms and effects, acute and delayed.

Delayed and immediate effects and also chronic effects from short and long term exposure.

General: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis
Carcinogenicity: no known significant effects or critical hazards. Not classifiable.

Numerical measures of Toxicity
Not Available

XII ECOLOGICAL INFORMATION

Toxicity:
No data

Bioaccumulation Potential:
Expected to be readily biodegradable

Mobility in Soil:
Not expected to absorb on soil

Other adverse Effects:
No known significant effects or critical hazards

XIII DISPOSAL CONSIDERATIONS

Dispose in accordance with applicable federal, state and local regulations.

XIV TRANSPORT INFORMATION

DOT: NOT REGULATED
IATA: NOT REGULATED
IMDG: NOT REGULATED

XV REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: All ingredients are listed or exempted with TSCA.

SARA 302/304: No products were found.
SARA 311/312: No products found
SARA 313: No products found

California Prop 65: No products found

XVI OTHER INFORMATION

HMIS RATING: HEALTH (1) FIRE (0) REACTIVITY (0)
4=EXTREME, 3=HIGH, 2=MODERATE, 1=SLIGHT, 0=INSIGNIFICANT

NOTICE TO READER:
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. The information on this sds was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Users are advised to confirm in advance of need, that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the sds. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

SAFETY DATA SHEET

1. Identification

Product number	SXPP24 / 420701
Product identifier	**SXPP24 Adesion Promoter Aerosol 480 g / 16.9 oz**
Company information	Dominion Sure Seal Ltd. 6175 Danville Road, Mississauga Ontario, Canada L5T 2H7
Company phone	(905) 670-5411
Emergency telephone	24-Hour Medical Emergency CANUTEC Phone: (613) 996-6666
Emergency telephone outside US	Not applicable.
Version #	01
Recommended use	COATING
Recommended restrictions	None known.

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Reproductive toxicity (the unborn child)	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe gas. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Specific treatment (see this label). Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Toluene		108-88-3	40 - 60
Acetone		67-64-1	10 - 20
Propane		74-98-6	10 - 20
Isobutane		75-28-5	2.5 - 10
Isobutyl Acetate		110-19-0	2.5 - 10
Isopropyl Alcohol		67-63-0	1 - 2.5
Xylene		1330-20-7	1 - 2.5
Other components below reportable levels			1 - 2.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Alcohol resistant foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Prevent product from entering drains. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Use only in well-ventilated areas. Should be handled in closed systems, if possible. Pregnant or breastfeeding women must not handle this product. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3
		1000 ppm
Isobutyl Acetate (CAS 110-19-0)	PEL	700 mg/m3
		150 ppm
Isopropyl Alcohol (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m3
		1000 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Isobutane (CAS 75-28-5)	STEL	1000 ppm
Isobutyl Acetate (CAS 110-19-0)	TWA	150 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Isobutane (CAS 75-28-5)	TWA	1900 mg/m3
		800 ppm
Isobutyl Acetate (CAS 110-19-0)	TWA	700 mg/m3
		150 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3
		1000 ppm
Toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3) Skin designation applies.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear appropriate chemical resistant gloves.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Skin protection

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Gas.
Form	Aerosol.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	132.89 °F (56.05 °C) estimated
Flash point	-156.0 °F (-104.4 °C) PROPELLANT estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	1.4 % estimated
Flammability limit - upper (%)	8.4 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	104.27 psig @70F estimated
Vapor density	Not available.
Relative density	Not available.

Solubility(ies)

Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	995 °F (535 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
VOC Content	Polyolefin Adesion Promoter category; PWR(MIR) < 2.5 VOC COMPLIANT
Specific gravity	0.771 estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Acids. Strong oxidizing agents. Nitrates. Halogens. Fluorine. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

May be fatal if swallowed and enters airways. Narcotic effects.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Guinea pig	> 7426 mg/kg, 24 Hours
		> 9.4 ml/kg, 24 Hours
	Rabbit	> 7426 mg/kg, 24 Hours
		> 9.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	55700 ppm, 3 Hours
		132 mg/l, 3 Hours
		50.1 mg/l
Oral		
LD50	Rat	5800 mg/kg
		2.2 ml/kg
Isobutane (CAS 75-28-5)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
Isobutyl Acetate (CAS 110-19-0)		
Acute		
Dermal		
LD50	Rabbit	> 17400 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 30 mg/l, 6 Hours
		> 23.4 mg/l, 4 Hours
Oral		
LD50	Rat	13413 mg/kg
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	16.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	> 10000 ppm, 6 Hours
Oral		
LD50	Rat	5.84 g/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
		658 mg/l/4h

Components	Species	Test Results
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, 24 Hours
Inhalation		
LC50	Mouse	6405 - 7436 ppm, 6 Hours
		5320 ppm, 8 Hours
	Rat	5879 - 6281 ppm, 6 Hours
		12.5 - 28.8 mg/l, 4 Hours
Oral		
LD50	Rat	5000 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	> 5000 ml/kg, 4 Hours
		12126 mg/kg, 24 Hours
Inhalation		
LC50	Rat	5922 ppm, 4 Hours
Oral		
LD50	Mouse	5251 mg/kg
	Rat	3523 mg/kg
		10 ml/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Respiratory system. Skin. Kidneys. Central nervous system. Eyes. Liver. May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged exposure may cause chronic effects. May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Isopropyl Alcohol (CAS 67-63-0)			
Aquatic			
Algae	IC50	Algae	1000.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Algae	IC50	Algae	433.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	7.645 mg/L, 48 Hours
		Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone	-0.24
Isobutane	2.76
Isobutyl Acetate	1.78
Isopropyl Alcohol	0.05
Propane	2.36
Toluene	2.73
Xylene	3.12 - 3.2

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

Acetone (CAS 67-64-1)	U002
Toluene (CAS 108-88-3)	U220
Xylene (CAS 1330-20-7)	U239

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, (each not exceeding 1 L capacity)
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.
Packaging Exceptions	LTD QTY

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Packaging Exceptions	LTD QTY
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	Listed.
Isobutyl Acetate (CAS 110-19-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Toluene	108-88-3	40 - 60
Xylene	1330-20-7	1 - 2.5
Ethyl Benzene	100-41-4	0.1 - 1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Isobutane (CAS 75-28-5)
Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Toluene (CAS 108-88-3)	6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Toluene (CAS 108-88-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Toluene (CAS 108-88-3)	594

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Isobutane (CAS 75-28-5)
Isobutyl Acetate (CAS 110-19-0)
Isopropyl Alcohol (CAS 67-63-0)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Isobutane (CAS 75-28-5)
Isobutyl Acetate (CAS 110-19-0)
Isopropyl Alcohol (CAS 67-63-0)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Isobutane (CAS 75-28-5)
Isobutyl Acetate (CAS 110-19-0)
Isopropyl Alcohol (CAS 67-63-0)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Isobutane (CAS 75-28-5)
Isobutyl Acetate (CAS 110-19-0)
Isopropyl Alcohol (CAS 67-63-0)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethyl Benzene (CAS 100-41-4)	Listed: June 11, 2004

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Toluene (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 07-27-2015

Version # 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

Lucas Synthetic SAE 20W-50 MC JASO MA2

Section 1. Identification

GHS product identifier : Lucas Synthetic SAE 20W-50 MC JASO MA2

Other means of identification : Not available.

Product number : 10702

Relevant identified uses of the substance or mixture and uses advised against

Engine oil.

Supplier's details :
Lucas Oil Products, Inc
302 North Sheridan Street
Corona, California 92880-2067
Toll Free: (800) 342-2512
Tel: (951) 270-0154
Fax: (951) 270-1902
Website: www.LucasOil.com

Emergency telephone number (with hours of operation) :
(951) 493-1149
(951) 847-5949
Markn@lucasoil.com

7:00A.M. to 5:00P.M. Monday thru Friday

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : 10702

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : No special precaution is required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear.]

Color : Light brown.

Odor : Petroleum.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >260°C (>500°F)

Flash point : Closed cup: 229.44°C (445°F)

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.864

Solubility : Negligible at 25°C

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Kinematic (100°C (212°F)): 0.19 cm^2/s (19 cSt)

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

Skin : There is no data available.

Eyes : There is no data available.

Respiratory : There is no data available.

Sensitization

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

TSCA 8(a) PAIR: Diphenylamine

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: Distillates (petroleum), hydrotreated heavy paraffinic

Pennsylvania : None of the components are listed.

California Prop. 65

No products were found.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 0 **Flammability :** 1 **Physical hazards :** 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 0 **Flammability :** 1 **Instability :** 0

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Section 16. Other information

History

Date of issue mm/dd/yyyy : 08/15/2013

Version : 1

Revised Section(s) : Not applicable.

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

813

Section 1. Identification

Product name : Tef-Lube 2000

Product code : 813

Other means of identification : Not available.

CAS # : Not applicable.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Kleen-Flo Tumbler Industries Limited
75 Advance Blvd.
Brampton, ON L6T 4N1

Emergency telephone number of the company : (905)-793-4311

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : 905-793-4311

Transportation Emergency Telephone Number : CANUTEC: 613-996-6666

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 57.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Section 2. Hazards identification

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Light Aliphatic Hydrocarbon Solvent	30-60	64742-49-0
Butane	10-30	106-97-8
Propane	5-10	74-98-6
Lt. Aliphatic Hydrocarbon Solvent	1-5	64742-89-8
Methyl Cyclohexane	1-5	108-87-2
Naphthenic Oil	1-5	64742-63-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Light Aliphatic Hydrocarbon Solvent	None.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2016).** STEL: 1000 ppm 15 minutes.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Lt. Aliphatic Hydrocarbon Solvent	None.
Methyl Cyclohexane	**ACGIH TLV (United States, 3/2016).** TWA: 400 ppm 8 hours. TWA: 1610 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 400 ppm 10 hours. TWA: 1600 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 500 ppm 8 hours. TWA: 2000 mg/m³ 8 hours.
Naphthenic Oil	**ACGIH TLV (United States, 3/2016).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Butane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 600 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 800 ppm 8 hours. TWAEV: 1900 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 800 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Naphthenic Oil	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 5 mg/m³ 8 hours. Form: Mist 15 min OEL: 10 mg/m³ 15 minutes. Form: Mist **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 5 mg/m³ 8 hours. Form: mist STEV: 10 mg/m³ 15 minutes. Form: mist

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 1.5 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 9.5%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.69

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 40.21 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Methyl Cyclohexane	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Lt. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Cyclohexane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Naphthenic Oil	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Lt. Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined
Methyl Cyclohexane	Category 2	Not determined	Not determined
Naphthenic Oil	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Butane	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Methyl Cyclohexane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Methyl Cyclohexane	Acute LC50 5800 µg/l Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Light Aliphatic Hydrocarbon Solvent	-	10 to 2500	high
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high
Methyl Cyclohexane	-	186.21	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

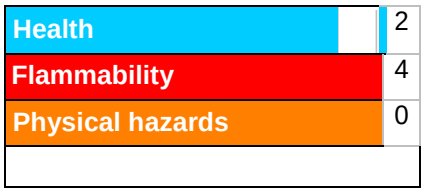
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

Not applicable.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method Calculation method Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 12/9/2016

Date of issue/Date of revision : 12/9/2016

Date of previous issue : 6/14/2016

Version : 2

Guidelines for SDS use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal, foreseeable conditions. This SDS is designed to provide additional valuable safety and handling information.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to **determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.**

FICHE DE DONNÉES DE SÉCURITÉ

813

Section 1. Identification

Nom du produit : Tef-Lube 2000

Code du produit : 813

Autres moyens d'identification : Non disponible.

No CAS : Non applicable.

Type de produit : Aérosol.

Utilisations pertinentes identifiées de la substance ou du mélange et utilisations non recommandées

Non applicable.

Manufacturier : Les Entreprises Kleen-Flo Tumbler Limitée
75 Advance Blvd.
Brampton, ON L6T 4N1

Numéro de téléphone : 905-793-4311

Numéro d'urgence : CANUTEC: 613-996-6666

Section 2. Identification des dangers

Classement de la substance ou du mélange : AÉROSOLS INFLAMMABLES - Catégorie 1
GAZ SOUS PRESSION - Gaz comprimé
TOXICITÉ POUR CERTAINS ORGANES CIBLES - EXPOSITION UNIQUE (Irritation des voies respiratoires) - Catégorie 3
TOXICITÉ POUR CERTAINS ORGANES CIBLES - EXPOSITION UNIQUE (Effets narcotiques) - Catégorie 3
TOXICITÉ POUR CERTAINS ORGANES CIBLES - EXPOSITIONS RÉPÉTÉES - Catégorie 2
DANGER PAR ASPIRATION - Catégorie 1

Pourcentage du mélange constitué de composants de toxicité inconnue: 57.1%

Éléments d'étiquetage SGH

Pictogrammes de danger :

Mention d'avertissement : Danger

Mentions de danger : Aérosol extrêmement inflammable.
Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.
Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.
Peut irriter les voies respiratoires.
Peut provoquer somnolence ou des vertiges.
Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Conseils de prudence

Section 2. Identification des dangers

Généralités : Lire l'étiquette avant utilisation. Tenir hors de portée des enfants. En cas de consultation d'un médecin, garder à disposition le récipient ou l'étiquette.

Prévention : Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'ignition. Ne pas fumer. Ne pas vaporiser sur une flamme nue ou sur toute autre source d'ignition. Utiliser seulement en plein air ou dans un endroit bien ventilé. Ne pas respirer les poussières ou brouillards. Récipient sous pression: ne pas perforer ni brûler, même après usage.

Intervention : Obtenez des soins médicaux si vous vous sentez mal. EN CAS D'INHALATION: Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer. Appelez un CENTRE ANTIPOISON ou un médecin si vous vous sentez mal. EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON ou un médecin. Ne PAS faire vomir.

Stockage : Garder sous clef. Protéger du rayonnement solaire. Ne pas exposer à une température supérieure à 50 °C/122 °F. Stocker dans un endroit bien ventilé.

Élimination : Éliminer le contenu et le récipient conformément à toutes les réglementations locales, régionales, nationales et internationales.

Éléments d'une étiquette complémentaire

UNE EXPOSITION EXCESSIVE ET PROLONGÉE Á CE PRODUIT ENTRAINE DES EFFETS DIFFÉRÉS SUR LA SANTÉ. Contient des solvants capables de causer des dégâts permanents au cerveau ainsi qu'au système nerveux. L'utilisation inappropriée de ce produit en le concentrant et en l'aspirant intentionnellement peut être dangereuse ou peut même causer la mort.

S'il vous plaît se référer à la SDD pour plus d'informations. Tenir hors de portée des enfants. Garder á la verticale dans un endroit frais et sec. Ne pas jeter le bidon vide dans un compacteur de déchets ménagers.

Dangers non classés ailleurs : Aucun connu.

Section 3. Composition/information sur les ingrédients

Substance/préparation : Mélange

Autres moyens d'identification : Non disponible.

Numéro CAS / autres identificateurs uniques

Nom des ingrédients	% en poids	Numéro CAS
Light Aliphatic Hydrocarbon Solvent	30-60	64742-49-0
Butane	10-30	106-97-8
Propane	5-10	74-98-6
Solvant naphta aliphatique leger	1-5	64742-89-8
Méthylcyclohexane	1-5	108-87-2
distillats naphténiques lourds (pétrole), déparaffinés au solvant	1-5	64742-63-8

Toute concentration présentée comme une plage vise à protéger la confidentialité ou est expliquée par une variation entre les lots.

Dans l'état actuel des connaissances du fournisseur et dans les concentrations d'application, aucun autre ingrédient présent n'est classé comme dangereux pour la santé, et donc nécessiterait de figurer dans cette section.

Les limites d'exposition professionnelle, quand elles sont disponibles, sont énumérées à la section 8.

Section 4. Premiers soins

Description des premiers soins nécessaires

Contact avec les yeux : Rincer immédiatement les yeux à grande eau, en soulevant de temps en temps les paupières supérieures et inférieures. Vérifier si la victime porte des verres de contact et dans ce cas, les lui enlever. Continuer à rincer pendant au moins 10 minutes. Obtenir des soins médicaux à la suite d'une exposition ou si une personne se sent mal.

Inhalation : Transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Si l'on soupçonne que des fumées sont encore présentes, le sauveteur devra porter un masque adéquat ou un appareil de protection respiratoire autonome. En l'absence de respiration, en cas de respiration irrégulière ou d'arrêt respiratoire, il faut que du personnel qualifié administre la respiration artificielle ou de l'oxygène. Le bouche-à-bouche peut se révéler dangereux pour la personne portant secours. Consulter un médecin. Si nécessaire, appeler un centre antipoison ou un médecin. Si la personne est inconsciente, la placer en position de rétablissement et consulter un médecin immédiatement. Assurez-vous d'une bonne circulation d'air. Détacher tout ce qui pourrait être serré, comme un col, une cravate, une ceinture ou un ceinturon.

Contact avec la peau : Rincer la peau contaminée avec beaucoup d'eau. Retirer les vêtements et les chaussures contaminés. Continuer à rincer pendant au moins 10 minutes. Obtenir des soins médicaux à la suite d'une exposition ou si une personne se sent mal. Laver les vêtements avant de les réutiliser. Laver soigneusement les chaussures avant de les remettre.

Ingestion : Consulter un médecin immédiatement. Appeler un centre antipoison ou un médecin. Laver la bouche avec de l'eau. Enlever les prothèses dentaires s'il y a lieu. Transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. En cas d'ingestion de la matière et si la personne exposée est consciente, lui donner de petites quantités d'eau à boire. Arrêter si la personne se sent malade car des vomissements peuvent être dangereux. Risque d'absorption par aspiration. Peut pénétrer dans les poumons et causer des lésions. Ne pas provoquer le vomissement. En cas de vomissements, garder la tête basse afin d'éviter la pénétration du vomi dans les poumons. Ne rien faire ingérer à une personne inconsciente. Si la personne est inconsciente, la placer en position de rétablissement et consulter un médecin immédiatement. Assurez-vous d'une bonne circulation d'air. Détacher tout ce qui pourrait être serré, comme un col, une cravate, une ceinture ou un ceinturon.

Symptômes et effets les plus importants, qu'ils soient aigus ou retardés

Effets aigus potentiels sur la santé

Contact avec les yeux : Aucun effet important ou danger critique connu.

Inhalation : Peut causer une dépression du système nerveux central (SNC). Peut provoquer somnolence ou des vertiges. Peut irriter les voies respiratoires.

Contact avec la peau : Aucun effet important ou danger critique connu.

Ingestion : Peut causer une dépression du système nerveux central (SNC). Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

Signes/symptômes de surexposition

Contact avec les yeux : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
irritation
rougeur

Inhalation : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
irritation des voies respiratoires
toux
nausées ou vomissements
migraine
somnolence/fatigue
étourdissements/vertiges
évanouissement

Section 4. Premiers soins

Contact avec la peau : Aucune donnée spécifique.

Ingestion : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
nausées ou vomissements

Mention de la nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire

Note au médecin traitant : Traitement symptomatique requis. Contactez le spécialiste en traitement de poison immédiatement si de grandes quantités ont été ingérées ou inhalées.

Traitements particuliers : Pas de traitement particulier.

Protection des sauveteurs : Ne prendre aucune mesure impliquant un risque personnel ou en l'absence de formation adéquate. Si l'on soupçonne que des fumées sont encore présentes, le sauveteur devra porter un masque adéquat ou un appareil de protection respiratoire autonome. Le bouche-à-bouche peut se révéler dangereux pour la personne portant secours.

Voir Information toxicologique (section 11)

Section 5. Mesures à prendre en cas d'incendie

Movens d'extinction

Agents extincteurs appropriés : Employer un agent extincteur qui convient aux feux environnants.

Agents extincteurs inappropriés : Aucun connu.

Dangers spécifiques du produit : Aérosol extrêmement inflammable. Si ce produit est chauffé ou se trouve au contact du feu, une augmentation de pression se produit et le conteneur peut éclater, avec un risque d'explosion ultérieure. Le gaz peut s'accumuler dans les endroits bas ou confinés ou parcourir une distance considérable jusqu'à une source d'inflammation et causer un retour de flamme provoquant un incendie ou une explosion. Une bombe aérosol qui éclate peut être propulsée d'un feu à grande vitesse. Les écoulements dans les égouts peuvent créer des risques de feu ou d'explosion.

Produit de décomposition thermique dangereux : Les produits de décomposition peuvent éventuellement comprendre les substances suivantes:
dioxyde de carbone
monoxyde de carbone

Mesures spéciales de protection pour les pompiers : En présence d'incendie, circonscrire rapidement le site en évacuant toute personne se trouvant près des lieux de l'accident. Ne prendre aucune mesure impliquant un risque personnel ou en l'absence de formation adéquate. Déplacer les contenants hors de la zone embrasée si cela ne présente aucun risque. Refroidir les conteneurs exposés aux flammes avec un jet d'eau pulvérisée.

Équipement de protection spécial pour le personnel préposé à la lutte contre le feu : Il est impératif que les pompiers portent un équipement de protection adéquat, ainsi qu'un appareil respiratoire autonome (ARA) équipé d'un masque couvre-visage à pression positive.

Section 6. Mesures à prendre en cas de déversement accidentel

Précautions individuelles, équipements de protection et mesures d'urgence

Section 6. Mesures à prendre en cas de déversement accidentel

Pour le personnel non affecté aux urgences : Ne prendre aucune mesure impliquant un risque personnel ou en l'absence de formation adéquate. Évacuer les environs. Empêcher l'accès aux personnes gênantes ou non protégées. En cas de rupture d'une bombe aérosol, la vigilance s'impose en raison de l'échappée rapide du contenu sous pression et du propulseur. En cas de rupture d'un grand nombre de conteneurs, traiter comme si un produit en vrac s'était déversé conformément aux instructions dans la section Nettoyage. Ne pas toucher ni marcher dans le produit répandu. Éteindre toutes les sources d'inflammation. La zone de danger doit être exempte de cigarettes ou flammes. Éviter de respirer les vapeurs ou le brouillard. Assurer une ventilation adéquate. Porter un appareil respiratoire approprié lorsque le système de ventilation est inadéquat. Porter un équipement de protection individuelle approprié.

Intervenants en cas d'urgence : Si des vêtements spécialisés sont requis pour traiter un déversement, prendre note de tout renseignement donné à la Section 8 sur les matériaux appropriés ou non. Consultez également les renseignements sous « Pour le personnel non affecté aux urgences ».

Précautions environnementales : Évitez la dispersion des matériaux déversés, ainsi que leur écoulement et tout contact avec le sol, les voies navigables, les drains et les égouts. Avertir les autorités compétentes si le produit a engendré une pollution environnementale (égouts, voies navigables, sol ou air).

Méthodes et matériaux pour le confinement et le nettoyage

Petit déversement : Arrêter la fuite si cela ne présente aucun risque. Écarter les conteneurs de la zone de déversement. Utiliser des outils à l'épreuve des étincelles et du matériel à l'épreuve des explosions. Diluer avec de l'eau et éponger si la matière est soluble dans l'eau. Sinon, ou si la matière est insoluble dans l'eau, absorber avec un matériau sec inerte et placer dans un conteneur à déchets approprié. Éliminer par l'intermédiaire d'une entreprise spécialisée autorisée.

Grand déversement : Arrêter la fuite si cela ne présente aucun risque. Écarter les conteneurs de la zone de déversement. Utiliser des outils à l'épreuve des étincelles et du matériel à l'épreuve des explosions. S'approcher des émanations dans la même direction que le vent. Empêcher la pénétration dans les égoûts, les cours d'eau, les sous-sol ou les zones confinées. Éliminer les déversements dans une station de traitement des effluents ou procéder de la façon suivante. Contenir les fuites et les ramasser à l'aide de matières absorbantes non combustibles telles que le sable, la terre, la vermiculite, la terre à diatomées. Les placer ensuite dans un récipient pour élimination conformément à la réglementation locale (voir Section 13). Éliminer par l'intermédiaire d'une entreprise spécialisée autorisée. Le matériel absorbant contaminé peut poser le même danger que le produit déversé. Nota : Voir Section 1 pour de l'information relative aux urgences et voir Section 13 pour l'élimination des déchets.

Section 7. Manutention et stockage

Précautions relatives à la sûreté en matière de manutention

Mesures de protection : Revêtir un équipement de protection individuelle approprié (voir Section 8). Récipient sous pression. A protéger contre les rayons solaires et à ne pas exposer à une température supérieure à 50 °C. Ne pas percer ou brûler même après usage. Éviter de respirer les vapeurs ou le brouillard. Ne pas avaler. Éviter le contact avec les yeux, la peau et les vêtements. Éviter de respirer du gaz. Utiliser uniquement dans un environnement bien aéré. Porter un appareil respiratoire approprié lorsque le système de ventilation est inadéquat. Tenir éloigné de la chaleur, des étincelles, de la flamme nue, ou de toute autre source d'inflammation. Utiliser un équipement électrique (de ventilation, d'éclairage et de manipulation) anti-explosion. Ne pas utiliser d'outils produisant des étincelles. Les conteneurs vides retiennent des résidus de produit et peuvent présenter un danger.

Section 7. Manutention et stockage

Conseils sur l'hygiène générale au travail : Il est interdit de manger, boire ou fumer dans les endroits où ce produit est manipulé, entreposé ou traité. Les personnes travaillant avec ce produit devraient se laver les mains et la figure avant de manger, boire ou fumer. Retirer les vêtements et l'équipement de protection contaminés avant de pénétrer dans des aires de repas. Consulter également la Section 8 pour d'autres renseignements sur les mesures d'hygiène.

Conditions de sûreté en matière de stockage, y compris les incompatibilités : Entreposer conformément à la réglementation locale. Entreposer à l'abri de la lumière directe du soleil, dans un endroit sec, frais et bien ventilé, à l'écart des substances incompatibles (voir la section 10), de la nourriture et de la boisson. Protéger du rayonnement solaire. Garder sous clef. Éliminer toutes les sources d'inflammation. Utiliser un récipient approprié pour éviter toute contamination du milieu ambiant.

Section 8. Contrôle de l'exposition/protection individuelle

Paramètres de contrôle

Limites d'exposition professionnelle (OSHA États-Unis)

Nom des ingrédients	Limites d'exposition
Light Aliphatic Hydrocarbon Solvent	Aucune.
Butane	**NIOSH REL (États-Unis, 10/2013).** TWA: 800 ppm 10 heures. TWA: 1900 mg/m³ 10 heures. **ACGIH TLV (États-Unis, 3/2016).** STEL: 1000 ppm 15 minutes.
Propane	**NIOSH REL (États-Unis, 10/2013).** TWA: 1000 ppm 10 heures. TWA: 1800 mg/m³ 10 heures. **OSHA PEL (États-Unis, 6/2016).** TWA: 1000 ppm 8 heures. TWA: 1800 mg/m³ 8 heures.
Solvant naphta aliphatique leger	Aucune.
Méthylcyclohexane	**ACGIH TLV (États-Unis, 3/2016).** TWA: 400 ppm 8 heures. TWA: 1610 mg/m³ 8 heures. **NIOSH REL (États-Unis, 10/2013).** TWA: 400 ppm 10 heures. TWA: 1600 mg/m³ 10 heures. **OSHA PEL (États-Unis, 6/2016).** TWA: 500 ppm 8 heures. TWA: 2000 mg/m³ 8 heures.
distillats naphténiques lourds (pétrole), déparaffinés au solvant	**ACGIH TLV (États-Unis, 3/2016).** TWA: 5 mg/m³ 8 heures. Forme: Fraction inhalable **NIOSH REL (États-Unis, 10/2013).** TWA: 5 mg/m³ 10 heures. Forme: Brouillard STEL: 10 mg/m³ 15 minutes. Forme: Brouillard **OSHA PEL (États-Unis, 6/2016).** TWA: 5 mg/m³ 8 heures.

Limites d'exposition professionnelle (Canada)

Section 8. Contrôle de l’exposition/protection individuelle

Nom des ingrédients	Limites d'exposition
Butane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 heures. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 600 ppm 8 heures. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** VEMP: 800 ppm 8 heures. VEMP: 1900 mg/m³ 8 heures. **CA Ontario Provincial (Canada, 7/2015).** TWA: 800 ppm 8 heures. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 heures.
distillats naphténiques lourds (pétrole), déparaffinés au solvant	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 5 mg/m³ 8 heures. Forme: Brouillard 15 min OEL: 10 mg/m³ 15 minutes. Forme: Brouillard **CA Quebec Provincial (Canada, 1/2014).** VEMP: 5 mg/m³ 8 heures. Forme: brouillards VECD: 10 mg/m³ 15 minutes. Forme: brouillards

Contrôles d’ingénierie appropriés : Utiliser uniquement dans un environnement bien aéré. Utiliser des enceintes fermées, une ventilation par aspiration à la source, ou d'autres systèmes de contrôle automatique intégrés afin de maintenir le seuil d'exposition du technicien aux contaminants en suspension dans l'air inférieur aux limites recommandées ou légales. Les mesures d'ingénierie doivent aussi maintenir les concentrations en gaz, en vapeur ou en poussière en dessous de tout seuil minimal d'explosion. Utiliser un équipement de ventilation anti-explosion.

Contrôle de l'action des agents d'environnement : Il importe de tester les émissions provenant des systèmes d'aération et du matériel de fabrication pour vous assurer qu'elles sont conformes aux exigences de la législation sur la protection de l'environnement. Dans certains cas, il sera nécessaire d'équiper le matériel de fabrication d'un épurateur de gaz ou d'un filtre ou de le modifier techniquement afin de réduire les émissions à des niveaux acceptables.

Mesures de protection individuelle

Mesures d'hygiène : Après manipulation de produits chimiques, lavez-vous les mains, les avant-bras et le visage avec soin avant de manger, de fumer, d'aller aux toilettes et une fois votre travail terminé. Utiliser les techniques appropriées pour retirer les vêtements contaminés. Laver les vêtements contaminés avant de les réutiliser. Assurez-vous que des bassins oculaires et des douches de décontamination sont installés près des postes de travail.

Protection oculaire/faciale : Le port de lunettes de sécurité conformes à une norme approuvée est obligatoire quand une évaluation des risques le préconise pour éviter toute exposition aux éclaboussures de liquides, à la buée, aux gaz ou aux poussières. Si un contact est possible, les protections suivantes doivent être portées, à moins qu’une évaluation indique un besoin pour une protection supérieure : lunettes de sécurité avec écrans de protection latéraux.

Protection de la peau

Section 8. Contrôle de l'exposition/protection individuelle

Protection des mains : Lors de la manipulation de produits chimiques, porter en permanence des gants étanches et résistants aux produits chimiques conformes à une norme approuvée, si une évaluation du risque indique que cela est nécessaire. En tenant compte des paramètres indiqués par le fabricant de gants, vérifier que les gants gardent toujours leurs propriétés de protection pendant leur utilisation. Il faut noter que le temps de percement pour tout matériau utilisé dans des gants peut varier pour différents fabricants de gants. Dans le cas de mélanges, constitués de plusieurs substances, la durée de protection des gants ne peut pas être évaluée avec précision.

Protection du corps : L'équipement de protection individuelle pour le corps doit être adapté à la tâche exécutée et aux risques encourus, et approuvé par un expert avant toute manipulation de ce produit. Quand il existe un risque d'ignition causée par de l'électricité statique, porter des vêtements de protection antistatiques. Pour la meilleure protection contre les décharges statiques, les vêtements doivent comprendre des combinaisons de travail, des bottes et des gants antistatiques.

Autre protection pour la peau : Il faut sélectionner des chaussures appropriées et toute autre mesure appropriée de protection de la peau en fonction de la tâche en cours et des risques en cause et cette sélection doit être approuvée par un spécialiste avant de manipuler ce produit.

Protection respiratoire : En fonction du risque et de la possibilité d'une exposition, choisir un respirateur qui est conforme à la norme ou certification appropriée. Les respirateurs doivent être utilisés suivant un programme de protection pour assurer un ajustement, une formation appropriée et d'aspects d'utilisation importants.

Section 9. Propriétés physiques et chimiques

Apparence

État physique : Liquide.

Couleur : Non disponible.

Odeur : Non disponible.

Seuil olfactif : Non disponible.

pH : Non disponible.

Point de fusion : Non disponible.

Point d'ébullition : Non disponible.

Point d'éclair : Vase clos: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Taux d'évaporation : 1.5 (acétate de butyle = 1)

Inflammabilité (solides et gaz) : Non disponible.

Limites inférieure et supérieure d'explosion (d'inflammation) : Seuil minimal: 0.9%
Seuil maximal: 9.5%

Tension de vapeur : 13.5 kPa (101.325 mm Hg) [à 20°C]

Densité de vapeur : 1.55 [Air = 1]

Densité relative : 0.69

Solubilité : Non disponible.

Coefficient de partage n-octanol/eau : Non disponible.

Température d'auto-inflammation : Non disponible.

Température de décomposition : Non disponible.

Viscosité : Cinématique (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Poids moléculaire : Non applicable.

Produit en aérosol

Section 9. Propriétés physiques et chimiques

Type d'aérosol : Pulvérisation

Chaleur de combustion : 40.21 kJ/g

Section 10. Stabilité et réactivité

Réactivité : Aucune donnée d'essai spécifique à la réactivité disponible pour ce produit ou ses ingrédients.

Stabilité chimique : Le produit est stable.

Risque de réactions dangereuses : Dans des conditions normales de stockage et d'utilisation, aucune réaction dangereuse ne se produit.

Conditions à éviter : Éliminer toutes les sources possibles d'inflammation (étincelles ou flammes).

Matériaux incompatibles : Aucune donnée spécifique.

Produits de décomposition dangereux : Dans des conditions normales de stockage et d'utilisation, aucun produit de décomposition dangereux ne devrait apparaître.

Section 11. Données toxicologiques

Renseignements sur les effets toxicologiques

Toxicité aiguë

Nom du produit ou de l'ingrédient	Résultat	Espèces	Dosage	Exposition
Butane	CL50 Inhalation Vapeur	Rat	658000 mg/m³	4 heures

Irritation/Corrosion

Nom du produit ou de l'ingrédient	Résultat	Espèces	Potentiel	Exposition	Observation
Méthylcyclohexane	Yeux - Léger irritant	Lapin	-	24 heures 100 microliters	-
	Peau - Léger irritant	Lapin	-	24 heures 500 microliters	-

Sensibilisation

Non disponible.

Mutagénicité

Non disponible.

Cancérogénicité

Non disponible.

Toxicité pour la reproduction

Non disponible.

Tératogénicité

Non disponible.

Toxicité systémique pour certains organes cibles - exposition unique -

Section 11. Données toxicologiques

Nom	Catégorie	Voie d'exposition	Organes cibles
Light Aliphatic Hydrocarbon Solvent	Catégorie 3	Non applicable.	Irritation des voies respiratoires et Effets narcotiques
Butane	Catégorie 3	Non applicable.	Irritation des voies respiratoires et Effets narcotiques
Propane	Catégorie 3	Non applicable.	Irritation des voies respiratoires et Effets narcotiques
Solvant naphta aliphatique leger	Catégorie 3	Non applicable.	Irritation des voies respiratoires et Effets narcotiques
Méthylcyclohexane	Catégorie 3	Non applicable.	Irritation des voies respiratoires et Effets narcotiques
distillats naphténiques lourds (pétrole), déparaffinés au solvant	Catégorie 3	Non applicable.	Irritation des voies respiratoires et Effets narcotiques

Toxicité pour certains organes cibles - expositions répétées -

Nom	Catégorie	Voie d'exposition	Organes cibles
Light Aliphatic Hydrocarbon Solvent	Catégorie 2	Indéterminé	Indéterminé
Butane	Catégorie 2	Indéterminé	Indéterminé
Propane	Catégorie 2	Indéterminé	Indéterminé
Solvant naphta aliphatique leger	Catégorie 2	Indéterminé	Indéterminé
Méthylcyclohexane	Catégorie 2	Indéterminé	Indéterminé
distillats naphténiques lourds (pétrole), déparaffinés au solvant	Catégorie 2	Indéterminé	Indéterminé

Risque d'absorption par aspiration

Nom	Résultat
Butane	DANGER PAR ASPIRATION - Catégorie 1
Propane	DANGER PAR ASPIRATION - Catégorie 1
Solvant naphta aliphatique leger	DANGER PAR ASPIRATION - Catégorie 1
Méthylcyclohexane	DANGER PAR ASPIRATION - Catégorie 1

Renseignements sur les voies d'exposition probables : Non disponible.

Effets aigus potentiels sur la santé

Contact avec les yeux : Aucun effet important ou danger critique connu.

Inhalation : Peut causer une dépression du système nerveux central (SNC). Peut provoquer somnolence ou des vertiges. Peut irriter les voies respiratoires.

Contact avec la peau : Aucun effet important ou danger critique connu.

Ingestion : Peut causer une dépression du système nerveux central (SNC). Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

Symptômes correspondant aux caractéristiques physiques, chimiques et toxicologiques

Contact avec les yeux : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
irritation
rougeur

Inhalation : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
irritation des voies respiratoires
toux
nausées ou vomissements
migraine
somnolence/fatigue
étourdissements/vertiges
évanouissement

Contact avec la peau : Aucune donnée spécifique.

Ingestion : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
nausées ou vomissements

Effets différés et immédiats ainsi que les effets chroniques causés par une exposition à court et à long terme

Exposition de courte durée

Effets immédiats possibles : Non disponible.

Effets différés possibles : Non disponible.

Exposition de longue durée

Effets immédiats possibles : Non disponible.

Effets différés possibles : Non disponible.

Effets chroniques potentiels sur la santé

Non disponible.

Généralités : Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Cancérogénicité : Aucun effet important ou danger critique connu.

Mutagénicité : Aucun effet important ou danger critique connu.

Tératogénicité : Aucun effet important ou danger critique connu.

Effets sur le développement : Aucun effet important ou danger critique connu.

Effets sur la fertilité : Aucun effet important ou danger critique connu.

Valeurs numériques de toxicité

Estimations de la toxicité aiguë

Non disponible.

Section 12. Données écologiques

Toxicité

Nom du produit ou de l'ingrédient	Résultat	Espèces	Exposition
Solvant naphta aliphatique leger	Aiguë CL50 >100000 ppm Eau douce	Poisson - Oncorhynchus mykiss	96 heures
Méthylcyclohexane	Aiguë CL50 5800 µg/l Eau de mer	Poisson - Morone saxatilis - Juvénile (jeune à l'envol, larve de poisson, porcelet sevré)	96 heures

Persistance et dégradation

Non disponible.

Section 12. Données écologiques

Potentiel de bioaccumulation

Nom du produit ou de l'ingrédient	$LogP_{ow}$	BCF	Potentiel
Light Aliphatic Hydrocarbon Solvent	-	10 à 2500	élevée
Solvant naphta aliphatique leger	-	10 à 2500	élevée
Méthylcyclohexane	-	186.21	faible

Mobilité dans le sol

Coefficient de répartition sol/eau (K_{OC}) : Non disponible.

Autres effets nocifs : Aucun effet important ou danger critique connu.

Section 13. Données sur l'élimination

Méthodes d'élimination : Il est important de réduire au minimum, voire d'éviter la génération de déchets chaque fois que possible. La mise au rebut de ce produit, des solutions et de tous les co-produits doit obéir en permanence aux dispositions de la législation sur la protection de l'environnement et l'élimination des déchets et demeurer conforme aux exigences des pouvoirs publics locaux. Éliminer le surplus et les produits non recyclables par l'intermédiaire d'une entreprise spécialisée autorisée. Ne pas rejeter les déchets non traités dans les égouts, à moins que ce soit en conformité avec les exigences de toutes les autorités compétentes. L'emballage des déchets doit être recyclé. L'incinération ou l'enfouissement sanitaire ne doivent être considérés que lorsque le recyclage n'est pas possible. Ne se débarrasser de ce produit et de son récipient qu'en prenant toutes précautions d'usage. Les conteneurs vides ou les doublures peuvent retenir des résidus de produit. Ne pas percer le contenant ni le jeter au feu.

Section 14. Informations relatives au transport

	Classification pour le DOT	Classification pour le TMD	Classement mexicain	IATA	IMDG
Numéro ONU	UN1950	UN1950	UN1950	UN1950	UN1950
Désignation officielle de transport de l'ONU	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Classe de danger relative au transport	2.1 	2.1 	2.1 	2.1 	2.1 
Groupe d'emballage	-	-	-	-	-
Dangers environnementaux	Non.	Non.	Non.	No.	No.

This product is exempted under TDG section 1.17 as limited quantity and can be shipped as limited quantity.

Section 14. Informations relatives au transport

Autres informations	-	Produit classé selon les sections suivantes des Règlements sur le transport des marchandises dangereuses : 2. 13-2.17 (Classe 2).	-	-	**Emergency schedules (EmS)** F-D, S-U
	ERG No. 126	**ERG No.** 126	**ERG No.** 126		

Protections spéciales pour l'utilisateur : Les descriptions d'expédition plurimodale sont fournies à titre informatif et ne tiennent pas compte de la taille des contenants. La présence d'une description d'expédition pour un mode de transport particulier (mer, air, etc.) n'indique aucunement que le produit est emballé convenablement pour ce mode de transport. Il faut vérifier l'adéquation de l'emballage avant l'expédition du produit, et la conformité à la réglementation applicable revient uniquement à la personne offrant le produit à transporter. Les personnes qui chargent et déchargent les marchandises dangereuses doivent être formées sur les risques liés aux substances et sur les mesures à prendre en cas de situations d'urgence.

Transport en vrac aux termes de l'annexe II de la Convention MARPOL et du Recueil IBC : Non disponible.

Nom d'expédition correct : Non disponible.

Type de navire : Non disponible.

Catégorie de pollution : Non disponible.

Section 15. Informations sur la réglementation

SARA 313

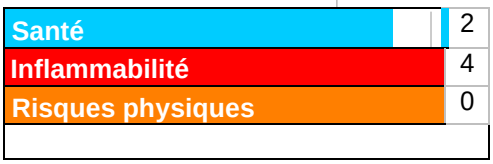
SARA 313 (40 CFR 372.45) notification du fournisseur peut être trouvé sur la fiche de données environnementales.

Californie prop. 65

Non applicable.

Section 16. Autres informations

Hazardous Material Information System (États-Unis)



Le client est chargé de déterminer le code EPI (Équipement de protection individuelle) de cette matière.

Attention: L'évaluation du HMIS® (Système d'identification des matières dangereuses) est basée sur une échelle de 0 à 4 (0 représente un danger ou un risque minime et 4 un danger ou un risque important). Bien que les cotes d'évaluation HMIS® ne soient pas obligatoires sur les fiches signalétiques selon la clause 29 CFR 1910.1200, le préparateur peut décider de les indiquer quand même. Il convient d'utiliser les cotes d'évaluation HMIS® avec un programme HMIS® parfaitement mis en œuvre. HMIS® est une marque déposée de la National Paint & Coatings Association (NPCA). Vous pouvez vous procurer les matières HMIS® exclusivement auprès de J. J. Keller (800) 327-6868.

Procédure utilisée pour préparer la classification

Classification	Justification

Section 16. Autres informations

AÉROSOLS INFLAMMABLES - Catégorie 1	Sur la base de données d'essais
GAZ SOUS PRESSION - Gaz comprimé	Méthode de calcul
TOXICITÉ POUR CERTAINS ORGANES CIBLES - EXPOSITION UNIQUE (Irritation des voies respiratoires) - Catégorie 3	Méthode de calcul
TOXICITÉ POUR CERTAINS ORGANES CIBLES - EXPOSITION UNIQUE (Effets narcotiques) - Catégorie 3	Méthode de calcul
TOXICITÉ POUR CERTAINS ORGANES CIBLES - EXPOSITIONS RÉPÉTÉES - Catégorie 2	Méthode de calcul
DANGER PAR ASPIRATION - Catégorie 1	Méthode de calcul

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

Historique

Date d'impression : 12/9/2016

Date d'édition/Date de révision : 12/9/2016

Date de publication précédente : 6/14/2016

Version : 2

Légende des abréviations : ETA = Estimation de la toxicité aiguë
FBC = Facteur de bioconcentration
SGH = Système Général Harmonisé de classification et d'étiquetage des produits chimiques
IATA = Association international du transport aérien
CVI = conteneurs en vrac intermédiaires
code IMDG = code maritime international des marchandises dangereuses
LogKoe = coefficient de partage octanol/eau
MARPOL = Convention internationale pour la prévention de la pollution par les navires de 1973, telle que modifiée par le Protocole de 1978. ("MARPOL" = pollution maritime)
NU = Nations Unies

Avis au lecteur

Nous recommandons que chaque client ou destinataire de cette fiche signalétique (FS) examine cette dernière soigneusement et consulte les ressources au besoin afin de bien comprendre les données comprises dans cette FS ainsi que tous les risques associés au produit. Nous fournissons cette information de bonne foi et nous croyons à son exactitude à la date indiquée dans la présente. Cependant, nous n'offrons aucune garantie, expresse ou implicite. L'information présentée ici ne s'applique qu'au produit tel qu'il est expédié. L'ajout de toute matière peut modifier la composition, les dangers et les risques de ce produit. Les exigences réglementaires sont sous réserve de changement et peuvent différer d'un emplacement ou d'un territoire à l'autre. Le client/ acheteur/utilisateur est responsable de voir à ce que ses activités soient conformes aux lois fédérales, étatiques, provinciales ou locales. Les conditions d'utilisation du produit ne relèvent pas du fabricant, le client/acheteur/ utilisateur est responsable de déterminer les conditions nécessaires à une utilisation sécuritaire de ce produit.
Le client/acheteur/utilisateur ne doit pas utiliser le produit à d'autres fins que celles indiquées à la section applicable de cette FS sans d'abord consulter le fournisseur et obtenir des instructions de manutention écrites. En raison du foisonnement des sources d'information, notamment les FS propres aux fabricants, le fabricant ne peut être tenu responsable des FS provenant d'une autre source.

Safety Data Sheet
acc. to OSHA HCS & WHMIS

Printing date 10/23/2014 Reviewed on 10/23/2014

1 Identification

· **Trade name: LINDE® TIP-GUARD PASTE**

· **Article number:** TD16 (2)
· **MSDS Number:** 80
· **Relevant identified uses of the substance:**
M.I.G. GUN NOZZLE
PROTECTION COMPOUND
· **Manufacturer/Supplier:**
LINDE ADDRESS :

5860 CHEDWORTH WAY
MISSISSAUGA, ON L5R 0A2

KEMPER ADDRESS :

13 - 5200 DIXIE ROAD
MISSISSAUGA, ON L4W 1E4

· **Information department:**
PH (905) 624-5463
FAX (905) 624-2840
· **Emergency telephone number:** (613) 996-6666 (CANUTEC – Call collect)

2 Hazard(s) identification

· **Classification of the substance or mixture:**
This product is not classified as hazardous according to the Globally Harmonized System (GHS).
· **Label elements**
· **GHS label elements** Not Available
· **Signal word:** Not Available
· **Hazard statements:** Not Available
· **NFPA ratings (scale 0 - 4):**

Health = 0
Fire = 1
Reactivity = 0

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:** Not Available
· **Additional information:** Exact concentrations are being withheld as trade secrets.

4 First-aid measures

· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.

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Trade name: LINDE® TIP-GUARD PASTE

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· **Most important symptoms and effects, both acute and delayed:**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

5 Fire-fighting measures

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture:** No further relevant information available.
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures:** Not required.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:** Pick up mechanically.
· **Reference to other sections:**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling:** No special measures required.
· **Information about protection against explosions and fires:** No special measures required.
· **Storage**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.
· **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.
· **Personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
· **Breathing equipment:** Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· **Material of gloves:**
Protective gloves not normally required. People with sensitive skin may prefer to wear water-proof gloves, such as rubber or neoprene, to avoid skin contact.

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Trade name: LINDE® TIP-GUARD PASTE

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· **Eye protection:** Not required.

9 Physical and chemical properties

· **Form:**	Semi-solid
· **Color:**	Various colors
· **Odor:**	Odorless
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	343 °C
· **Flash point:**	> 204 °C
· **Flammability (solid, gaseous):**	Not determined.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not applicable.
· **Density at 20 °C:**	0.855 g/cm³
· **Relative density:**	Not determined.
· **Vapour density:**	Not applicable.
· **Evaporation rate at 20 °C:**	<1 (BA=1)
· **Solubility in / Miscibility with**	
Water:	Insoluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
Organic solvents:	0.0 %
Solids content:	100.0 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions:** No dangerous reactions known.
· **Conditions to avoid:** No further relevant information available.

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Trade name: LINDE® TIP-GUARD PASTE

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· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects:**
· **Acute toxicity**
· **Primary irritant effect**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability:** No further relevant information available.
· **Bioaccumulative potential:** No further relevant information available.
· **Mobility in soil:** No further relevant information available.
· **Additional ecological information**
· **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Other adverse effects:** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:** Smaller quantities can be disposed of with household waste.

· **Uncleaned packagings**
· **Recommendation:**
Place in a sealed container and label as waste. Place in a safe area, and comply with all federal, state, provincial and local regulations for disposal.

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Trade name: LINDE® TIP-GUARD PASTE

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14 Transport information

· **UN-Number** · **DOT, TDG, ADN, IMDG, IATA**	Not regulated
· **UN proper shipping name** · **DOT, TDG, ADN, IMDG, IATA**	Not regulated
· **Transport hazard class(es)** · **DOT, TDG, ADN, IMDG, IATA** · **Class**	Not regulated
· **Packing group** · **DOT, TDG, IMDG, IATA**	Not regulated
· **Environmental hazards:** · **Marine pollutant:**	No
· **Special precautions for user:**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:**	Not applicable.
· **UN "Model Regulation":**	-

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH):**
None of the ingredients is listed.

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Trade name: LINDE® TIP-GUARD PASTE

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· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients is listed.

· **Canadian substance listings**

· **Canadian Domestic Substances List (DSL):**
All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%):**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%):**
None of the ingredients is listed.

· **GHS label elements** Not Available
· **Hazard pictograms** Not Available
· **Signal word** Not Available
· **Hazard statements** Not Available

16 Other information

· **Department issuing MSDS:** Product safety department
· **Contact:** Stephen Nowicki
· **Date of preparation / last revision** 10/23/2014 / -
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)

Safety Data Sheet

Heavy Duty Degreaser

SECTION 1. IDENTIFICATION

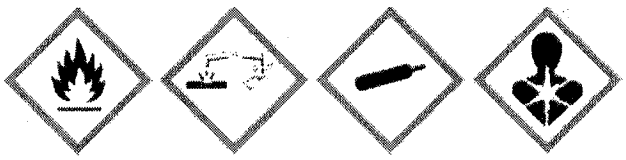
Product Identifier	Heavy Duty Degreaser
Part number	TNDS8008
Product Family	Blend of petroleum based solvents and detergents
Recommended Use	Degreaser.
Restrictions on Use	None known.
Manufacturer	Shrader Canada Limited, 830 Progress Court, Oakville, ON, L6L 6K1, +1.905.847.0222, www.shradercanada.com
Emergency Phone No.	CANUTEC, +1.613.996.6666, Operation hours: 24/7

SECTION 2. HAZARD IDENTIFICATION

Classification

Flammable aerosol - Category 2; Gas under pressure - Compressed gas; Skin irritation - Category 2; Serious eye damage - Category 1; Aspiration hazard - Category 1

Label Elements



Danger

Flammable aerosol.
Contains gas under pressure; may explode if heated.
Pressurized container: may burst if heated.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye damage.

Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating, lighting, and other equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash hands and skin thoroughly after handling.
Wear protective gloves/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

Do NOT induce vomiting.
Immediately call a POISON CENTRE or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
In case of fire: Use carbon dioxide, dry chemical powder to extinguish.

Store locked up.
Store in a well-ventilated place.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Stoddard solvent	8052-41-3	10-30	
Tall oil, fatty acids	61790-12-3	7-13	
Solvent naphtha (petroleum), light aromatic	64742-94-5	7-13	
1,2,4-Trimethylbenzene	95-63-6	7-13	
Petroleum gases, liquefied	68476-85-7	7-13	
Ethylene glycol	107-21-1	1-5	
1,3,5-Trimethylbenzene	108-67-8	1-5	
Alcohols, C9-11, ethoxylated, liquids	68439-46-3	1-5	
Ethylbenzene	100-41-4	0.1-1.0	
n-Nonane	111-84-2	0.5-1.5	
Potassium hydroxide	1310-58-3	0.1-1.0	
Xylene (mixed isomers)	1330-20-7	0.1-1.0	
2-aminoethanol	141-43-5	0.1-1.0	
Diethylbenzene	25340-17-4	0.1-1.0	
Amides, coco, Ú,Ú-bis(hydroxyethyl)	68603-42-9	0.5-1.0	
Naphthalene	91-20-3	0.1-1.0	
Cumene	98-82-8	0.1-1.0	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. If breathing has stopped, trained personnel should begin rescue breathing. Get medical attention immediately.

Skin Contact

Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical attention.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Drink two glasses of water. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Seek medical attention.

First-aid Comments

Get medical advice or attention if you feel unwell or are concerned.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide or dry chemical.

Unsuitable Extinguishing Media

Do not use a direct stream of water.

Specific Hazards Arising from the Product

Flammable aerosol. contents under pressure.
Contains gas under pressure; may explode if heated. Vapours are heavier than air. May travel a considerable distance to a source of ignition and flash back to a leak or open container.
Carbon oxides, and other unidentified organic compounds.

Special Protective Equipment and Precautions for Fire-fighters

Use extreme caution, fight fire from a safe distance or a protected location.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Distant ignition and flashback are possible.

Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Contaminated absorbent poses the same hazard as the spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Only use where there is adequate ventilation. Containers of this material may contain hazardous residues when "emptied". Do not weld, cut or perform hot work on empty container until all traces of product have been removed. Do not use on hot vehicles.

Conditions for Safe Storage

Store at temperatures not exceeding: 40°C.
Store in an area that is: cool, dry, well-ventilated.
Keep from freezing.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH® TLV®		OSHA PEL	
Chemical Name	**TWA**	**STEL [C]**	**TWA**	**Ceiling**
Ethylbenzene	20 ppm A3	Not established	100 ppm	Not established
Ethylene glycol	Not established	100 mg/m3 A4	Not established	50 ppm
1,3,5-Trimethylbenzene	25 ppm	Not established	Not established	Not established
2,2-iminodiethanol	1 mg/m3 A3	Not established	15 mg/m3	Not established
n-Nonane	200 ppm	Not established	Not established	Not established
Xylene (mixed isomers)	100 ppm A4	150 ppm A4	435 mg/m3	Not established
2-aminoethanol	3 ppm	6 ppm		
Glycerine	Not established	Not established	5 mg/m3 (R)	Not established
Alcohols, C9-11, ethoxylated, liquids	Not established			
Stoddard solvent	100 ppm	Not established	Not established	Not established
Naphthalene	10 ppm	15 ppm	10 ppm	Not established
1,2,4-Trimethylbenzene	25 ppm	Not established	Not established	Not established
Cumene	50 ppm	Not established	50 ppm	Not established

Appropriate Engineering Controls

Sufficient mechanical ventilation to maintain exposures below the TLV. Under normal conditions of use, general ventilation should be satisfactory. Local ventilation is recommended if the product is misted or used in a confined space or if the TLV is exceeded. Make up air should always be supplied to balance air exhausted.
Provide safety shower in work area, if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Safety glasses with side shields. Contact lenses should not be worn, they may contribute to the severity of the injury.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Suitable materials are: neoprene rubber, nitrile rubber.

Respiratory Protection

Not normally required if product is used as directed.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear yellow Aerosol.
Odour	Not available
Odour Threshold	Not available
pH	9.9 (10% solution)
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	49 °C (closed cup)
Evaporation Rate	Not available
Flammability (solid, gas)	Flammable aerosol
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available

Vapour Density (air = 1)	> 1
Relative Density (water = 1)	0.88 at 15 °C
Solubility	Partial in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	< 14 centistokes at 40°C (kinematic)

Other Information

VOC %	66.2
Flame projection	Not applicable
NFPA Classification	Aerosol, Level 2

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Stable at ambient temperatures and pressures.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Increased risk of fire and explosion on contact with: strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Carbon oxides. And other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

Information presented below is for the entire product, unless otherwise specified.

Likely Routes of Exposure

Inhalation;
Skin contact;
Eye contact;
Ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ethylbenzene	~ 4000 ppm (rat) (4-hour exposure)	3500 mg/kg (rat)	15380 mg/kg (rabbit)
Ethylene glycol	2725 mg/m3 (rat) (4-hour exposure)	4700 mg/kg (rat)	10600 mg/kg (rabbit)
1,3,5-Trimethylbenzene	24000 mg/m3 (rat) (4-hour exposure)	Not available	Not available
2,2-iminodiethanol	> 0.4 ppm (rat) (6-hour)	680 mg/kg (female rat)	8180 mg/kg (rabbit)
n-Nonane	3200 ppm (rat) (4-hour exposure)	> 15000 mg/kg (rat)	Not available
Potassium hydroxide	Not available	250 mg/kg (rat)	> 1260 mg/kg (rabbit)

Xylene (mixed isomers)	6350 ppm (male rat) (4-hour exposure)	3523 mg/kg (rat)	> 1700 mg/kg (rabbit)
2-aminoethanol	> 1210 mg/m3 (mouse) (4-hour exposure)	1720 mg/kg (female rat)	1000 mg/kg (rabbit)
Diethylbenzene	> 30000 mg/m3 (mouse)	1200 mg/kg (rat)	> 5000 mg/kg (rabbit)
Glycerine	> 143 mg/m3 (rat) (4-hour exposure)	27200 mg/kg (female rat)	23000 mg/kg (rabbit)
Solvent naphtha (petroleum), light aromatic	> 14.4 mg/L (rat) (6-hour)	8400 mg/kg (rat)	> 3160 mg/kg (rabbit)
Amides, coco, Ú, Ú-bis(hydroxyethyl)	Not available	12200 mg/kg (rat)	> 2000 mg/kg (rabbit)
Stoddard solvent	> 5500 mg/m3 (rat) (4-hour exposure)	> 5000 mg/kg (rat)	> 3000 mg/kg (rabbit)
Naphthalene	141 ppm (rat) (4-hour exposure)	490 mg/kg (rat)	> 20000 mg/kg (rabbit)
1,2,4-Trimethylbenzene	18000 mg/m3 (rat) (4-hour exposure)	5000 mg/kg (rat)	Not available
Cumene	39 mg/L (rat) (4-hour exposure)	1400 mg/kg (rat)	10627 mg/kg (rabbit)

Skin Corrosion/Irritation

Moderate skin irritant.

Serious Eye Damage/Irritation

Moderate irritant.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No hazard under normal conditions of use.
At high concentrations depression of the central nervous system, nose and throat irritation. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Skin Absorption

No information was located.

Ingestion

Harmful based on information for closely related materials. Can cause effects as described for inhalation.

Aspiration Hazard

Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer.
Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	ACGIH®	IARC	NTP	OSHA
Ethylbenzene	A3	Group 2B	Not Listed	Not Listed
Ethylene glycol	Not designated	Not evaluated	Not Listed	Not Listed
2,2-iminodiethanol	A3	Group 2B	Not Listed	Not Listed
Potassium hydroxide	Not designated	Not evaluated	Not Listed	
Xylene (mixed isomers)	A4	Group 3	Not Listed	Not Listed

Glycerine	Not Listed	Not Listed	Not Listed	Not Listed
Solvent naphtha (petroleum), light aromatic	Not Listed	Not evaluated	Not Listed	Not Listed
Naphthalene	A4	Group 2B	Reasonably anticipated	Not Listed
Cumene	Not designated	Group 2B	Not Listed	Not Listed
Petroleum gases, liquefied	Not Listed	Not Listed	Not Listed	Not Listed

Contains. (Ethylbenzene) which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) contains. (2,2-iminodiethanol) which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) contains. (Naphthalene) which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) contains. (Cumene) which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans).

Key to Abbreviations

ACGIH® = American Conference of Governmental Industrial Hygienists. A3 = Animal carcinogen. A4 = Not classifiable as a human carcinogen.
IARC = International Agency for Research on Cancer. Group 2B = Possibly carcinogenic to humans. Group 3 = Not classifiable as to its carcinogenicity to humans.
NTP = National Toxicology Program. Reasonably anticipated = Reasonably anticipated human carcinogen.

No information was located for: Development of Offspring, Sexual Function and Fertility, Effects on or via Lactation, Germ Cell Mutagenicity, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS.
This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contents under pressure. Empty containers retain product residue. Follow label warnings even if container appears to be empty. The container for this product can present explosion or fire hazards, even when emptied. Do not cut, puncture, or weld on or near this container.
Dispose of in accordance with municipal, provincial/state or federal regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1950	Aerosols	2.1	---
IMDG (Marine)	UN1950	Aerosols	2.1	---
IATA (Air)	UN1950	Aerosols, flammable	2.1	---

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Emergency Response Guide No. 126 EmS F-D, S-U

Other Information ICAO/IATA PI Y203/203
Product may ship as LTD QTY if TDG, ICAO/IATA or IMDG Limited Quantity provisions are met.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

CEPA - National Pollutant Release Inventory (NPRI)

(Ethylbenzene) Part 1A.
(Ethylene glycol) Part 1A.
(2,2-iminodiethanol) Part 1A.
(Xylene (mixed isomers)) Part 1A.
(Solvent naphtha (petroleum), light aromatic) Part 5.
(Stoddard solvent) Part 5.
(Naphthalene) Part 1A.
(1,2,4-Trimethylbenzene) Part 1A.
(Cumene) Part 1A.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

CERCLA. (Ethylbenzene). (Ethylene glycol). (2,2-iminodiethanol). (Potassium hydroxide). (Xylene (mixed isomers)). (Naphthalene). (Cumene)
SARA Title III - Section 302:
SARA Title III - Section 313. (Ethylbenzene). (Ethylene glycol). (2,2-iminodiethanol). (Xylene (mixed isomers)). (Naphthalene). (1,2,4-Trimethylbenzene). (Cumene)
California Proposition 65. (Ethylbenzene). (Naphthalene)
Massachusetts Right To Know: Not applicable.
New Jersey Right To Know. (Ethylbenzene). (Ethylene glycol). (2,2-iminodiethanol). (n-Nonane). (Potassium hydroxide). (Xylene (mixed isomers)). (2-aminoethanol). (Diethylbenzene). (Glycerine). (Stoddard solvent). (Naphthalene). (1,2,4-Trimethylbenzene). (Cumene). (Petroleum gases, liquefied)
Pennsylvania Right To Know. (Ethylbenzene). (Ethylene glycol). (2,2-iminodiethanol). (n-Nonane). (Potassium hydroxide). (Xylene (mixed isomers)). (2-aminoethanol). (Glycerine). (Stoddard solvent). (Naphthalene). (1,2,4-Trimethylbenzene). (Cumene). (Petroleum gases, liquefied)

SECTION 16. OTHER INFORMATION

NFPA Rating	**Health - 1** **Flammability - 2** **Instability - 0** **Based on** Stoddard solvent
SDS Prepared By	Regulatory Compliance
Phone No.	905.847.0222
Date of Preparation	September 30, 2015
Revision Indicators	The following SDS content was changed on October 28, 2015: Section 11 - Toxicological Information; LC50/LD50 values.
Key to Abbreviations	ACGIH® = American Conference of Governmental Hygienists CANUTEC = Canadian Transport Emergency Centre CAS = Chemical Abstract Service CCOHS = Canadian Centre for Occupational Health & Safety CNS = Central nervous system GESTIS = GESTIS Substance Database HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer ICAO = International Civil Aviation Organization IMDG = International Maritime Dangerous Goods Code LC = Lethal concentration LC = Lethal dose NFPA = National Fire Protection Association

NTP = National Toxicology Program
OSHA = US Occupational Safety and Health Administration
PPM = Parts per million
RTECS® = Registry of Toxic Effects of Chemical Substances
STEL = Short term exposure limit
TDG = Transportation of Dangerous Goods Regulations (Canada)
TWA = Time weighted average

References

Material Safety Data Sheet from manufacturer.
CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS).
Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
ECHA - European Chemical Agency, Classification and Labelling Inventory
GESTIS Substance Database
OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2015.

Disclaimer

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **TOP GUN! CONC CLNR**

Product Use : Multi-purpose cleaner.

Chemical Family : Mixture.

Manufacturer part no. : TG1C, TG2C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:

Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)

24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).
WHMIS classification:
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:

Emergency Overview : Green liquid. Flowery odour.
WARNING! May be harmful if inhaled or swallowed. May be harmful if absorbed through the skin. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. May cause severe eye irritation. Prolonged or repeated skin contact may cause drying and irritation.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. If higher concentrations are inhaled, additional symptoms may include coughing, shortness of breath, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Skin : May cause mild skin irritation. May be absorbed and cause symptoms similar to those for inhalation.

Eyes : May cause severe eye irritation. May cause burning sensation, redness and tearing (watering).

Ingestion : May cause severe irritation to the mouth, throat and stomach. Ingestion may cause symptoms similar to inhalation.

Effects of long-term (chronic) exposure

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Repeated or prolonged exposure may result in kidney effects.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Tripropylene glycol methyl ether	25498-49-1	1.00 - 5.00
Isopropanol (Isopropyl alcohol)	67-63-0	1.00 - 5.00
Tetrasodium salt of EDTA	64-02-8	1.00 - 5.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. If irritation or symptoms develop, seek medical attention.

Skin contact : Remove contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention. Wash contaminated clothing before reuse.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.

Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.

Notes For Physician : Treat symptomatically. This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides; Sodium oxides; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep containers closed when not in use.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

Incompatible materials : Bases; Strong oxidizing agents; Acids; Alkali metals .

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Tripropylene glycol methyl ether	N/Av	N/Av	N/Av	N/Av
Isopropanol (Isopropyl alcohol)	200 ppm	400 ppm	400 ppm (980 mg/m³)	N/Av
Tetrasodium salt of EDTA	N/Av	N/Av	N/Av	N/Av

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection : Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, smoke or use cosmetics while working with this product. Remove and wash contaminated clothing before re-use. Wash with soap and water after handling.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Appearance : green

Odour : Flowery odour.

Odour threshold : N/Av

pH : 11 - 13

Boiling point : ~ 100°C

Specific gravity : 1.00

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : N/Av

Solubility in water : Complete

Vapour density (Air = 1) : 1.1

Evaporation rate (n-Butyl acetate = 1) : N/Av

Volatile organic Compounds (VOC's) : N/Av

Volatiles (% by weight) : < 2%

Flash point : N/Av

Flash point Method : N/Av

Auto-ignition temperature : N/Av

Lower flammable limit (% by vol.) : N/Av

Upper flammable limit (% by vol.) : N/Av

Flame Projection Length : N/Ap

Flashback observed : N/Ap

Absolute pressure of container : N/Ap

Viscosity : N/Av

General Information : Alkali reserve: 0.00313 g/NaOH

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. After prolonged storage, may release explosive peroxides in the presence of air. Exposure to sunlight accelerates decomposition.

Hazardous polymerization : Hazardous polymerization does not occur.

Conditions to avoid : Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas.

Materials To Avoid And Incompatibility

: Acids; Bases; Alkali metals; Strong oxidizing agents

Hazardous decomposition products

: Peroxides Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, digestive system, central nervous system. Kidneys

Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES

Irritancy : Severe eye irritant. Mild skin irritant.

Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Tripropylene glycol methyl ether	> 200 mg/L/1H (aerosol)	3100 - 3900 mg/kg	15 440 mg/kg
Isopropanol (Isopropyl alcohol)	17 000 ppm (41.8 mg/L) (vapour)	4720 mg/kg	12 890 mg/kg
Tetrasodium salt of EDTA	N/Av	1700 - 1913 mg/kg	N/Av

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects : Not expected to cause reproductive effects.

Teratogenicity : Isopropanol is no longer considered a developmental toxin. Teratogenic / fetotoxic effects were observed in animals, however the effects were observed in the presence of maternal toxicity or at concentrations where maternal toxicity is expected to occur.

Mutagenicity : Not expected to be mutagenic in humans.

Epidemiology : None known or reported by the manufacturer.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Synergistic materials : None known or reported by the manufacturer.

other important hazards : CNS depression may result from extreme exposures.

Conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory or blood system disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Tripropylene glycol methyl ether	25498-49-1	11 619 mg/L (Fathead minnow)	N/Av	None.
Isopropanol (Isopropyl alcohol)	67-63-0	9640 mg/L (Fathead minnow)	N/Av	None.
Tetrasodium salt of EDTA	64-02-8	486 - 1592 mg/L (Bluegill sunfish)	≥ 25.7 mg/L (35 day) (Zebra fish)	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Tripropylene glycol methyl ether	25498-49-1	> 10 000 mg/L (Daphnia magna)	N/Av	None.
Isopropanol (Isopropyl alcohol)	67-63-0	> 10 000 mg/L/24hr (Daphnia magna)	30 mg/L	None.
Tetrasodium salt of EDTA	64-02-8	140 mg/L (Daphnia magna)	25 mg/L	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Tripropylene glycol methyl ether	25498-49-1	21 010 mg/L/96hr (Green algae)	N/Av	None.
Isopropanol (Isopropyl alcohol)	67-63-0	N/Av	N/Av	None.
Tetrasodium salt of EDTA	64-02-8	> 100 mg/L/72hr (Green algae)	48.4 mg/L/72hr	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
Contains the following chemicals which are not readily biodegradable: Tetrasodium salt of EDTA.
The following ingredients are considered to be readily biodegradable: Tripropylene glycol monomethyl ether; Isopropyl alcohol.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Tripropylene glycol methyl ether (CAS 25498-49-1)	0.309	3.16
Isopropanol (Isopropyl alcohol) (CAS 67-63-0)	0.05	1.0
Tetrasodium salt of EDTA (CAS 64-02-8)	- 13.17 (estimated)	1.8 (Bluegill sunfish)

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	None	
TDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

WARNING! May be harmful if inhaled or swallowed. May be harmful if absorbed through the skin. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. May cause severe eye irritation. Prolonged or repeated skin contact may cause drying and irritation.

PRECAUTIONS: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. Avoid contact with incompatible materials. Wash thoroughly after handling. Store in a cool, dry, well-ventilated area away from sources of heat, ignition and sunlight.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. If irritation persists, seek prompt medical attention. For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. If irritation persists, seek prompt medical attention. For eye contact, flush with running water for at least 15 minutes. Seek immediate medical attention/advice. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend **:** ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CNS: Central Nervous System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
NTP: National Toxicology Program
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	

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MSDS Preparation Date (mm/dd/yyyy)

: 07/30/2007

MSDS Revision Date (mm/dd/yyyy)

: 08/16/2016

Revision No. : 5

Revision Information : (M)SDS sections updated:
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT

SAFETY DATA SHEET

TRANSMISSION CONDITIONER
W/ SEALER

Version 3.0

Revision Date 2016/07/25 Print Date 2016/10/31

SECTION 1. IDENTIFICATION

Product name : TRANSMISSION CONDITIONER WITH SEALER

Product code : 690

Manufacturer or supplier's details

Kleen-Flo Tumbler Ind. Ltd.
75 Advance Blvd.
Brampton, ON L6T 4N1
Canada

Emergency telephone number CANUTEC: 613-996-6666

Recommended use of the chemical and restrictions on use

Recommended use : Sealer conditioner

Prepared by : Kleen-Flo Tumbler Ind. Ltd.

Guidelines for SDS Use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal foreseeable conditions. This SDS is designed to provide additional valuable safety and handling information.

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Liquid oil
Colour	Deep red colour
Odour	Light hydrocarbon odour

Potential Health Effects

Primary Routes of Entry : Eye contact
Ingestion Inhalation
Skin contact

Aggravated Medical Condition : None known.

Other hazards

None known.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Chemical name	CAS-No.	Concentration
distillates (petroleum), hydrotreated light paraffinic	64742-55-8	80-100 %

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Seek medical advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Wash clothing before reuse.
Seek medical advice.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

If swallowed : Rinse mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
Seek medical advice.

Most important symptoms and effects, both acute and delayed : First aider needs to protect himself.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : No information available.

Specific hazards during fire-fighting	:	Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	Carbon oxides (CO, CO2), smoke and irritating vapours as products of incomplete combustion.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions.
Environmental precautions	:	Should not be released into the environment. Do not allow uncontrolled discharge of product into the environment.
Methods and materials for containment and cleaning up	:	Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Non-sparking tools should be used. Ensure adequate ventilation. Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Do not ingest. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from heat and sources of ignition. Keep container closed when not in use.
Conditions for safe storage	:	Store in original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight. Keep locked up or in an area accessible only to qualified or authorised persons.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Filter type : organic vapour filter

Hand protection
Material : neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R).

Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Protective measures : Wash contaminated clothing before re-use.

Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid

Colour : Clear red

Odour : Mild petroleum oil like.

Odour Threshold : No data available

pH : No data available

Pour point	:	-57 °C (-71 °F)
Boiling point/boiling range	:	No data available
Flash point	:	125 °C (257 °F) Method: Pensky-Martens closed cup
Fire Point	:	No data available
Auto-Ignition Temperature	:	No data available
Evaporation rate	:	No data available
Flammability	:	Low fire hazard. This material must be heated before ignition will occur.
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	0.825 kg/l (15 °C / 59 °F)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	3.0 - 4.0 cSt (40 °C / 104 °F)
		1.40 cSt (100 °C / 212 °F)
Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	Reactive with oxidising agents.
Hazardous decomposition products	:	May release COx, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:

distillates (petroleum), hydrotreated light paraffinic:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg,
Acute inhalation toxicity	:	LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg,

Skin corrosion/irritation

Product:
Remarks: No data available

Serious eye damage/eye irritation

Product:
Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity
No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure
No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to bacteria	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labelled prior to recycling or disposal. Send to a licensed waste management company. Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

TDG
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : Not controlled.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The components of this product are reported in the following inventories:

DSL	On the inventory, or in compliance with the inventory
TSCA	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
IECSC	On the inventory, or in compliance with the inventory
EINECS	On the inventory, or in compliance with the inventory
AICS	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Prepared by : Kleen-Flo Tumbler Ind. Ltd.

Revision Date : 2016/07/25

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

FICHE DE DONNÉES DE SÉCURITÉ

Conditionneur pour boîte automatique

Version 3.0 Date de révision 2016/07/25 Date d'impression 2016/10/31

SECTION 1. IDENTIFICATION

Nom du produit : Conditionneur pour boîte automatique

No. de stock : 690

Détails concernant le fabricant ou le fournisseur

Les Entreprises Kleen-Flo Tumbler limitée
75 Advance Blvd., Brampton, ON
L6T 4N1
Canada

Numéro d'appel d'urgence CANUTEC: 613-996-6666

Utilisation recommandée du produit et restrictions d'utilisation

Utilisation recommandée : Scellant/Conditionneur

Préparé par : Les Entreprises Kleen-Flo Tumbler limitée

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

SECTION 2. IDENTIFICATION DES DANGERS

Aperçu des urgences

Aspect	Huile liquide
Couleur	Rouge foncé
Odeur	Légére odeur d'hydrocarbure

Effets potentiels sur la santé

Voies d'entrée principales : Contact avec les yeux
Ingestion
Inhalation
Contact avec la peau

Condition médicale aggravée : Aucun(e) à notre connaissance.

Autres dangers

Aucun(e) à notre connaissance.

IARC Aucun composant de ce produit présent à des concentrations plus grandes que ou égales à 0,1% n'a été identifié comme cancérigène probable, possible ou reconnu pour l'homme par IARC.

ACGIH Aucun composant de ce produit présent à des concentrations

plus grandes que ou égales à 0,1% n'a été identifié comme cancérigène ni comme cancérigène possible par ACGIH.

SECTION 3. COMPOSITION/ INFORMATIONS SUR LES COMPOSANTS

Substance/mélange : Substance

Composants dangereux

Nom Chimique	No.-CAS	Concentration
distillats paraffiniques légers (pétrole), hydrotraités	64742-55-8	80-100 %

SECTION 4. PREMIERS SECOURS

En cas d'inhalation : Amener la victime à l'air libre.
Respiration artificielle et/ou oxygène peuvent être nécessaires.
Demander conseil à un médecin.

En cas de contact avec la peau : En cas de contact, rincer immédiatement avec beaucoup d'eau pendant au moins 15 minutes en retirant les vêtements et chaussures contaminées.
Laver la peau à fond avec de l'eau et du savon ou utiliser un produit reconnu pour le nettoyage de la peau.
Laver les vêtements avant de les remettre.
Demander conseil à un médecin.

En cas de contact avec les yeux : Enlever les lentilles de contact.
Rincer immédiatement avec beaucoup d'eau, également sous les paupières. Pendant au moins 15 minutes.
Appeler un médecin.

En cas d'ingestion : Se rincer la bouche à l'eau.
NE PAS faire vomir sauf sur instructions d'un médecin ou d'un centre anti-poison.
Ne jamais rien faire avaler à une personne inconsciente.
Demander conseil à un médecin.

Principaux symptômes et effets, aigus et différés : Le secouriste doit se protéger.

SECTION 5. MESURES DE LUTTE CONTRE L'INCENDIE

Moyens d'extinction appropriés : Utiliser des moyens d'extinction appropriés aux conditions locales et à l'environnement proche.

Moyens d'extinction inappropriés : Pas d'information disponible.

Dangers spécifiques pendant la lutte contre l'incendie	:	Refroidir par pulvérisation d'eau les récipients fermés se trouvant à proximité de la source d'incendie.
Produits de combustion dangereux	:	Oxydes de carbone (CO, CO2), fumée et vapeurs irritantes comme produits d'une combustion incomplète.
Information supplémentaire	:	Empêcher les eaux d'extinction du feu de contaminer les eaux de surface ou le réseau d'alimentation souterrain.

SECTION 6. MESURES À PRENDRE EN CAS DE DISPERSION ACCIDENTELLE

Précautions individuelles, équipement de protection et procédures d'urgence	:	Utiliser un équipement de protection individuelle. Assurer une ventilation adéquate. Évacuer le personnel vers des endroits sûrs. Le matériel peut créer des conditions glissantes.
Précautions pour la protection de l'environnement	:	Ne pas décharger dans l'environnement. Ne pas laisser le produit s'écouler de manière incontrôlée dans l'environnement.
Méthodes et matériel de confinement et de nettoyage	:	Éviter tout déversement ou fuite supplémentaire, si cela est possible en toute sécurité. Enlever toute source d'ignition. Enlever avec un absorbant inerte. Utiliser des outils ne provoquant pas d'étincelles. Assurer une ventilation adéquate. Contacter les autorités locales compétentes.

SECTION 7. MANIPULATION ET STOCKAGE

Conseils pour une manipulation sans danger	:	Équipement de protection individuel, voir section 8. Ne pas manger, fumer ou boire dans la zone de travail. N'utiliser qu'avec une ventilation adéquate. Éviter le contact avec la peau, les yeux et les vêtements. Ne pas ingérer. En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Tenir à l'écart de la chaleur et des sources d'ignition. Conserver le conteneur fermé lorsqu'il n'est pas utilisé.
Conditions de stockage sures	:	Conserver dans le conteneur d'origine. Refermer soigneusement tout récipient entamé et le stocker verticalement afin d'éviter tout écoulement. Conserver dans un endroit sec, frais et bien ventilé. Conserver dans des conteneurs proprement étiquetés. Pour conserver la qualité du produit, ne pas stocker à la chaleur ni au soleil. Conserver sous clé ou dans une zone accessible uniquement aux personnes qualifiées ou autorisées.

SECTION 8. CONTRÔLES DE L'EXPOSITION/ PROTECTION INDIVIDUELLE

Composants avec valeurs limites d'exposition professionnelle

Ne contient pas de substances avec des valeurs limites d'exposition professionnelle.

Mesures d'ordre technique : Aucune ventilation particulière requise. Une bonne ventilation générale devrait être suffisante pour contrôler l'exposition du technicien aux contaminants en suspension dans l'air.

Équipement de protection individuelle

Protection respiratoire : Utiliser une protection respiratoire adéquate sauf en présence d'une ventilation locale par aspiration ou s'il est démontré que l'exposition est dans les limites préconisées par les directives d'exposition.
Le choix du respirateur doit être fondé en fonction des niveaux d'expositions prévus ou connus, du danger que représente le produit et des limites d'utilisation sécuritaire du respirateur retenu.

Filtre de type : filtre contre les vapeurs organiques

Protection des mains

Matériel : néoprène, nitrile, alcool polyvinylique (PVAL), Viton(R).

Remarques : Lors de la manipulation de produits chimiques, porter en permanence des gants étanches et résistants aux produits chimiques conformes à une norme approuvée, si une évaluation du risque indique que cela est nécessaire.

Protection des yeux : Porter un écran-facial et des vêtements de protection en cas de problèmes lors de la mise en oeuvre.

Protection de la peau et du corps : Choisir une protection corporelle en relation avec le type, la concentration et les quantités de substances dangereuses, et les spécificités du poste de travail.

Mesures de protection : Laver les vêtements contaminés avant de les remettre.

Mesures d'hygiène : Enlever et laver les gants, y compris l'intérieur, et les vêtements contaminés avant la réutilisation.
Se laver le visage, les mains et toute partie de la peau exposée soigneusement après manipulation.

SECTION 9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Aspect : Liquide visqueux.

Couleur : Clair et éclatant

Odeur : Légère odeur d'hydrocarbures.

Seuil olfactif : Donnée non disponible

pH	:	Donnée non disponible
point d'écoulement	:	-57 °C (-71 °F)
Point/intervalle d'ébullition	:	Donnée non disponible
Point d'éclair	:	125 °C (257 °F) Méthode: Creuset fermé Pensky-Martens
Point de Feu	:	Donnée non disponible
Température d'auto-inflammation	:	Donnée non disponible
Taux d'évaporation	:	Donnée non disponible
Inflammabilité	:	Faible risque d'incendie. Ce produit doit être chauffé pour qu'une inflammation se produise.
Limite d'explosivité, supérieure	:	Donnée non disponible
Limite d'explosivité, inférieure	:	Donnée non disponible
Pression de vapeur	:	Donnée non disponible
Densité de vapeur relative	:	Donnée non disponible
Densité	:	0.825 kg/l (15 °C / 59 °F)
Solubilité(s)		
Hydrosolubilité	:	insoluble
Coefficient de partage: n-octanol/eau	:	Donnée non disponible
Viscosité		
Viscosité, cinématique	:	3.0 - 4.0 cst (40 °C / 104 °F)
		1.40 cst (100 °C / 212 °F)
Propriétés explosives	:	Ne pas pressuriser, couper, souder, braser, perforer, meuler les contenants ni les exposer à la chaleur ou à une source d'inflammation.

SECTION 10. STABILITÉ ET RÉACTIVITÉ

Possibilité de réactions dangereuses	:	Une polymérisation dangereuse ne se produit pas. Stable dans des conditions normales.
Conditions à éviter	:	Donnée non disponible
Matières incompatibles	:	Réactif avec agents oxydants.
Produits de décomposition	:	Susceptible de dégager des COx, fumées et vapeurs irri-

dangereux tantes, en présence de chaleur jusqu'à décomposition.

SECTION 11. INFORMATIONS TOXICOLOGIQUES

Informations sur les voies d'exposition probables
Contact avec les yeux
Ingestion
Inhalation
Contact avec la peau

Toxicité aiguë

Produit:

Toxicité aiguë par voie orale	:	Remarques: Donnée non disponible
Toxicité aiguë par inhalation	:	Remarques: Donnée non disponible
Toxicité aiguë par voie cutanée	:	Remarques: Donnée non disponible

Composants:

distillats paraffiniques légers (pétrole), hydrotraités:

Toxicité aiguë par voie orale	:	DL50 (Rat): > 5,000 mg/kg,
Toxicité aiguë par inhalation	:	CL50 (Rat): > 5 mg/L Durée d'exposition: 4 Heure Atmosphère de test: poussières/brouillard
Toxicité aiguë par voie cutanée	:	DL50 (Lapin): > 2,000 mg/kg,

Corrosion cutanée/irritation cutanée

Produit:

Remarques: Donnée non disponible

Lésions oculaires graves/irritation oculaire

Produit:

Remarques: Donnée non disponible

Sensibilisation respiratoire ou cutanée

Donnée non disponible

Mutagénicité sur les cellules germinales

Donnée non disponible

Cancérogénicité

Donnée non disponible

Toxicité pour la reproduction

Donnée non disponible

Toxicité spécifique pour certains organes cibles - exposition unique

Donnée non disponible

Toxicité spécifique pour certains organes cibles - exposition répétée

Donnée non disponible

SECTION 12. INFORMATIONS ÉCOLOGIQUES

Écotoxicité

Produit:

Toxicité pour les poissons	:	Remarques: Donnée non disponible
Toxicité pour la daphnie et les autres invertébrés aquatiques	:	Remarques: Donnée non disponible
Toxicité pour les algues	:	Remarques: Donnée non disponible
Toxicité pour les bactéries	:	Remarques: Donnée non disponible

Persistance et dégradabilité

Produit:

Biodégradabilité	:	Remarques: Donnée non disponible

Potentiel de bioaccumulation

Donnée non disponible

Mobilité dans le sol

Donnée non disponible

Autres effets néfastes

Donnée non disponible

SECTION 13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Méthodes d'élimination

Déchets de résidus	:	Empêcher le produit de pénétrer dans les égouts, les cours d'eau ou le sol. Remettre les excédents et les solutions non recyclables à une entreprise d'élimination des déchets agréée. Les déchets doivent être classés et étiquetés avant leur recyclage ou leur élimination. Envoyer à une entreprise autorisée à gérer les déchets. Éliminer les résidus du produit conformément aux instructions de la personne responsable de l'élimination des déchets.

SECTION 14. INFORMATIONS RELATIVES AU TRANSPORT

Réglementations internationales

IATA-DGR
Non réglementé comme étant une marchandise dangereuse

Code IMDG
Non réglementé comme étant une marchandise dangereuse

Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC

Non applicable pour le produit tel qu'il est fourni.

Réglementation nationale

TDG
Non réglementé comme étant une marchandise dangereuse

SECTION 15. INFORMATIONS RELATIVES À LA RÉGLEMENTATION

Classification SIMDUT : Non contrôlé.

Ce produit a été classé selon les critères de risque du RPC et la FDS contient toutes les informations exigées par le RPC.

Les composants de ce produit figurent dans les inventaires suivants:

DSL	Listé ou en conformité avec l'inventaire
TSCA	Toutes les substances chimiques de ce produit sont soit listées dans l'inventaire TSCA soit en sont exeptées en conformité avec l'inventaire TSCA.
IECSC	Listé ou en conformité avec l'inventaire
EINECS	Listé ou en conformité avec l'inventaire
AICS	Listé ou en conformité avec l'inventaire
KECI	Listé ou en conformité avec l'inventaire
PICCS	Listé ou en conformité avec l'inventaire

SECTION 16. AUTRES INFORMATIONS

Préparé par : Les Entreprises Kleen-Flo Tumbler Limitée

Date de révision : 2016/07/25

Les informations contenues dans la présente fiche de sécurité ont été établies sur la base de nos connaissances à la date de publication de ce document. Ces informations ne sont données qu'à titre indicatif en vue de permettre des opérations de manipulation, fabrication, stockage, transport, distribution, mise à disposition, utilisation et élimination dans des conditions satisfaisantes de sécurité, et ne sauraient donc être interprétées comme une garantie ou considérées comme des spécifications de qualité. Ces informations ne concernent en outre que le produit nommément désigné et, sauf indication contraire spécifique, peuvent ne pas être applicables en cas de mélange dudit produit avec d'autres substances ou utilisables pour tout procédé de fabrication.

MATERIAL SAFETY DATA SHEET

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

Product identifier: ***TREE & LOG MARKING PAINT***
Chemical family: Aerosolized mixture.
Product use: Industrial forestry marking in pressurized spray containers.
Product Numbers: C3242 Blue, C3244A Red, C3145 Green, C3246 Black, C3247 White, C3141LF Yellow, C3143LF Orange, C6242 Dark Blue, C6245 Dark Green, C6249 Gray, C3142FL Blue-Glo, C3144FL Orange-Glo, C3145FL Green-Glo, C3148FL Pink-Glo, C3149FL Red-Glo.

Manufacturer's name and address:
Nelson Paint Company of Canada
48 Industrial Park Crescent
Sault Ste. Marie, ON, Canada
P6B 5P2

Supplier's name and address:
Nelson Paint Company

24 Hour Emergency Tel. #: 1-800-255-3924 (CHEMTEL – 24 Hours)

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (weight)	OSHA PEL	ACGIH TLV
Petroleum solvent	64742-88-7	15 – 40	*500 ppm	*100 ppm
Methanol	67-56-1	7 – 10	200 ppm	200 ppm (skin)
Propane (propellant)	74-98-6	10 – 20	1000 ppm	*1000 ppm
C3246 Black and C6249 Gray also contain:				
Carbon black	1333-86-4	0.1 – 1	3.5 mg/m^3	3.5 mg/m^3

*Note: The OSHA PEL and ACGIH TLV listed above for Petroleum solvent is for "*Stoddard Solvent*". The ACGIH TLV listed above for Propane is for "*Aliphatic hydrocarbon gases*".

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

SECTION 3 — HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Liquid aerosol, various colors. Solvent odor.
Danger! Flammable aerosol. Contents under pressure. May be harmful if inhaled, swallowed or absorbed through the skin in large amounts. May cause blindness if swallowed. Causes eye irritation.

POTENTIAL HEALTH EFFECTS

Target organs: Skin, eyes, respiratory system, digestive system, central nervous system (CNS)
Routes of exposure: Skin contact, skin absorption, eye contact, inhalation, ingestion.
Signs and symptoms of short-term (acute) exposure:

Inhalation: Inhalation of mists or vapors may cause irritation to the nose, throat and upper respiratory tract. Additional symptoms may include headache, nausea, vomiting, dizziness, loss of co-ordination and other central nervous system (CNS) effects. In high concentrations, affected person may experience a latent period, which could then be followed by visual effects including sensitivity to light and blurred vision. Product could potentially act as an asphyxiant and cause increased breathing and pulse rates, fatigue, nausea and vomiting.

Skin: Liquid concentrate may be irritating to the skin. Product may be absorbed if left on the skin, causing symptoms similar to those listed for inhalation. Spraying product directly onto skin could cause symptoms of frostbite including numbness, prickling and itching.

Eyes: Liquid concentrate causes moderate irritation to the eyes. Spraying product directly into eyes could cause freezing of the eye.

SECTION 3 — HAZARDS IDENTIFICATION Continued

Ingestion: Liquid concentrate is poisonous if swallowed. Causes severe irritation to mouth, throat, and stomach. Severe stomach pains, vomiting and diarrhea may follow. Ingestion of extremely large amounts could cause the product to be absorbed. Absorption could cause additional symptoms similar to those listed for inhalation. Blindness or death may occur.

Chronic effects: Prolonged skin contact may cause drying and cracking of the skin (dermatitis). Continual and prolonged overexposure to solvents has been shown to cause permanent CNS effects.

Conditions aggravated by exposure: May aggravate pre-existing skin, respiratory, digestive, and central nervous system problems.

Carcinogenic status: See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards: See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects: See ECOLOGICAL INFORMATION, Section 12.

SECTION 4 — FIRST AID MEASURES

Inhalation: Immediately remove to fresh air. Obtain medical attention.

Skin contact: Remove contaminated clothing and wash skin with plenty of soap and water. Obtain medical attention if irritation persists.

Eye contact: Flush immediately with water for at least 15 minutes. Obtain medical attention.

Ingestion: Contact a physician immediately. Inducing vomiting should only be performed under the direct supervision of medical personnel. If the person is conscious, have victim rinse mouth with water. Give one to two glasses of water to drink to dilute material in the stomach. Never give anything by mouth to an unconscious person.

SECTION 5 — FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability: Extremely flammable aerosol. Cans are pressurized to 60 - 80 psi (414 – 552 kPa) at 70°F (21°C) and can explode if heated above 120°F (49°C). Vapors are heavier than air and may collect in confined and low-lying areas. The vapors can travel considerable distances and flashback to a source of ignition.

Flammability classification (OSHA 29 CFR 1910.1200): Flammable Aerosol

Flash point (Method): 75°F (24°C) (TCC) (estimated)

Auto-ignition temperature: Not available

Lower flammable limit (% by vol.): 1.9

Upper flammable limit (% by vol.): 9.5

Explosion data: *Sensitivity to mechanical impact / static discharge:* Not expected to be highly sensitive.

Oxidizing properties: None known.

Suitable extinguishing media: Carbon dioxide, dry chemical, water fog.

Special fire-fighting procedures/equipment: Self Contained Breathing Apparatus (SCBA) & protective clothing must be worn by fire fighting personnel. Move containers from fire area if it can be done without risk. Use water spray to cool fire exposed equipment and containers. Avoid spreading burning liquid with water spray used for cooling purposes.

Hazardous combustion products: Carbon oxides, formaldehyde gas and other irritating fumes. Nitrogen oxides and sulfur oxides may also be released during a fire.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal precautions: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release.

Environmental precautions: Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike far ahead of the spill for later recovery or disposal.

Spill response/Cleanup: Avoid breathing vapors or mists. Increase ventilation in area of release to prevent the build-up of a flammable / explosive atmosphere. Eliminate all sources of ignition and heat. Stop leak if you can do so without risk. Contain any spilled liquid concentrate and absorb with inert, non-combustible absorbent material, then place absorbent material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.

Prohibited materials: None known.

Special spill response procedures: If a spill/release in excess of EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).

DOT/CERCLA Reportable quantity (RQ): Methanol (RQ 5000 lbs.)

SECTION 7 — HANDLING AND STORAGE

Safe handling procedures: Wear appropriate protective equipment. Use in a well ventilated area. Avoid inhalation of vapors or mists. Avoid prolonged or repeated contact with skin and clothing. Avoid contact with eyes. Do not use near sparks, heat or open flame. Keep cans out of direct sunlight. Turn cans upside down, empty the tube, and replace cap when through using. Do not puncture or incinerate. Wash thoroughly after handling.

Storage requirements: Store indoors at temperatures of 39 to 89°F (4 to 32°C), and away from incompatibles. Do not store near furnaces or other sources of heat. Cans are hazardous when emptied; all labeled precautions must be observed. Inspect periodically for damage or leaks. No smoking in the area.

Special packaging materials: Always keep in containers made of the same materials as the supply container.

SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering controls: Must be adequate to control vapors and mists below TLV levels. Product normally used outdoors.

Respiratory protection: Use of NIOSH-approved respirators or face masks advisable in windy conditions. Advice should be sought from respiratory protection specialists.

Eye / face protection: Use safety splash goggles when transferring paint or solvent, or during spraying applications.

Skin protection and other protective equipment: Protective gloves impervious to the material should be worn during use. Advice should be sought from glove suppliers. Additional protective clothing, such as long sleeve shirts and/or coveralls, is recommended. Eyewash bottles should be readily available at all times. Other protective equipment may be required as prescribed by workplace standards.

General hygiene considerations: Avoid inhalation of vapors or mists. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when working. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Immediately remove soiled clothing and wash it thoroughly before reuse.

Permissible exposure levels: For individual ingredient exposure levels, see Section 2.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical state, odor and appearance: Liquid aerosol. Solvent odor. Color is dependant on the product number being used.
Specific gravity: 0.98 – 1.10 @ 77°F (25°C)
Solubility in water: Insoluble
Volatiles (% by weight): 50.3 – 64.0
Vapor pressure (mmHg): 60 – 70 psig (414 – 483 kPa) @ 68°F (20°C)
Vapor density (Air = 1): >1
Boiling point: 302 – 401°F (150 – 205°C)
Melting point: N/Av
Evaporation rate (ether = 1): Slower than ether
pH: N/Av

SECTION 10 — REACTIVITY AND STABILITY DATA

Stability and reactivity: Stable under the recommended storage and handling conditions prescribed.

Hazardous polymerization: Will not occur.

Conditions to avoid: Avoid heat, sparks, open flame and direct sunlight. Avoid contact with incompatibles.

Materials to avoid (incompatibles): Oxidizing agents (e.g. Chlorine, Peroxides, etc.), strong acids (e.g. Sulfuric acid), strong bases (e.g. Sodium hydroxide).

Hazardous decomposition products: None known. Refer to Section 5 for 'Hazardous combustion products'.

SECTION 11 — TOXICOLOGICAL INFORMATION

Carcinogenicity: Product numbers C3246 and C6249 contain Carbon black. Carbon black is classified by IARC as possibly carcinogenic to humans, based on animal evidence (Group 2B).

Reproductive effects, Teratogenicity, Mutagenicity: These products contain Methanol. Methanol may cause fetotoxic and teratogenic effects, based on animal data.

Sensitization to material: No skin or respiratory sensitization effects are known.

Synergistic materials: Not available.

Other important hazards: None known.

SECTION 11 — TOXICOLOGICAL INFORMATION Continued

Toxicological data: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50} (rat, inh) (4hr)	LD_{50} (mg/kg)	
		Rat, oral	Rabbit, dermal
Petroleum solvent	> 5500 mg/m^3	> 5000	> 2000
Methanol	64,000 ppm	5628	15,800
Propane (propellant)	N/Av	N/Ap	N/Ap
C3246 Black and C6249 Gray also contain:			
Carbon black	6750 mg/m^3	> 15,400	> 3000

SECTION 12 — ECOLOGICAL INFORMATION

Ecotoxicological information: The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters. Do not discharge product unmonitored into the environment.

Chemical fate information: There is no data available on the product itself.

SECTION 13 — DISPOSAL CONSIDERATIONS

Handling for disposal: Handle according to recommendations listed in Section 7.

Methods of disposal: Dispose in accordance with all applicable federal, state and local regulations. Contact your local, state or federal environmental agency for specific rules.

RCRA: If this product, as supplied, becomes a waste, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 — TRANSPORTATION INFORMATION

US 49 CFR information: This product, as supplied, can be shipped under the Limited Quantity or Consumer Commodity exceptions within the United States. Under 49 CFR, refer to Section 173.306 for additional exception requirements.

Proper Shipping Name: Aerosols
UN No.: UN1950
Primary Class: 2.1
Subsidiary Class: None
Packing Group: None

SECTION 15 — REGULATORY INFORMATION

US Information:

TSCA information: All ingredients are listed on the TSCA inventory.

EPA / CERCLA (40 CFR 302.4) information: This product contains the following chemical with an established reportable quantity and which is designated as hazardous under CERCLA (40 CFR 302.4):

Chemical Name	CAS #	% (weight)	CERCLA Reportable Quantity (RQ)
Methanol	67-56-1	7 - 10	5000 lbs.

SARA TITLE III: *Sec. 313, Toxic Chemicals Notification, 40 CFR 372*: This product will not be subject to the TSCA notification requirements, since it does not contain any Toxic Chemical constituents above the *de minimus* concentration.

New Jersey Labeling Requirements: This product contains the following substances required to be disclosed on product labeling:

Chemical Name	CAS #	% (weight)	New Jersey Hazardous Substance
Petroleum Solvent	64742-88-7	15 - 40	No
Propane	74-98-6	10 - 20	Yes
Methanol	67-56-1	7 - 10	Yes
C3246 Black and C6249 Gray also contain:			
Carbon Black	1333-86-4	0.1 – 1	Yes

SECTION 15 — REGULATORY INFORMATION Continued

California Proposition 65: Product numbers C3246 and C6249 contain Carbon black, which is known to the state of California to cause cancer.

International Information:

Canadian CEPA information: All ingredients listed are present on the DSL.

Canadian WHMIS Classification: Class A (*Compressed Gas*), **Class B5** (*Flammable Aerosol*), **Class D2A** (*Materials Causing Other Toxic Effects, Very Toxic Material*), **Class D2B** (*Materials Causing Other Toxic Effects, Toxic Material*).

SECTION 16 — OTHER INFORMATION

HMI-ES Rating:

0 - Insignificant 1 - Slight 2 - Moderate 3 - High 4 – Extreme * - Chronic Hazard

Health: *2 Flammability: 3 Reactivity: 0

References:

1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2006.
2. International Agency for Research on Cancer Monographs, searched 2007.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2007 (Chempendium and RTECs).
4. US EPA Title III List of Lists – January 27, 2005 version.
5. California Proposition 65 List – December 8, 2006 version.

Legend:

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CEPA: Canadian Environmental Protection Act
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substances List
EPA: Environmental Protection Agency
EST: Eastern Standard Time
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
N/Ap: not applicable
N/Av: not available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments & Reauthorization Act
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Information System

Prepared by: Nelson Paint Company of Canada
Telephone No. 705-759-4680
Preparation date: September 12, 2007

END OF DOCUMENT

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	TRMCLD 6X237ML RUST PAINT GLOSS WHITE	**Revision Date:**	8/6/2015
Product Identifier:	27025X125	**Supercedes Date:**	New SDS
Product Use/Class:	ANTI RUST/PAINT		
Supplier:	Rust-Oleum Consumer Brands Canada (RCBC) 200 Confederation Parkway Concord, ON L4K 4T8 Canada	**Manufacturer:**	Rust-Oleum Consumer Brands Canada (RCBC) 200 Confederation Parkway Concord, ON L4K 4T8 Canada
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapor.
Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects. Classified as mutagenic Category 1 if one ingredient is present at or above 0.1%. Applies to liquids, solids (w/w units) and gases (v/v). The substance may also have its own exposure limit. Routes of exposure are dependent on ingredient form.
Carcinogenicity, category 1B	H350	May cause cancer. Classified as carcinogenic Category 1 on the basis of epidemiological and/or animal data. Mixtures are classified as carcinogenic when at least 1 ingredient has been classified as carcinogenic and is present at 0.1% or above Routes of exposure are dependent on ingredient form.
STOT, repeated exposure, category 1	H372	Causes damage to organs.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust, fumes, gases, mists, vapors, or spray.
P281	Use personal protective equipment as required.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P270	Do no eat, drink or smoke when using this product.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Hydrotreated Light Distillate	64742-47-8	10-25	GHS08	H304
Titanium Dioxide	13463-67-7	10-25	No Information	No Information
Mineral Spirits	64742-88-7	10-25	GHS08	H304-372
Organoclay	68911-87-5	1.0-2.5	No Information	No Information
Solvent Naphtha, Light Aromatic	64742-95-6	0.1-1.0	GHS07-GHS08	H304-332-340-350
Stoddard Solvent	8052-41-3	0.1-1.0	GHS08	H304-340-350-372

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat due to buildup of steam. Keep containers tightly closed. Combustible liquid and vapor. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing. Avoid contact with eyes.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class II combustible liquids. Keep away from heat, sparks, flame and sources of ignition. Keep container closed when not in use. Avoid excess heat.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Hydrotreated Light Distillate	64742-47-8	25.0	N.E.	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	25.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Mineral Spirits	64742-88-7	15.0	N.E.	N.E.	N.E.	N.E.
Organoclay	68911-87-5	5.0	N.E.	N.E.	N.E.	N.E.
Solvent Naphtha, Light Aromatic	64742-95-6	1.0	N.E.	N.E.	N.E.	N.E.
Stoddard Solvent	8052-41-3	1.0	100 ppm	N.E.	500 ppm	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	1.080	**pH:**	N.D.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	149 - 204	**Explosive Limits, vol%:**	0.5 - 7.9
Flammability:	Supports Combustion	**Flash Point, °C:**	39
Evaporation Rate:	Slower than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes eye irritation. Substance causes moderate eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. May cause headaches and dizziness. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Irritating to the nose, throat and respiratory tract. Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-47-8	Hydrotreated Light Distillate	>5000 mg/kg Rat	>2000 mg/kg Rabbit	>5000 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	N.I.	N.I.
64742-88-7	Mineral Spirits	>5000 mg/kg Rat	3000 mg/kg Rabbit	4951 mg/L Rat
64742-95-6	Solvent Naphtha, Light Aromatic	N.I.	>2000 mg/kg Rabbit	N.I.

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Not Regulated	Paint	Paint	Not Regulated
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	No	Yes, >5L No	Yes, >5L No	No

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	2	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	2	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 398

SDS REVISION DATE: 8/6/2015

REASON FOR REVISION:

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Consumer Brands Canada believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Consumer Brands Canada makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: TRMCLD 6X237ML RUST PAINT ALUMINUM

Revision Date: 11/9/2018

Product Identifier: 27006X125

Supercedes Date: 8/18/2015

Recommended Use: Topcoat

Supplier: Rust-Oleum Canada (ROCA)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada

Manufacturer: Rust-Oleum Canada (ROCA)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
63% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Flammable Liquid, category 3	H226	Flammable liquid and vapour.
STOT, repeated exposure, category 1	H372	Causes damage to organs through prolonged or repeated exposure.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.

P321	For specific treatment see label
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P370+P378	In case of fire: Use alcohol film forming foam, carbon dioxide, dry chemical, dry sand to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local, regional and national regulations.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P270	Do not eat, drink or smoke when using this product.
P363	Wash contaminated clothing before reuse.

3. Composition / Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.%	GHS Symbols	GHS Statements
Hydrotreated Light Distillate	64742-47-8	39	GHS08	H304
Aluminum Flake	7429-90-5	16	GHS02	H228-261
Stoddard Solvent	8052-41-3	8.5	GHS08	H304-372
Xylenes (o-, m-, p- isomers)	1330-20-7	2.0	GHS02-GHS07	H226-315-319-332
Ethylbenzene	100-41-4	0.5	GHS02-GHS07-GHS08	H225-304-332-351-373
Methyl ethyl ketoxime	96-29-7	0.1	GHS05-GHS06-GHS08	H302-312-317-318-331-351

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat due to buildup of steam. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Combustible liquid and vapor. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): No Information

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Eliminate all ignition sources; use explosion-proof equipment. Place material in a container and dispose of according to local, provincial, state and federal regulations. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Keep away from heat, sparks, flame and sources of ignition. Keep container closed when not in use. Avoid excess heat.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Hydrotreated Light Distillate	64742-47-8	40.0	N.E.	N.E.	N.E.	N.E.
Aluminum Flake	7429-90-5	20.0	1 mg/m3	N.E.	15 mg/m3	N.E.
Stoddard Solvent	8052-41-3	10.0	100 ppm	N.E.	500 ppm	N.E.
Xylenes (o-, m-, p- isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	N.E.	100 ppm	N.E.
Methyl ethyl ketoxime	96-29-7	1.0	10 ppm	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.984	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	135 - 204	**Explosive Limits, vol%:**	0.9 - 7.0
Flammability:	Supports Combustion	**Flash Point, °C:**	39
Evaporation Rate:	Slower than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid all possible sources of ignition. Flammable hydrogen gas will evolve when product comes in contact with water or damp air. Heat will be generated. The amount of heat generated will depend upon the volume of material in contact.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes eye irritation. Substance causes moderate eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated skin contact may cause irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. May cause headaches and dizziness. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Irritating to the nose, throat and respiratory tract. Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B).

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-47-8	Hydrotreated Light Distillate	>5000 mg/kg Rat	>2000 mg/kg Rabbit	>5000 mg/L Rat
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
96-29-7	Methyl ethyl ketoxime	930 mg/kg Rat	1100 mg/kg Rabbit	>4.8 mg/L Rat

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Do not incinerate closed containers. Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Not Regulated	Paint	Paint	Not Regulated
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	No	Yes, >5L No	Yes, >5L No	No

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Flammable (gases, aerosols, liquids, or solids), Carcinogenicity, Respiratory or Skin Sensitization, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Aluminum Flake	7429-90-5
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations:

California Proposition 65:

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	2	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	2	**Instability**	0

Volatile Organic Compounds 497 g/L

SDS REVISION DATE: 11/9/2018

REASON FOR REVISION:
Revision Description Changed
Product Composition Changed
Substance and/or Product Properties Changed in Section(s):
02 - Hazard Identification
15 - Regulatory Information
Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Canada believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Canada makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 03-Mar-2016 **Version** 2

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code 80036
Product Name 34A VALVE GRINDING COMPOUND 1.5OZ

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Grinding compound

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Importer
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA
Telephone: 1-87-Permatex
(877) 376-2839

E-mail address
mail@permatex.com

1.4. Emergency telephone number

24 Hour Emergency Phone Number - 800-255-3924 (00+ 1+ 813-248-0585) ChemTel

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 4 - (H302)

Classification according to Directive 67/548/EEC or 1999/45/EC
Full text of R-phrases: see section 16

2.2. Label elements

Signal word
Warning

Statements of hazard
H302 - Harmful if swallowed

Precautionary Statements - EU (§28, 1272/2008)
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P270 - Do not eat, drink or smoke when using this product
P264 - Wash face, hands and any exposed skin thoroughly after handling

Other Information
- Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 substances

Chemical Name	EC No	CAS No	Weight-%	Classification according to Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
ETHYLENE GLYCOL	203-473-3	107-21-1	10-20	Xn; R22	Acute Tox. 4 (H302)	No data available

Full text of R-phrases: see section 16

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Skin contact IF ON SKIN:. Wash with soap and water. If symptoms persist, call a physician. Wash contaminated clothing before reuse.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion IF SWALLOWED:. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2). Foam. Dry chemical.

Unsuitable extinguishing media
No information available

5.2. Special hazards arising from the substance or mixture

None in particular.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Wash thoroughly after handling.

For emergency responders
Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid breathing vapors or mists.

General Hygiene Considerations
Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Keep from freezing.

Incompatible materials
Strong oxidizing agents

7.3. Specific end use(s)

Specific use(s)
Automotive Care Product.

Risk Management Methods (RMM)
The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
ETHYLENE GLYCOL 107-21-1	TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ *	TWA: 10 mg/m³ TWA: 20 ppm TWA: 52 mg/m³ STEL: 40 ppm STEL: 104 mg/m³ STEL: 30 mg/m³ Sk*	TWA: 20 ppm TWA: 52 mg/m³ STEL: 40 ppm STEL: 104 mg/m³ *	TWA: 20 ppm TWA: 52 mg/m³ STEL: 40 ppm STEL: 104 mg/m³ vía dérmica*	TWA: 10 ppm TWA: 26 mg/m³ H*
Chemical Name	**Italy**	**Portugal**	**Netherlands**	**Finland**	**Denmark**
ETHYLENE GLYCOL 107-21-1	TWA: 20 ppm TWA: 52 mg/m³ STEL: 40 ppm STEL: 104 mg/m³ pelle*	TWA: 20 ppm TWA: 52 mg/m³ STEL: 40 ppm STEL: 104 mg/m³ Ceiling: 100 mg/m³ P*	TWA: 52 mg/m³ TWA: 10 mg/m³ STEL: 104 mg/m³ H*	TWA: 20 ppm TWA: 50 mg/m³ STEL: 40 ppm STEL: 100 mg/m³ iho*	TWA: 10 ppm TWA: 26 mg/m³ TWA: 10 mg/m³ H*
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
ETHYLENE GLYCOL 107-21-1	TWA: 10 ppm TWA: 26 mg/m³ STEL 20 ppm STEL 52 mg/m³ H*	TWA: 10 ppm TWA: 26 mg/m³ STEL: 20 ppm STEL: 52 mg/m³ H*	STEL: 50 mg/m³ TWA: 15 mg/m³	TWA: 10 mg/m³ TWA: 20 ppm TWA: 52 mg/m³ STEL: 104 mg/m³ STEL: 40 ppm Ceiling: 25 ppm H*	TWA: 10 mg/m³ TWA: 20 ppm TWA: 52 mg/m³ STEL: 40 ppm STEL: 104 mg/m³ Sk*

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Suitable protective clothing. Gloves made of plastic or rubber.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Paste
Appearance Gray
Odor Slight
Odor threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 100 °C / >212 °F	

Flash point	No information available	
Evaporation rate	<1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	1.36	
Water solubility	Soluble in water	
Solubility(ies)	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	0
Density	No information available
Bulk density	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Not applicable

10.2. Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Excessive heat.

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Carbon oxides

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes. May cause redness and tearing of the eyes.
Skin contact	May cause skin irritation and/or dermatitis. Prolonged contact may cause redness and irritation.
Ingestion	Harmful if swallowed.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	1,938.00 mg/kg
ATEmix (dermal)	41,087.00 mg/kg

Unknown acute toxicity

58.152 % of the mixture consists of ingredient(s) of unknown toxicity.
43.602 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
43.602 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
58.152 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
58.152 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
58.152 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target Organ Effects	Central nervous system, Eyes, Respiratory system, Skin.
Aspiration hazard:	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
ETHYLENE GLYCOL	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static	46300: 48 h Daphnia magna mg/L EC50

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	Partition coefficient
ETHYLENE GLYCOL	-1.93

12.4. Mobility in soil

Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Waste codes / waste designations according to EWC / AVV No data available

Other Information Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

IMDG

14.1 UN/ID no Not regulated
14.2 Proper shipping name: Not regulated
14.3 Hazard Class Not regulated
14.4 Packing Group None
14.5 Marine pollutant Not applicable
14.6 Special Provisions No information available
14.7 EmS-No Not applicable

RID

14.1 UN/ID no Not regulated
14.2 Proper shipping name: Not regulated
14.3 Hazard Class Not regulated
14.4 Packing Group None
14.5 Environmental hazard Not applicable
14.6 Special Provisions No information available
14.7

ADR

14.1 UN/ID no Not regulated
14.2 Proper shipping name: Not regulated

14.3 Hazard Class	Not regulated
14.4 Packing Group	None
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	No information available
14.7 Classification code	No information available

IATA

14.1 UN/ID no	Not regulated
14.2 Proper shipping name:	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	None
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	No information available
14.7 ERG Code	Not applicable

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Name	French RG number	Title
ETHYLENE GLYCOL 107-21-1	RG 84	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Not Listed.
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of R-phrases referred to under sections 2 and 3
No information available

Full text of H-Statements referred to under section 3
H302 - Harmful if swallowed

Legend
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Revision Date 03-Mar-2016

Revision Note Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

End of Safety Data Sheet

Safety Data Sheet

Valvoline Valplex EP Grease

NON-Hazardous Substance, NON-Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: **Valvoline Valplex EP Grease**

Synonyms:	**Mancode**
Valvoline Valplex EP Grease, 450 grams	0707.82
Valvoline Valplex EP Grease, 500 grams	0707.73
Valvoline Valplex EP Grease, 2.5 kg	0707.67
Valvoline Valplex EP Grease, 20 kg	0707.65
Valvoline Valplex EP Grease, 55 kg	0707.64
Valvoline Valplex EP Grease, 180 kg	0707.62

Recommended use: Lubricating grease

Supplier: Valvoline (Australia) Pty Ltd
ABN: 86 000 446 855
Street Address: Level 6, 2 Burbank Place
Baulkham Hills NSW 2153
Australia
Telephone: (02) 9609-7999
Facsimile: (02) 9604-5127

For emergency product information contact Valvoline Technical Hotline on 1800 804 658.
Hours of operations are Monday to Friday, 8:30 am - 4:30 pm AEST.

2. HAZARDS IDENTIFICATION

Based on available information, this material is not classified as hazardous according to criteria of Safe Work Australia.

Poisons Schedule (Aust): Not applicable

DANGEROUS GOODS CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO.	PROPORTION
Zinc dialkyl dithiophosphate	68649-42-3	<5%
Ingredients determined to be non-hazardous	-	Balance
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye contact: If in eyes wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear overalls, safety glasses and impervious gloves. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Combustible liquid.

Fire fighting further advice: On burning may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS
Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS
Shut off all possible sources of ignition. Clear area of all unprotected personnel. Prevent further leakage or spillage if safe to do so. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of sewers or waterways has occurred advise local emergency services.

Dangerous Goods – Initial Emergency Response Guide No: Not applicable.

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from incompatible materials described in Section 10. Store away from sources of heat or ignition. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

National occupational exposure limits:
No value assigned for this specific material by Safe Work Australia or Department of Labour New Zealand.

However for:

	TWA		STEL		CARCINOGEN	NOTICES
	ppm	mg/m3	ppm	mg/m3	CATEGORY	
Oil mist, refined mineral	-	5	-	-	-	-

As published by the Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15-minute period, which should not be exceeded at any time during a normal eight-hour workday.

WES-TWA (Workplace Exposure Standard – Time-weighted Average). The time-weighted average exposure standard designed to protect the worker for the effects of long-term exposure.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Natural ventilation should be adequate under normal use conditions. Keep containers closed when not in use.

Personal protection equipment: OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES.

When handling individual retail packs no personal protection equipment is required. Wear standard safety equipment - overalls and safety shoes. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. If risk of inhalation of exists, wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: Blue grease (non slump paste)

Solubility:	Insoluble in water
Specific Gravity (15 °C):	0.90
Relative Vapour Density (air=1):	>5
Vapour Pressure (20 °C):	N Av
Flash Point (°C):	>232
Flammability Limits (%):	N Av
Autoignition Temperature (°C):	N Av
Melting Point/Range (°C):	N Av
Boiling Point/Range (°C):	N Av
pH:	N App
Viscosity:	N Av
Total VOC (g/Litre):	N Av

(Typical values only - consult specification sheet)
N Av = Not available N App = Not applicable

10. STABILITY AND REACTIVITY

Reactivity: No reactivity hazards are known for the material.

Chemical stability: This material is thermally stable when stored and used as directed.

Hazardous reactions: No known hazardous reactions.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in irritation.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: May be an eye irritant.

Acute toxicity

Inhalation: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >20 mg/L

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): > 2,000 mg/kg

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): > 2,000 mg/kg

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a respiratory sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L. Zinc dialkyl dithiophosphate is classified as toxic to the aquatic environment.

Long-term aquatic hazard:
This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L. Zinc dialkyl dithiophosphate may cause long-term adverse effects in the aquatic environment.

Ecotoxicity: No information available.

Persistence and degradability: Zinc dialkyl dithiophosphate is not readily biodegradable.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)

This material is subject to the following international agreements:

International Convention for the Prevention of Pollution from Ships (MARPOL)
- Annex I - Oil

This material/constituent(s) is covered by the following requirements:

- The Standard for the *Uniform Scheduling of Medicines and Poisons (SUSMP)* established under the *Therapeutic Goods Act (Commonwealth)*.
- All the constituents of this material are listed on the *Australian Inventory of Chemical Substances (AICS)*.

16. OTHER INFORMATION

Literary reference

This SDS has been prepared by Chemical Data Services Pty Ltd (www.chemdata.com.au) on behalf of its client.

Reason(s) For Issue: Review

Safety Data Sheets are updated frequently. Please ensure that you have a current copy.

This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since Valvoline (Australia) Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Valvoline™ FUEL INJECTOR CLEANER

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Ashland P.O. Box 2219 Columbus, OH 43216 United States of America EHS Customer Requests@ashland.com	1-800-ASHLAND (1-800-274-5263) **Regulatory Information Number** 1-800-325-3751 **Product Information** 614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Skin irritation : Category 2

Specific target organ systemic toxicity - single exposure : Category 3 (Central nervous system)

Aspiration hazard : Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary Statements : **Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
KEROSENE	8008-20-6	Flam. Liq. 3; H226 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	97.22

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use. If on clothes, remove clothes.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Lung irritation confusion irregular heartbeat Convulsions May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
Hydrocarbons
Nitrogen oxides (NOx)
sulfur oxides

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Remove all sources of ignition.
Use personal protective equipment.
Ensure adequate ventilation.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Other information : Comply with all applicable federal, state, and local regulations.
Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Open drum carefully as content may be under pressure.
Avoid formation of aerosol.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours/dust.
Do not smoke.
Container hazardous when empty.
Take precautionary measures against static discharges.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters /	Basis

		exposure)	Permissible concentration	
KEROSENE	8008-20-6	TWA	200 mg/m3 Non-aerosol (as total hydrocarbon vapor)	ACGIH
		REL	100 mg/m3	NIOSH/GUIDE

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	amber
Odour	:	pungent
Odour Threshold	:	No data available
pH	:	No data available
	:	No data available
Boiling point/boiling range	:	347 °F / 175 °C Calculated Phase Transition Liquid/Gas
Flash point	:	120.00 °F / 48.89 °C Calculated Flash Point
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	5 %(V) GLP: Calculated Explosive Limit
Lower explosion limit	:	0.7 %(V) GLP: Calculated Explosive Limit
Vapour pressure	:	0.63994 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.8023 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

excessive heat

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products

carbon dioxide and carbon monoxide
Hydrocarbons
Nitrogen oxides (NOx)
Sulphur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
KEROSENE:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 420

Acute inhalation toxicity : LC 50 (Rat): > 5.28 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: Not classified as acutely toxic by inhalation under GHS.

Acute dermal toxicity : LD 50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: Not classified as acutely toxic by dermal absorption under GHS.

Skin corrosion/irritation
Causes skin irritation.
Product:
Remarks: May cause skin irritation and/or dermatitis.

Result: Repeated exposure may cause skin dryness or cracking.

Components:
KEROSENE:
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
KEROSENE:
Result: Slightly irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Germ cell mutagenicity
Not classified based on available information.
Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.
STOT - single exposure
May cause drowsiness or dizziness.
Components:
KEROSENE:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
May be fatal if swallowed and enters airways.
Product:
May be fatal if swallowed and enters airways.

Components:
KEROSENE:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:

KEROSENE**:**
Remarks: Skin

Remarks: Central nervous system

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

KEROSENE**:**

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: WAF Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Water flea (Daphnia magna)): 1.4 mg/l Exposure time: 48 h Test Type: static test Test substance: WAF Method: OECD Test Guideline 202
Toxicity to algae	:	EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3 mg/l Exposure time: 72 h Test Type: static test Test substance: WAF Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	(Water flea (Daphnia magna)): 0.89 mg/l Exposure time: 21 d End point: Reproduction Test Test Type: semi-static test Test substance: WAF Method: OECD Test Guideline 211

Persistence and degradability

Components:

KEROSENE:

Biodegradability : Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

No data available

Mobility in soil

Components:

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1993	Not dangerous goods	3	

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1993	Not dangerous goods	3	

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1993	Not dangerous goods	3	

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1993	Not dangerous goods	3	

TRANSPORT CANADA - INLAND WATERWAYS

	Not dangerous goods

TRANSPORT CANADA - RAIL

	Not dangerous goods

TRANSPORT CANADA - ROAD

	FLAMMABLE LIQUID, N.O.S.	III	LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

	Flammable liquid, n.o.s.	III

U.S. DOT - RAIL

	Flammable liquid, n.o.s.	III

U.S. DOT - ROAD

	LIQUIDO INFLAMABLE, N.E.P.	III

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
NAPHTHALENE	91-20-3	100	214132.762313

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

SARA 313
Component(s)SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUSTR : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

KECL : On the inventory, or in compliance with the inventory

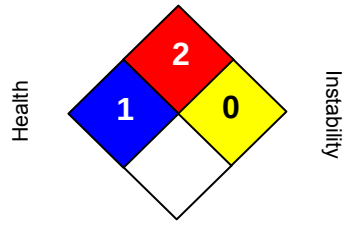
PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/22/2015

NFPA:	HMIS III:
Flammability  Special hazard.	HEALTH 1 FLAMMABILITY 2 PHYSICAL HAZARD 0 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class II

Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Valvoline™ DEXRON-VI FULL SYNTHETIC AUTOMATIC TRANSMISSION FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Ashland P.O. Box 2219 Columbus, OH 43216 United States of America EHS Customer Requests@ashland.com	1-800-ASHLAND (1-800-274-5263) **Regulatory Information Number** 1-800-325-3751 **Product Information** 614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS Label element

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	Not a hazardous substance or mixture.	41.37

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	If breathed in, move person into fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye.
If swallowed	:	Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical

Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	carbon dioxide and carbon monoxide Hydrocarbons
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
Other information	:	Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Container hazardous when empty. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
Conditions for safe storage	:	Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8			ACGIH
				ACGIHLIS_P
				ACGIHLIS_P
		REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS

Engineering measures : General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
Safety shoes
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Colour : red

Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 356 °F / > 180 °C Method: Cleveland open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6 %(V) GLP: Calculated Explosive Limit
Lower explosion limit	:	1 %(V) GLP: Calculated Explosive Limit
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.849 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	29.5 mm2/s (40 °C)
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	excessive heat
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products		carbon dioxide and carbon monoxide Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
HYDROTREATED LIGHT PARAFFINIC DISTILLATE**:**
Result: Mildly irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Unlikely to cause eye irritation or injury.

Components:
HYDROTREATED LIGHT PARAFFINIC DISTILLATE**:**
Result: Mildly irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Germ cell mutagenicity
Not classified based on available information.
Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.
STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
Not classified based on available information.
Product:
No aspiration toxicity classification

Further information
Product:
Remarks: No data available

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available
Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

Product:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

MX_DG

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

TDG_INWT_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_ROAD_C

Not dangerous goods	MARINE POLLUTANT:(HETEROCYCLIC ETHER, OLEYLAMINE)

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - ROAD

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 313
Component(s)SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

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ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

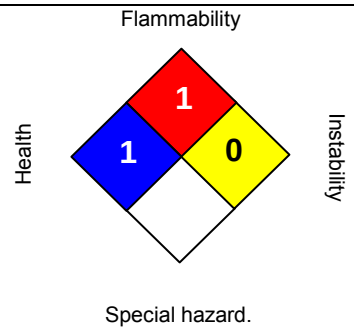
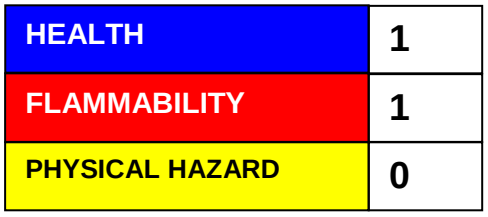
PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 11/12/2015

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements

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The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

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DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

HALL CHEM MFG. INC.
1270 rue Nobel
Boucherville Qc J4B 5H1
Tel. : (450) 645-0296
Fax : (450) 645-0444

MATERIAL SAFETY DATA SHEET

EMERGENCY: CANUTEC (613) 996-6666

MSDS :535 -2

PRODUCT IDENTIFICATION AND USE

NAME OF PRODUCT : Vision X - 40ºC
USE OF PRODUCT : Windshield washer fluid

TRANSPORTATION OF DANGEROUS GOODS

TDG
SHIPPING NAME : Alcohols, flammable, toxic N.O.S. (methanol/water solution) (> 450L only)
WHMIS CLASSIFICATION: B2, D1B, D2A,D2B
P.N.I. : UN 1986 **PRIMARY CLASS :** 3
PACKING GROUP : III **SUBSIDIARY CLASS :** 6.1
U.S. DOT HAZARD CLASSIFICATION (For Ground Shipments Only)
HAZARD CLASS/PACKING GROUP: **ORM-D**
Alcohols, flammable, toxic N.O.S. (methanol/water solution), 3,(6.1)UN1986, PGIII
Quantities limit passenger : 60L, Quantities limit cargo aircraft : 220L, Vessel slow req locations : A,
Spesial Provision: B1,IB3,T7,TP1,TP28
DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.
IMDG CODE SHIPPING CLASSIFICATION:
Only containers not over 5L can be shipped as Limited Quantities
Shipping Name: Alcohols, flammable, toxic N.O.S. (methanol/water solution), 3,(6.1)UN1986, PGIII, FP38C,
IBC instructions : IBC 03, Pack instructions non bulk: P001, Slow&Seg: Category A, Outer package cannot weigh more then 30 kg, Spesial Provision:223,274,944
IATA REGULATIONS:
Shipping Name: Alcohols, flammable, toxic N.O.S. (methanol/water solution), 3, UN1986, PGIII
UN 1986, Class: 3,(6.1) PG: III, Hazard Label: Flammable Liquid&Toxic, Passenger quantities: 60L, Cargo bulk qty: 220L, Air craft Lim. Qty.: 2L, Ltd.Qty. Packaging instruction:Y309 , ERG code:3HP, Spesial Provision:A3

COMPONENTS

COMPOSITION	% B/W	CASE #	LD_{50}mg/kg Oral/rat	LC_{50} ppm 4h	TLV ppm 8h
Methanol	40-48	67-56-1	6200 to 13 000	64 000	200
Performance additives					

PHYSICAL CARACTERISTICS

PHYSICAL STATE : Liquid	**APPEARANCE :** Blue	**ODOR :** Alcohol	**ODORTRESHOLD :** Not available
VAPOR TENSION :	**VAPOR DENSITY :**	**EVAPORATING RATE :**	

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MATERIAL SAFETY DATA SHEET

EMERGENCY: CANUTEC (613) 996-6666

Not available	Not available	Not available
BOILING RANGE : 79°C	**FREEZING POINT :** -40°C	**pH :** N/A
DENSITY (20°C) : 0,934	**DISTRIBUTION FACTOR WATER/OIL :** Not available	**SOLUBILITY IN WATER (25°C) :** 100%

REACTIVITY DATA

CHEMICAL STABILITY : Stable
INCOMPATIBILITY WITH OTHER PRODUCTS : Avoid contact with oxidizing agents, strong bases and strong acids. Avoid using in presence of natural rubber. May corrode lead and aluminum.
REACTIVITY CONDITIONS : Avoid excessive heat, flames and other ignition sources. No hazardous polymerization.

EXPLOSION AND FIRE RISKS

FLAMMABILITY : Flammable
EXTINGUISHING METHODS : Water, dry chemical powder purple K, FAM resistant to alcohol with 6% foam or carbon dioxide.
FLASH POINT : 28°C close cup **AUTO-IGNITION TEMPS. :** 385ºC
FLAMMABILITY (% per volume)
SUPERIOR LIMIT : Not available **LOWER LIMIT :** 3,2
HAZARDOUS COMBUSTION PRODUCT : Vapors forms a flammable/explosive mixture with air between upper and lower flammable limits. Combustion may produce carbon dioxide, carbon monoxide and formaldehyde.
EXPLOSIBILITY DATA :

TOXICOLOGICAL PROPERTIES

ABSORPTION WAYS			**CONTACT**	
SKIN √	**INHALATION** √	**INGESTION** √	**WITH SKIN** √	**EYES** √

EFFECTS OF EXPOSURE TO PRODUCT : Swallowing even small amount of methanol can cause blindness and death other effects may be nausea, headache, abdominal pain, vomiting and visual disturbances ranging from blurred vision to light sensitivity. Inhalation of high airborne concentration can also irritate mucous membranes, cause sleepiness, confusion, loss of consciousness, digestive and visual disturbances and death. May by absorbed trough the skin in toxic or letal amounts. Causes mild irritation, redness, cracking and drying. Repeated exposure by inhalation or absorption may cause systemic poisoning, brain disorders, impaired vision and blindness. Inhalation may worsen conditions such as emphysema or bronchitis.

PREVENTIVE MEASURES

PROTECTIVE EQUIPMENT : Gloves, security glasses and protective apron.
GLOVES : Butyl and nitrite.

RESPIRATORY SYSTEM : Necessary over the permitted limit.
OCULAR INSTRUMENT : Security glasses and face shield. **CLOTHING :** Apron, jacket
TECHNICAL CONTROL : Ventilation
PROCEDURE IN CASE OF LEAKS/SPILLS : Extremely flammable liquid. Eliminate all ignition sources, stop spill and use absorbent materials. Collect liquid with explosion proof pumps. For small spills, collect with a non-combustible absorbent. Recover methanol or dilute with water to reduce fire hazard. Do not throw in the sewers or garbage.
HANDLING : Avoid breathing vapor. Do not get in eyes, skin or on clothing. Wash thoroughly with soap and water after handling.
WASTE DISPOSAL : Incineration, biological treatment of dilute solution, or landfill of solidified prior to disposal in accordance with local, federal and provincial regulations.
STORAGE : In a cool, dry and well ventilated area. Keep away from incompatible material and from sources of ignition (naked flames, sparks, electricity). Keep the containers grounded especially during pumping and transfer operations.

FIRST AID

EYES : Remove contact lenses if present and easy to do so. In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes,lifting the upper and lower eyelids occasionally.Obtain medical attention.
SKIN : If in skin or hair, remove immediately all contaminated clothing. Rinse skin with water/shower. In case of contact, remove contaminated clothing. In a shower, wash affected areas with soap and water for at least 15 minutes. Seek medical attention if irritation occurs or persists. Wash contaminated clothing before reuse. Prolonged contact with methanol may defat skin tissue, resulting in drying and cracking.
INGESTION : If swallowed immediately call a POISON CENTRE or doctor. Rinse mouth. Swallowing methanol is potentially life threatening. Onset of symptoms may be delayed for 18 to 24 hours after digestion. If conscious and medical aid is not immediately available, do not induce vomiting. In actual or suspected cases of ingestion, transport to medical facility immediately. (See note to physician)
INHALATION : If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or doctor. Specific treatment is urgent (see note to physician).
NOTES TO THE ATTENTION OF THE DOCTOR : Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to the Central Nervous System (CNS), eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended. Ethanol significantly decreases the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

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MATERIAL SAFETY DATA SHEET

EMERGENCY: CANUTEC (613) 996-6666

INFORMATION ON THE M.S.D.S. PREPARATION

PREPARED BY : **TELEPHONE : (450) 645-0296** **REVISED January 2015**
Hall Chem Mfg. Inc.
NOTE :
The information in this detailed M.S.D.S. is available on request, for the customer service. It must not be used for any other purpose and its reproduction and/or publication is forbidden without the consent of HALL CHEM MFG. INC. Even though this information is based on reliable sources, HALL CHEM MFG. INC. cannot guarantee its accuracy and formally excludes all explicit guarantee relative to the exactitude of this information or of the results following its application.

Safety Data Sheet

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol ***NOT FOR SALE IN CALIFORNIA*** **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **SDS Date Of Preparation: 07/20/2014**	**Manufacturer: WD-40 Company** **Address: 1061 Cudahy Place (92110)** **P.O. Box 80607** **San Diego, California, USA** **92138 –0607** **Telephone:** **Emergency only: 1-888-324-7596 (PROSAR)** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.

Prevention
Keep away from heat, sparks, open flames, hot surfaces – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
Aliphatic Hydrocarbon	64742-47-8	45-50	Flammable Liquid Category 3

			Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<25	Not Hazardous
LVP Aliphatic Hydrocarbon	64742-47-8	12-18	Aspiration Toxicity Category 1
Carbon Dioxide	124-38-9	2-3	Simple Asphyxiant Gas Under Pressure, Compressed Gas
Non-Hazardous Ingredients	Mixture	<10	Not Hazardous

Note: The exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: May cause eye and respiratory irritation. Inhalation may cause coughing, headache and dizziness. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.

Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product
Appropriate Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	122°F (49°C) Tag Closed Cup (concentrate)	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas)	Flammable Aerosol	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	412 grams/liter (49.5%)	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable

Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
The oral toxicity of this product is estimated to be greater than 5,000 mg/kg and the dermal toxicity greater than 2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available, however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Component are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information_

DOT Surface Shipping Description:
UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many

states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
VOC Regulations: This product complies with the consumer product VOC limits of the US EPA and states adopting the OTC VOC rules but does not comply with CARB.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.
Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class A (Compressed gas), Class B-5 (Flammable Aerosol)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

Revision Date: July 20, 2014 Supersedes: May 23, 2014

Revision Summary: Convert to Hazcom 2012. Changes in all sections.

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

APPROVED By: I. Kowalski Regulatory Affairs Dept.

5049000/No.0015205

SAFETY DATA SHEET

1. Identification

Product identifier **WHITE GREASE**

Other means of identification

Product code 914

Recommended use LUBRICANT

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Kleen-Flo Tumbler Ind Limited

Address 75 Advance Blvd
Brampton, Ontario L6T 4N1
Canada

Telephone General Assistance 1-905-793-4311

E-mail Not available.

Emergency phone number CANUTEC: 613-996-6666

2. Hazard(s) identification

Physical hazards

Flammable aerosols	Category 1

Health hazards

Carcinogenicity	Category 2
Reproductive toxicity (fertility, the unborn child)	Category 2
Specific target organ toxicity, repeated exposure	Category 1

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Suspected of causing cancer. Suspected of damaging the unborn child. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe gas. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF exposed or concerned: Get medical advice/attention. Collect spillage.

Storage Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Perchloroethylene		127-18-4	30-60
Isobutane		75-28-5	7-13
Propane		74-98-6	7-13
n-Hexane		110-54-3	1-5
n-Heptane		142-82-5	0.1-1
Carbon Tetrachloride		56-23-5	0.1-1
Cyclohexane		110-82-7	0.1-1
Other components below reportable levels			10-30

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	If symptoms develop move victim to fresh air. Get medical attention if symptoms persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Headache. Dizziness. Nausea. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

	Water spray.
Suitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Unsuitable extinguishing media	
	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Specific hazards arising from the chemical	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Special protective equipment and precautions for firefighters	Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. In the event of fire and/or explosion do not breathe fumes.
Specific methods	Extremely flammable aerosol.
General fire hazards	

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent entry into waterways, sewer, basements or

confined areas. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe gas. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Level 2 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon Tetrachloride (CAS 56-23-5)	STEL	10 ppm
	TWA	5 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isobutane (CAS 75-28-5)	STEL	1000 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Perchloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Carbon Tetrachloride (CAS 56-23-5)	STEL	63 mg/m3
		10 ppm
	TWA	31 mg/m3
		5 ppm
Cyclohexane (CAS 110-82-7)	TWA	344 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3
		500 ppm
	TWA	1640 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm
Perchloroethylene (CAS 127-18-4)	STEL	678 mg/m3
		100 ppm
	TWA	170 mg/m3
		25 ppm
Propane (CAS 74-98-6)	TWA	1000 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Carbon Tetrachloride (CAS 56-23-5)	TWA	2 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	20 ppm
Perchloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Carbon Tetrachloride (CAS 56-23-5)	STEL	10 ppm
	TWA	5 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isobutane (CAS 75-28-5)	STEL	1000 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Perchloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Carbon Tetrachloride (CAS 56-23-5)	STEL	3 ppm
	TWA	2 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isobutane (CAS 75-28-5)	TWA	800 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Perchloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Carbon Tetrachloride (CAS 56-23-5)	STEL	63 mg/m3 10 ppm
	TWA	31 mg/m3 5 ppm
Cyclohexane (CAS 110-82-7)	TWA	1030 mg/m3 300 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm
	TWA	1640 mg/m3 400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3 50 ppm
Perchloroethylene (CAS 127-18-4)	STEL	685 mg/m3 100 ppm
	TWA	170 mg/m3 25 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm

Biological limit values

ACGIH Biological Exposure Components	Indices Value	Determinant	Specimen	Sampling Time
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
Perchloroethylene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

Carbon Tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Carbon Tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Carbon Tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Carbon Tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Carbon Tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Carbon Tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Use of an impervious apron is recommended.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form	Aerosol.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	197.02 °F (91.68 °C) estimated
Flash point	-156.0 °F (-104.4 °C) PROPELLANT estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.3 % estimated
Flammability limit - upper (%)	7.6 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.04 estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Nitrates. Fluorine. Chlorine.
Hazardous decomposition products	Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Headache. Dizziness. Nausea.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Cyclohexane (CAS 110-82-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 32880 mg/m3, 4 Hours
		> 5540 ppm, 4 Hours
Oral		
LD50	Rabbit	> 5000 mg/kg
	Rat	> 5000 mg/kg
Isobutane (CAS 75-28-5)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
n-Heptane (CAS 142-82-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 29.29 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
n-Hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 4 Hours
		> 5 ml/kg, 4 Hours
Inhalation		
LC50	Rat	> 5000 ppm, 24 Hours
		> 31.86 mg/l
		73860 ppm, 4 Hours
Oral		
LD50	Rat	24 ml/kg
		24 g/kg
	Wistar rat	49 g/kg
Perchloroethylene (CAS 127-18-4)		
Acute		
Inhalation		
LC50	Dog; Mouse; Rabbit; Rat	3000 ppm
Oral		
LD50	Cat; Dog; Mouse; Rabbit; Rat	> 1500 mg/kg
	Rat	3005 mg/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes

Components	Species	Test Results
		52 %, 120 Minutes
	Rat	1355 mg/l
		658 mg/l/4h

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer.

ACGIH Carcinogens

Carbon Tetrachloride (CAS 56-23-5)	A2 Suspected human carcinogen.
Perchloroethylene (CAS 127-18-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.

Canada - Alberta OELs: Carcinogen category

Carbon Tetrachloride (CAS 56-23-5)	Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

CARBON TETRACHLORIDE (CAS 56-23-5)	Suspected human carcinogen.
TETRACHLOROETHYLENE (CAS 127-18-4)	Confirmed animal carcinogen with unknown relevance to humans.

Canada - Quebec OELs: Carcinogen category

Carbon Tetrachloride (CAS 56-23-5)	Suspected carcinogenic effect in humans.
Perchloroethylene (CAS 127-18-4)	Detected carcinogenic effect in animals.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon Tetrachloride (CAS 56-23-5)	2B Possibly carcinogenic to humans.
Perchloroethylene (CAS 127-18-4)	2A Probably carcinogenic to humans.

Reproductive toxicity Suspected of damaging fertility. Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Not likely, due to the form of the product.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Carbon Tetrachloride (CAS 56-23-5)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	9.68 - 11.3 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	23.03 - 42.07 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
Aquatic			
Fish	LC50	Mozambique tilapia (Tilapia mossambica)	375 mg/l, 96 hours

Components		Species	Test Results
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Perchloroethylene (CAS 127-18-4)			
Aquatic			
Crustacea	EC50	Daphnia	7.55 mg/L, 48 Hours
		Water flea (Daphnia magna)	6.1 - 9 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	4.82 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Carbon Tetrachloride	2.83
Cyclohexane	3.44
Isobutane	2.76
n-Heptane	4.66
n-Hexane	3.9
Perchloroethylene	3.4
Propane	2.36

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Dispose in accordance with all applicable regulations.

Local disposal regulations The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Hazardous waste code Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Waste from residues / unused products Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Contaminated packaging

14. Transport information

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	Yes
Special precautions for user	

Read safety instructions, SDS and emergency procedures before handling.

Dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds.

This product is exempted under TDG section 1.17 as a limited quantity and may be shipped as a limited quantity.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Carbon Tetrachloride (CAS 56-23-5)	Restricted substance.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Carbon Tetrachloride (CAS 56-23-5)	Group II Annex B 1.1

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

15. Other Information

Issue date 01-25-2017

Version # 01

Guidelines for SDS use: The product described in this SDS is a consumer product. It is safe for use by consumers as described on the product label under normal, foreseeable conditions. This SDS is designed to provide additional valuable safety and handling information.

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

FICHE SIGNALÉTIQUE

1. Identification

Identificateur de produit **GRAISSE BLANCHE**

Autres moyens d'identification

Code du produit 914

Usage recommandé Lubrifiant

Restrictions d'utilisation Aucuns connus.

Renseignements sur le fabricant/importateur/fournisseur/distributeur

Fabricant

Nom de la société	Les Entreprises Kleen-Flo Tumber limitée	
Adresse	75 Advance Blvd Brampton, Ontario L6T 4N1 Canada	
Téléphone	Assistance générale	1-905-793-4311
Courriel	Non disponible.	
Numéro de téléphone d'urgence	Emergency	CANUTEC: 613-996-6666

Fournisseur Non disponible.

2. Identification des dangers

Dangers physiques	Aérosols inflammables	Catégorie 1
Dangers pour la santé	Cancérogénicité	Catégorie 2
	Toxicité pour la reproduction (fertilité, le fœtus)	Catégorie 2
	Toxicité pour certains organes cibles - expositions répétées	Catégorie 1

Éléments d'étiquetage

Mention d'avertissement Danger

Mention de danger Aérosol extrêmement inflammable. Susceptible de provoquer le cancer. Susceptible de nuire au fœtus. Susceptible de nuire à la fertilité. Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Conseil de prudence

Prévention Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les mesures de sécurité. Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et autres sources d'inflammation. Défense de fumer. Ne pas vaporiser sur une flamme nue ou sur toute autre source d'inflammabilité. Ne pas perforer ni brûler, même après usage. Ne pas respirer les gaz. Lavez vigoureusement après manipulation. Ne pas manger, boire ou fumer en manipulant ce produit. Éviter le rejet dans l'environnement. Porter des gants/vêtements de protection/ équipement de protection des yeux/du visage.

Intervention Si exposé(e) ou préoccupé(e) : Obtenir une consultation médicale ou des soins médicaux. Recueillir le produit répandu.

Stockage Garder sous clef. Protéger du rayonnement solaire. Ne pas exposer à une température supérieure à 50 °C/122 °F.

Élimination Éliminer le contenu/les conteneurs selon la loi internationale/nationale/régionale/locale.

Dangers environnementaux	Dangereux pour le milieu aquatique, danger aigu	Catégorie 2

	Dangereux pour le milieu aquatique, danger à long terme	Catégorie 2

Autres dangers Aucuns connus.

Renseignements supplémentaires Aucune.

3. Composition/information sur les ingrédients

Mélanges

Dénomination chimique	Nom commun et synonymes	Numéro d'enregistrement CAS	%
Perchloroéthylène		127-18-	30-60
Isobutane		75-28-5	7-13
Propane		74-98-6	7-13
n-Hexane		110-54-	1-5
n-Heptane		142-82-	0.1-1
Tétrachlorure de carbone		56-23-5	0.1-1
Cyclohexane		110-82-	0.1-1
Autres composés sous les niveaux déclarables			10-30

Toutes les concentrations sont en pourcentage en poids, sauf si l'ingrédient est un gaz. Les concentrations des gaz sont en pourcentage en volume.

4. Premiers soins

Inhalation Si des symptômes se développent, mettre la victime à l'air frais. Obtenir des soins médicaux si les symptômes persistent.

Contact avec la peau Laver avec de l'eau et du savon. Consulter un médecin si une irritation se développe et persiste.

Contact avec les yeux Rincer avec de l'eau. Consulter un médecin si une irritation se développe et persiste.

Ingestion Rincer la bouche. Faire appel à une assistance médicale si des symptômes apparaissent.

Symptômes et effets les plus importants, qu'ils soient aigus ou retardés Maux de tête. Étourdissements. Nausée. Une exposition prolongée peut causer des effets chroniques.

Mention de la nécessité d'une prise en charge médicale immédiate ou d'un traitement spécial, si nécessaire Donner des soins généraux et traiter en fonction des symptômes. Garder la victime en observation. Les symptômes peuvent se manifester à retardement.

Informations générales Si exposé(e) ou préoccupé(e) : Obtenir une consultation médicale ou des soins médicaux. En cas de malaise, consulter un médecin (si possible lui montrer l'étiquette). S'assurer que le personnel médical est averti des substances impliquées et prend les précautions pour se protéger. Montrer cette fiche technique signalétique au médecin en consultation.

5. Mesures à prendre en cas d'incendie

Agents extincteurs appropriés Eau pulvérisée.

Agents extincteurs inappropriés Ne pas utiliser un jet d'eau comme agent extincteur, car cela propagera l'incendie.

Dangers spécifiques du produit dangereux Contenu sous pression. Le récipient pressurisé peut exploser lorsqu'il est exposé à la chaleur ou à une flamme. Des gaz dangereux pour la santé peuvent se former pendant l'incendie.

Équipements de protection spéciaux et précautions spéciales pour les pompiers Les pompiers doivent porter un équipement de protection standard, notamment vêtement ignifuge, casque à masque facial, gants, bottes en caoutchouc et, dans les espaces clos, un appareil respiratoire autonome.

Équipement/directives de lutte contre les incendies Éloigner les récipients de l'incendie si cela peut se faire sans risque. Les conteneurs doivent être refroidis à l'eau pour prévenir la création de pression de vapeur. En cas d'incendie majeur dans la zone de chargement : utiliser des supports de tuyaux autonomes et des lances à eau autonomes; sinon, se retirer et laisser brûler.

Méthodes particulières d'intervention Employer des méthodes normales de lutte contre l'incendie et tenir compte des dangers associés aux autres substances présentes. Éloigner les récipients de l'incendie si cela peut se faire sans risque. Les récipients fermés peuvent être refroidis par eau pulvérisée. En cas d'incendie et/ou d'explosion, ne pas respirer les émanations.

Risques d'incendie généraux Aérosol extrêmement inflammable.

6. Mesures à prendre en cas de déversement accidentel

Précautions individuelles, équipements de protection et mesures d'urgence

Tenir à l'écart le personnel dont la présence sur les lieux n'est pas indispensable. Garder les personnes à l'écart de l'endroit du déversement/de la fuite et en amont du vent. Porter un équipement et des vêtements de protection appropriés durant le nettoyage. Ne pas respirer les gaz. Ne pas toucher les récipients endommagés ou le produit déversé à moins de porter des vêtements de protection appropriés. Aérer les espaces fermés avant d'y entrer. Prévenir les autorités locales si des fuites significatives ne peuvent pas être contenues. Pour s'informer sur la protection individuelle, voir la rubrique 8.

Méthodes et matériaux pour le confinement et le nettoyage

Se reporter aux fiches signalétiques et/ou aux modes d'emploi joints. Arrêter la fuite si cela peut se faire sans risque. Déplacer le cylindre vers une zone sûre et ouverte si la fuite est irréparable. Pulvériser de l'eau pour réduire les vapeurs ou détourner le nuage de vapeur. Isoler la zone jusqu'à dispersion du gaz. Éliminer toutes les sources d'inflammation (interdiction de fumer, d'avoir des torches, étincelles ou flammes dans la zone immédiate). Tenir les matériaux combustibles (bois, papier, huile, etc.) à l'écart du produit déversé. Empêcher l'entrée dans les cours d'eau, les égouts, les sous-sols ou les zones confinées. Pour se renseigner sur l'élimination, voir la rubrique 13.

Précautions relatives à l'environnement

Éviter le rejet dans l'environnement. Informer le personnel de direction et de supervision de tous les rejets dans l'environnement. Éviter un déversement ou une fuite supplémentaire, si cela est possible sans danger. Éviter le rejet dans les égouts, les cours d'eau ou sur le sol.

7. Manutention et stockage

Précautions relatives à la sûreté en matière de manutention

Se procurer les instructions avant utilisation. Ne pas manipuler avant d'avoir lu et compris toutes les mesures de sécurité. Récipient sous pression: ne pas perforer, ni brûler, même après usage. Ne pas utiliser si le bouton de vaporisation est manquant ou défectueux. Ne pas pulvériser contre une flamme nue ou tout autre objet incandescent. Ne pas fumer pendant l'utilisation ou jusqu'à ce que la surface vaporisée soit sèche. Ne pas couper, souder, braser, percer, broyer ou exposer les récipients à de la chaleur, à une flamme, à des étincelles ou à d'autres sources d'ignition. Tout matériel utilisé pour la manutention de ce produit doit être mis à la terre. Ne pas réutiliser des récipients vides. Ne pas respirer les gaz. Lors de l'utilisation, ne pas manger, boire ou fumer. Les femmes enceintes ou allaitantes ne doivent pas manipuler ce produit. Si possible, manipuler dans un système clos. Utiliser seulement dans les zones bien ventilées. Porter un équipement de protection individuelle approprié. Se laver les mains soigneusement après manipulation. Éviter le rejet dans l'environnement. Observer de bonnes pratiques d'hygiène industrielle.

Conditions de sûreté en matière de stockage, y compris les incompatibilités

Aérosol niveau 2.
Garder sous clef. Récipient sous pression. À protéger contre les rayons solaires et à une température supérieure à 50 °C. Ne pas perforer, incinérer ou écraser. Ne pas manier ou stocker à proximité d'une flamme nue, d'une source de chaleur ou d'autres sources d'ignition. Ce matériau peut accumuler des charges statiques pouvant causer des étincelles et devenir une source d'ignition. Conserver à l'écart de matières incompatibles (voir rubrique 10).

8. Contrôle de l'exposition/protection individuelle

Limites d'exposition professionnelle

ÉTATS-UNIS. Valeurs limites d'exposition de l'ACGIH

Composants	Type	Valeur
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isobutane (CAS 75-28-5)	STEL	1000 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Perchloroéthylène (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
Tétrachlorure de carbone (CAS 56-23-5)	STEL	10 ppm
	TWA	5 ppm

Canada. LEMT pour l'Alberta (Code de l'hygiène et de la sécurité au travail, Annexe 1, Tableau 2)

Composants	Type	Valeur
Cyclohexane (CAS 110-82-7)	TWA	344 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3
		500 ppm

Canada. LEMT pour l'Alberta (Code de l'hygiène et de la sécurité au travail, Annexe 1, Tableau 2)

Composants	Type	Valeur
	TWA	1640 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm
Perchloroéthylène (CAS 127-18-4)	STEL	678 mg/m3
		100 ppm
	TWA	170 mg/m3
		25 ppm
Propane (CAS 74-98-6)	TWA	1000 ppm
Tétrachlorure de carbone (CAS 56-23-5)	STEL	63 mg/m3
		10 ppm
	TWA	31 mg/m3
		5 ppm

Canada. LEMT pour la Colombie-Britannique. (Valeurs limites d'exposition en milieu de travail pour les substances chimiques, Réglementation sur la santé et sécurité au travail 296/97, ainsi modifiée

Composants	Type	Valeur
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	20 ppm
Perchloroéthylène (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
Tétrachlorure de carbone (CAS 56-23-5)	TWA	2 ppm

Canada. LEMT de Manitoba (Règlement 217/2006, Loi sur la sécurité et l'hygiène du travail)

Composants	Type	Valeur
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isobutane (CAS 75-28-5)	STEL	1000 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Perchloroéthylène (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
Tétrachlorure de carbone (CAS 56-23-5)	STEL	10 ppm
	TWA	5 ppm

Canada. LEMT pour l'Ontario. (Contrôle de l'exposition à des agents biologiques et chimiques)

Composants	Type	Valeur
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isobutane (CAS 75-28-5)	TWA	800 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Perchloroéthylène (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
Tétrachlorure de carbone (CAS 56-23-5)	STEL	3 ppm
	TWA	2 ppm

Canada. LEMT du Québec, (Ministère du Travail. Règlement sur la qualité du milieu de travail)

Composants	Type	Valeur
Cyclohexane (CAS 110-82-7)	TWA	1030 mg/m3 300 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm
	TWA	1640 mg/m3 400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3 50 ppm
Perchloroéthylène (CAS 127-18-4)	STEL	685 mg/m3 100 ppm
	TWA	170 mg/m3 25 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm
Tétrachlorure de carbone (CAS 56-23-5)	STEL	63 mg/m3 10 ppm
	TWA	31 mg/m3 5 ppm

Valeurs biologiques limites

Indices d’exposition biologique de l’ACGIH

Composants	Valeur	Déterminant	Échantillon	Temps d'échantillonnage
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-hexanedione, sans hydrolyse	Urine	*
Perchloroéthylène (CAS 127-18-4)	0.5 mg/l	Tétrachloroéthylène	Sang	*
	3 ppm	Tétrachloroéthylène	Air de fin d’expiration	*

* - Pour des détails sur l’échantillonnage, veuiller consulter le document source.

Directives au sujet de l'exposition

Canada - LEMT pour l’Alberta : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Tétrachlorure de carbone (CAS 56-23-5)	Peut être absorbé par la peau.

Canada - LEMT pour la Colombie-Britannique : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Tétrachlorure de carbone (CAS 56-23-5)	Peut être absorbé par la peau.

Canada - LEMT pour le Manitoba : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Tétrachlorure de carbone (CAS 56-23-5)	Peut être absorbé par la peau.

Canada - LEMT pour l’Ontario : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Tétrachlorure de carbone (CAS 56-23-5)	Peut être absorbé par la peau.

Canada - LEMT pour le Québec : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Tétrachlorure de carbone (CAS 56-23-5)	Peut être absorbé par la peau.

Canada - LEMT pour la Saskatchewan : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.

États-Unis - Valeurs limites d’exposition de l’ACGIH : Désignation cutanée

n-Hexane (CAS 110-54-3)	Peut être absorbé par la peau.
Tétrachlorure de carbone (CAS 56-23-5)	Peut être absorbé par la peau.

Contrôles d'ingénierie appropriés	Il faut utiliser une bonne ventilation générale (habituellement dix changements d'air l'heure). Les débits de ventilation doivent être adaptés aux conditions. S'il y a lieu, utiliser des enceintes d'isolement, une ventilation locale ou d'autres mesures d'ingénierie pour maintenir les concentrations atmosphériques sous les limites d'exposition recommandées. Si des limites d'exposition n'ont pas été établies, maintenir les concentrations atmosphériques à un niveau acceptable.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Protection du visage/des yeux	En cas de risque de contact, le port de lunettes de sécurité à écrans latéraux est conseillé.
Protection de la peau	
Protection des mains	Porter des gants appropriés et résistant aux produits chimiques. Les gants appropriés peuvent être indiqués par le fournisseur de gants.
Autre	L'emploi d'un tablier imperméable est recommandé.
Protection respiratoire	Si les niveaux admissibles sont dépassés, utiliser un filtre mécanique / une cartouche contre les vapeurs organiques NIOSH ou un respirateur avec alimentation d'air.
Dangers thermiques	Porter des vêtements de protection thermique appropriés, lorsque nécessaire.
Considérations d'hygiène générale	Suivre toutes les exigences de surveillance médicale. Ne pas fumer pendant l'utilisation. Toujours adopter de bonnes pratiques d'hygiène personnelle, telles que se laver après avoir manipulé la substance et avant de manger, de boire ou de fumer. Nettoyer régulièrement la tenue de travail et l'équipement de protection pour éliminer les contaminants.

9. Propriétés physiques et chimiques

Apparence	
État physique	Liquide.
Forme	Aérosol
Couleur	Non disponible.
Odeur	Non disponible.
Seuil olfactif	Non disponible.
pH	Non disponible.
Point de fusion et point de congélation	Non disponible.
Point initial d'ébullition et domaine d'ébullition	91.68 °C (197.02 °F) estimation
Point d'éclair	-104.4 °C (-156.0 °F) Propulseur estimation
Taux d'évaporation	Non disponible.
Inflammabilité (solides et gaz)	Non disponible.
Limites supérieures et inférieures d'inflammabilité ou d'explosibilité	
Limites d'inflammabilité - inférieure (%)	1.3 % estimation
Limites d'inflammabilité - supérieure (%)	7.6 % estimation
Limite d'explosibilité - inférieure (%)	Non disponible.
Limite d'explosibilité - supérieure (%)	Non disponible.
Tension de vapeur	Non disponible.
Densité de vapeur	Non disponible.
Densité relative	Non disponible.
Solubilité	
Solubilité (eau)	Non disponible.
Coefficient de partage n-octanol/eau	Non disponible.

Température d'auto-inflammation	Non disponible.
Température de décomposition	Non disponible.
Viscosité	Non disponible.
Autres informations	
Propriétés explosives	Non explosif.
Propriétés comburantes	Non oxydant.
Densité	1.04 estimation

10. Stabilité et réactivité

Réactivité	Le produit est stable et non réactif dans des conditions normales d'utilisation, d'entreposage et de transport.
Stabilité chimique	La substance est stable dans des conditions normales.
Risque de réactions dangereuses	Une polymérisation dangereuse ne se produit pas.
Conditions à éviter	Éviter les températures supérieures au point d'éclair. Contact avec des matériaux incompatibles.
Matériaux incompatibles	Les agents oxydants forts. Nitrates. Fluor Chlore
Produits de décomposition dangereux	Chlorhydrique.

11. Données toxicologiques

Renseignements sur les voies d'exposition probables

Inhalation	Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée par inhalation.
Contact avec la peau	Aucun effet indésirable par contact avec la peau n'est attendu.
Contact avec les yeux	Le contact direct avec les yeux peut causer une irritation temporaire.
Ingestion	Faible danger présumé en cas d'ingestion.
Les symptômes correspondant aux caractéristiques physiques, chimiques et toxicologiques	Maux de tête. Étourdissements. Nausée.

Renseignements sur les effets toxicologiques

Toxicité aiguë

Composants	Espèces	Résultats d'épreuves
Cyclohexane (CAS 110-82-7)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg
Inhalation		
CL50	Rat	> 32880 mg/m3, 4 heures
		> 5540 ppm, 4 heures
Orale		
DL50	Lapin	> 5000 mg/kg
	Rat	> 5000 mg/kg
Isobutane (CAS 75-28-5)		
Aiguë		
Inhalation		
CL50	Rat	1355 mg/l
	Souris	1237 mg/l, 120 minutes
		52 %, 120 minutes

Composants	Espèces	Résultats d'épreuves
n-Heptane (CAS 142-82-5)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg, 24 heures
Inhalation		
CL50	Rat	> 29.29 mg/l, 4 heures
Orale		
DL50	Rat	> 5000 mg/kg
n-Hexane (CAS 110-54-3)		
Aiguë		
Cutané		
DL50	Lapin	> 2000 mg/kg, 4 heures > 5 ml/kg, 4 heures
Inhalation		
CL50	Rat	> 5000 ppm, 24 heures > 31.86 mg/l 73860 ppm, 4 heures
Orale		
DL50	Rat	24 ml/kg 24 g/kg
	Rat Wistar	49 g/kg
Perchloroéthylène (CAS 127-18-4)		
Aiguë		
Inhalation		
CL50	Chien ; Souris ; Lapin ; Rat	3000 ppm
Orale		
DL50	Chat ; Chien ; Souris ; Lapin ; Rat	> 1500 mg/kg
	Rat	3005 mg/kg
Propane (CAS 74-98-6)		
Aiguë		
Inhalation		
CL50	Rat	1355 mg/l 658 mg/l/4h
	Souris	1237 mg/l, 120 minutes 52 %, 120 minutes

* Les estimations pour le produit peuvent être basées sur d’autres données de composants non montrées.

Corrosion cutanée/irritation cutanée Un contact prolongé avec la peau peut entraîner une irritation temporaire.

Lésions oculaires graves/irritation oculaire Le contact direct avec les yeux peut causer une irritation temporaire.

Sensibilisation respiratoire ou cutanée

Sensibilisation respiratoire N’est pas un sensibilisant respiratoire.

Sensibilisation cutanée Ce produit ne devrait pas causer une sensibilisation de la peau.

Mutagénicité sur les cellules germinales Il n'existe pas de données indiquant que ce produit, ou tout composant présent à des taux de plus de 0,1 %, soit mutagène ou génétoxique.

Cancérogénicité Susceptible de provoquer le cancer.

Carcinogènes selon l’ACGIH

Perchloroéthylène (CAS 127-18-4)	A3 Cancérogène confirmé chez les animaux, mais inconnu chez l'homme.
Tétrachlorure de carbone (CAS 56-23-5)	A2 Probablement cancérogène pour l'homme.

Canada - LEMT pour l’Alberta : Catégorie de carcinogène

Tétrachlorure de carbone (CAS 56-23-5)	Probablement cancérogène pour l'homme.

Canada - LEMT pour le Manitoba : cancérogénicité

TÉTRACHLORÉTHYLÈNE (CAS 127-18-4)	Cancérogène confirmé chez les animaux, mais inconnu chez l'homme.
TÉTRACHLORURE DE CARBONE (CAS 56-23-5)	Probablement cancérogène pour l'homme.

Canada - LEMT pour le Québec : Catégorie de carcinogène

Perchloroéthylène (CAS 127-18-4)	Effet cancérogène détecté chez les animaux.
Tétrachlorure de carbone (CAS 56-23-5)	Effet cancérogène suspecté chez les humains.

Monographies du CIRC. Évaluation globale de la cancérogénicité

Perchloroéthylène (CAS 127-18-4)	2A Probablement cancérogène pour l’homme.
Tétrachlorure de carbone (CAS 56-23-5)	2B Peut-être cancérogène pour l’homme.

Toxicité pour la reproduction	Susceptible de nuire à la fertilité. Susceptible de nuire au fœtus.
Toxicité pour certains organes cibles - exposition unique	Non classé.
Toxicité pour certains organes cibles - expositions répétées	Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
Danger par aspiration	Peu probable du fait de la forme du produit.
Effets chroniques	Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée. Une exposition prolongée peut causer des effets chroniques.

12. Données écologiques

Écotoxicité Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme

Composants		Espèces	Résultats d'épreuves
Cyclohexane (CAS 110-82-7)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	23.03 - 42.07 mg/l, 96 heures
n-Heptane (CAS 142-82-5)			
Aquatique			
Poisson	CL50	Tilapia Mozambique (Tilapia mossambica)	375 mg/l, 96 heures
n-Hexane (CAS 110-54-3)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	2.101 - 2.981 mg/l, 96 heures
Perchloroéthylène (CAS 127-18-4)			
Aquatique			
Crustacés	CE50	Daphnia	7.55 mg/L, 48 heures
		Puce d'eau (daphnia magna)	6.1 - 9 mg/l, 48 heures
Poisson	CL50	Truite arc-en-ciel (Oncorhynchus mykiss)	4.82 mg/l, 96 heures
Tétrachlorure de carbone (CAS 56-23-5)			
Aquatique			
Poisson	CL50	tête-de-boule (pimephales promelas)	9.68 - 11.3 mg/l, 96 heures

* Les estimations pour le produit peuvent être basées sur d’autres données de composants non montrées.

Persistance et dégradation Aucune donnée n’est disponible sur la biodégradabilité du produit.

Potentiel de bioaccumulation

Potentiel de bioaccumulation

Log Koe du coefficient de répartition octanol/eau	
Cyclohexane	3.44
Isobutane	2.76
n-Heptane	4.66
n-Hexane	3.9
Perchloroéthylène	3.4
Propane	2.36
Tétrachlorure de carbone	2.83

Mobilité dans le sol	Aucune donnée disponible.
Autres effets nocifs	On ne prévoit aucun autre effet environnemental négatif (par ex., appauvrissement de la couche d'ozone, potentiel de formation photochimique d'ozone, perturbation endocrinienne, potentiel de réchauffement de la planète) causé par ce composant.

13. Données sur l'élimination

Instructions pour l'élimination	Recueillir et réutiliser ou éliminer dans des récipients scellés dans un site d'élimination des déchets autorisé. Contenu sous pression. Ne pas perforer, incinérer ou écraser. Ne pas laisser la substance s'infiltrer dans les égoûts/les conduits d'alimentation en eau. Ne pas contaminer les étangs, les voies navigables ou les fossés avec le produit ou le récipient utilisés. Éliminer le contenu/les conteneurs selon la loi internationale/nationale/régionale/locale.
Règlements locaux d'élimination	Détruire conformément à toutes les réglementations applicables.
Code des déchets dangereux	Les codes de déchets doivent être attribués dans le cadre d'une consultation entre l'utilisateur, le fabricant et l'entreprise de décharge.
Déchets des résidus / produits non utilisés	Éliminer le produit conformément avec la réglementation locale en vigueur. Des résidus de produit peuvent demeurer dans les contenants vides et sur les toiles d'emballage. Ce produit et son contenant doivent être éliminés de façon sécuritaire (voir les instructions d'élimination).
Emballages contaminés	Comme les récipients vides peuvent contenir des résidus de produit, respecter les avertissements sur l'étiquette même après avoir vidé le récipient. Les contenants vides doivent être acheminés vers une installation certifiée de traitement des déchets en vue de leur élimination ou recyclage. Ne pas réutiliser des récipients vides.

14. Informations relatives au transport

TMD

Numéro ONU	UN1950
Désignation officielle de transport de l'ONU	AÉROSOLS, inflammables

Classe de danger relative au transport

Classe	2.1
Danger subsidiaire	-

Groupe d'emballage	Sans objet.
Dangers environnementaux	Oui
Précautions spéciales pour l'utilisateur	Lire les instructions de sécurité, la FS et les procédures d'urgence avant de manipuler.

This product is exempted under TDG section 1.17 as a limited quantity and may be shipped as a limited quantity.

15. Informations sur la réglementation

Réglementation canadienne

Loi réglementant certaines drogues et autres substances

Non réglementé.

Liste des marchandises d'exportation contrôlée (LCPE 1999, Annexe 3)

Tétrachlorure de carbone (CAS 56-23-5) Substance d'usage restreint

Gaz à effet de serre

Non inscrit.

Règlements sur les précurseurs

Non réglementé.

Règlements internationaux

Convention de Stockholm

Sans objet.

Convention de Rotterdam

Sans objet.

Protocole de Kyoto

Sans objet.

Montreal Protocol

Tétrachlorure de carbone (CAS 56-23-5) Groupe II Annexe B 1.1

Convention de Bâle

Sans objet.

Inventaires Internationaux

Pays ou région	Nom de l'inventaire	En stock (Oui/Non)*
Australie	Inventaire australien des substances chimiques (AICS)	Non
Canada	Liste intérieure des substances (LIS)	Oui

Pays ou région	Nom de l'inventaire	En stock (Oui/Non)*
Canada	Liste extérieure des substances (LES)	Non
Chine	Inventaire des substances chimiques existantes en Chine (IECSC)	Non
Europe	Inventaire européen des substances chimiques commerciales existantes (EINECS)	Non
Europe	Liste européenne des substances chimiques notifiées (ELINCS)	Non
Japon	Inventaire des substances chimiques existantes et nouvelles (ENCS)	Non
Corée	Liste des produits chimiques existants (ECL)	Non
Nouvelle-Zélande	Inventaire de la Nouvelle-Zélande	Non
Philippines	Inventaire philippin des produits et substances chimiques (PICCS)	Oui
États-Unis et Porto Rico	Inventaire du TSCA (Toxic Substances Controls Act - Loi réglementant les substances toxiques)	Oui

*La réponse « Oui » indique que tous les composants du produit sont conformes aux exigences d'entreposage du pays ayant compétence Un « Non » indique qu'un ou plusieurs composant(s) du produit n'est/ne sont pas inscrit(s) ou exempt(s) d'une inscription sur l'inventaire administré par le(s) pays ayant compétence.

16. Renseignements divers

Date de publication	25-Janvier-2017
Version n°	01

DIRECTIVES POUR L'UTILISATION DU FDS: Le produit décrit dans cette FDS est un produit pour consommateurs. Il peut être utilisé comme décrit sur l'étiquette du produit, dans des conditions normales prévisibles, sans danger pour le consommateur. Cette FDS est conçue pour fournir des informations supplémentaires sur la sécurité et la manipulation du produit.

Avis de non-responsabilité	À notre connaissance et selon nos renseignements et notre opinion à la date de publication de cette fiche signalétique, les renseignements fournis dans cette dernière sont exacts. Les renseignements donnés sont conçus uniquement comme un guide pour la manipulation, l'utilisation, le traitement, l'entreposage, le transport, l'élimination et le rejet sécuritaires du produit et ne doivent pas être considérés comme une garantie ou une norme de qualité. Les renseignements sont liés uniquement au produit particulier indiqué et peuvent ne pas être valides pour un tel produit utilisé en association avec toute autre substance ou dans tout autre procédé, sauf si indiqué dans le texte.

Safety Data Sheet

classification according to Canadian Hazardous Products Regulation

WINDEX® ORIGINAL GLASS CLEANER

Version 1.0 | Print Date 06/20/2017

Revision Date 05/23/2017 | SDS Number 350000014153

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name	:	WINDEX® ORIGINAL GLASS CLEANER
Recommended use	:	Hard Surface Cleaner
Restrictions on use	:	Use only as directed on label
Manufacturer, importer, supplier	:	S.C. Johnson and Son, Limited 1 Webster Street Brantford ON N3T 5R1
Telephone	:	+1-800-558-5566
Emergency telephone number	:	24 Hour Transport & Medical Emergency Phone (866) 231-5406 24 Hour International Emergency Phone (952) 852-4647 24 Hour Canadian Transport Emergency Phone (CANUTEC) (613) 996-6666

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification
This product does not meet the criteria for classification in any hazard class according to the Canadian Hazardous Products Regulation

Labelling

Precautionary statements

Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not contain hazardous chemicals at or above a reportable level as defined by Canadian Hazardous Products Regulation

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact	:	No special requirements
Skin contact	:	No special requirements
Inhalation	:	No special requirements.
Ingestion	:	No special requirements

Most important symptoms and effects, both acute and delayed

Eyes	:	No adverse effects expected when used as directed.
Skin effect	:	No adverse effects expected when used as directed.
Inhalation	:	No adverse effects expected when used as directed.
Ingestion	:	No adverse effects expected when used as directed.

Indication of any immediate medical attention and special treatment needed

See Description of first aid measures unless otherwise stated.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting	:	Container may melt and leak in heat of fire.

Further information	:	Fight fire with normal precautions from a reasonable distance. Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Wash thoroughly after handling.
Environmental precautions	:	Outside of normal use, avoid release to the environment.
Methods and materials for containment and cleaning up	:	Dike large spills. Clean residue from spill site.

7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Avoid contact with skin, eyes and clothing. For personal protection see section 8. KEEP OUT OF REACH OF CHILDREN AND PETS.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers	:	Keep container closed when not in use.
Other data	:	Stable under normal conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

ACGIH or OSHA exposure limits have not been established for this product or reportable ingredients unless noted in the table above.

Personal protective equipment

Respiratory protection	:	No special requirements.
Hand protection	:	No special requirements.
Eye protection	:	No special requirements.
Skin and body protection	:	No special requirements.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid
Color	:	blue
Odour	:	floral
Odour Threshold	:	Test not applicable for this product type
pH	:	10.7 at (25 C)
Melting point/freezing point	:	0 C

Initial boiling point and boiling range	:	100 C
Flash point	:	does not flash
Evaporation rate	:	Test not applicable for this product type
Flammability (solid, gas)	:	Does not sustain combustion.
Upper/lower flammability or explosive limits	:	Test not applicable for this product type
Vapour pressure	:	Calculated31.7 hPa
Vapour density	:	Test not applicable for this product type
Relative density	:	1.00 g/cm3 at 25 C
Solubility(ies)	:	soluble
Partition coefficient: n-octanol/water	:	Test not applicable for this product type
Auto-ignition temperature	:	Test not applicable for this product type
Decomposition temperature	:	Heating can release hazardous gases.
Viscosity, dynamic	:	similar to water
Viscosity, kinematic	:	similar to water

Oxidizing properties	:	Test not applicable for this product type
Volatile Organic Compounds Total VOC (wt. %)*	:	0.2 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified :

10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	If accidental mixing occurs and toxic gas is formed, exit area immediately. Do not return until well ventilated.
Conditions to avoid	:	Direct sources of heat.
Incompatible materials	:	Do not mix with bleach or any other household cleaners. Strong bases
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 > 5000 mg/kg

Acute inhalation toxicity : LC50 > 10 mg/L

Acute dermal toxicity : LD50 > 5000 mg/kg

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	Oral
Acute toxicity	No classification proposed	Dermal
Acute toxicity	No classification proposed	Inhalation - Dust and Mist
Acute toxicity	No classification proposed	Inhalation - Vapour
Acute toxicity	No classification proposed	Inhalation - Gas
Skin corrosion/irritation	No classification proposed	-
Serious eye damage/eye irritation	No classification proposed	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ toxicity - single exposure	No classification proposed	-
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical : None known.

Condition

12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is expected when used according to label directions.

No environmental data required.

No environmental data required.

Other adverse effects : None known.

13. DISPOSAL CONSIDERATIONS

Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

Land transport
Not classified as dangerous in the meaning of transport regulations.

Sea transport
Not classified as dangerous in the meaning of transport regulations.

Air transport
Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Notification status	:	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Notification status	:	All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).
California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
Canada Regulations	:	This product has been classified in accordance with the hazard criteria of the Hazardous Products Act and Regulations.

16. OTHER INFORMATION

HMIS Ratings

Health	1
Flammability	0
Reactivity	0

WINDEX® ORIGINAL GLASS CLEANER

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NFPA Ratings

Health	1
Fire	0
Reactivity	0
Special	-

This information is being provided in accordance with Canada's Workplace Hazard Material Information System. The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

SAFETY DATA SHEET

210B

Section 1. Identification

Product name : MINWAX® WOOD FINISH®
Golden Oak

Product code : 210B

Other means of identification : Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Paint or paint related material.

Manufacturer : MINWAX Company
10 Mountainview Road
Upper Saddle River, NJ 07458

Emergency telephone number of the company : US/Canada: (800) 424-9300
Mexico: CHEMTREC México 01-800-681-9531. Available 24 hours and 365 days per year

Product Information Telephone Number : US/Canada: (800) 523-9299
Mexico: 01-800-71-73-123 / (52) 53-33-15-01

Regulatory Information Telephone Number : US / Canada: (216) 566-2902
Mexico: 01-800-71-73-123 / (52) 53-33-15-01

Transportation Emergency Telephone Number : US / Canada: (800) 424-9300
Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 61.1% (oral), 61.1% (dermal), 61.1% (inhalation)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Section 2. Hazards identification

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Storage : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.

Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

Hazards not otherwise classified : DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Light Aliphatic Hydrocarbon	≥50 - ≤75	64742-47-8
Heavy Naphthenic Petroleum Oil	≥10 - ≤25	64742-52-5
Med. Aliphatic Hydrocarbon Solvent	≤5	64742-88-7
Aliphatic Solvent	≤3	64742-47-8
Light Aromatic Hydrocarbons	≤0.3	64742-95-6
Hydrotreated Heavy Petroleum Naphtha	≤0.3	64742-48-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : **This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 3/2020).** **Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Heavy Naphthenic Petroleum Oil	64742-52-5	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2020).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2016).**

Section 8. Exposure controls/personal protection

		TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist
Med. Aliphatic Hydrocarbon Solvent	64742-88-7	**OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
Aliphatic Solvent	64742-47-8	**ACGIH TLV (United States, 3/2020).** **Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Light Aromatic Hydrocarbons	64742-95-6	None.
Hydrotreated Heavy Petroleum Naphtha	64742-48-9	None.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Petroleum refining, hydrotreated light distillate	64742-47-8	**CA British Columbia Provincial (Canada, 1/2020). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.** 8 hrs OEL: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours.
Medium aliphatic solvent naphtha (petroleum) C9-C12	64742-88-7	**CA Ontario Provincial (Canada, 6/2019).** TWA: 525 mg/m³ 8 hours.
Petroleum refining, hydrotreated light distillate	64742-47-8	**CA British Columbia Provincial (Canada, 1/2020). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.** 8 hrs OEL: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 3/2020).** **Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Aliphatic Solvent	64742-47-8	**ACGIH TLV (United States, 3/2020).** **Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : **This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Section 9. Physical and chemical properties

Boiling point/boiling range : 148°C (298.4°F)

Flash point : Closed cup: 41°C (105.8°F) [Pensky-Martens Closed Cup]

Evaporation rate : 0.13 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 8.8%

Vapor pressure : 0.17 kPa (1.27 mm Hg) [at 20°C]

Vapor density : 5 [Air = 1]

Relative density : 0.84

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Heat of combustion : 31.447 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Heavy Naphthenic Petroleum Oil	LD50 Oral	Rat	>5000 mg/kg	-
Light Aromatic Hydrocarbons	LD50 Oral	Rat	8400 mg/kg	-
Hydrotreated Heavy Petroleum Naphtha	LC50 Inhalation Vapor	Rat	8500 mg/m³	4 hours
	LD50 Oral	Rat	>6 g/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Heavy Naphthenic Petroleum Oil	Skin - Severe irritant	Rabbit	-	500 mg	-
Light Aromatic Hydrocarbons	Eyes - Mild irritant	Rabbit	-	24 hours 100 Ul	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Med. Aliphatic Hydrocarbon Solvent	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Aliphatic Solvent	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Light Aromatic Hydrocarbons	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Hydrotreated Heavy Petroleum Naphtha	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon	Category 2	-	-
Med. Aliphatic Hydrocarbon Solvent	Category 1	-	-
Aliphatic Solvent	Category 2	-	-
Light Aromatic Hydrocarbons	Category 2	-	-
Hydrotreated Heavy Petroleum Naphtha	Category 2	-	-

Aspiration hazard

Name	Result
Light Aliphatic Hydrocarbon	ASPIRATION HAZARD - Category 1
Med. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Aliphatic Solvent	ASPIRATION HAZARD - Category 1
Light Aromatic Hydrocarbons	ASPIRATION HAZARD - Category 1
Hydrotreated Heavy Petroleum Naphtha	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Light Aliphatic Hydrocarbon	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days
Aliphatic Solvent	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Light Aromatic Hydrocarbons	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Light Aromatic Hydrocarbons	-	10 to 2500	high
Hydrotreated Heavy Petroleum Naphtha	-	10 to 2500	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : **This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1263	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT	PAINT	PAINT. Marine pollutant (Light Aliphatic Hydrocarbon, Med. Aliphatic Hydrocarbon Solvent)
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	III	III	III	III	III
Environmental hazards	No.	No.	No.	Yes. The environmentally hazardous substance mark is not required.	Yes.
Additional information	This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials. **ERG No.** 128	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3). **ERG No.** 128	- **ERG No.** 128	The environmentally hazardous substance mark may appear if required by other transportation regulations.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-E, S-E

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 5(a)2 final significant new use rules**: Chlorodiazocarboxylate

This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

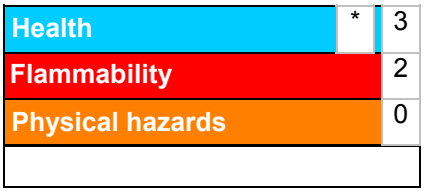
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

Section 16. Other information

History

Date of printing	:	10/14/2020
Date of issue/Date of revision	:	10/14/2020
Date of previous issue	:	5/13/2020
Version	:	16
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

HHS 2000 - 500 ML

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2017
7.1	28.11.2017	265436-00018	Date of first issue: 11.06.2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : HHS 2000 - 500 ML

Product code : 0893106

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Lubricant

1.3 Details of the supplier of the safety data sheet

Company : Adolf Wuerth GmbH & Co. KG
Reinhold-Würth-Str. 12-17
74653 Künzelsau

Telephone : +49 794015 0

Telefax : +49 794015 10 00

E-mail address of person responsible for the SDS : prodsafe@wuerth.com

1.4 Emergency telephone number

+49 (0)6132 – 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Skin irritation, Category 2	H315: Causes skin irritation.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P271 Use only outdoors or in a well-ventilated area.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Hazardous components which must be listed on the label:
Hydrocarbons, C6, isoalkanes, <5% n-hexane
n-Pentane
n-Hexane

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hydrocarbons, C6, isoalkanes, <5% n-hexane	Not Assigned 01-2119484651-34	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 30 - < 50
n-Pentane	109-66-0 203-692-4 601-006-00-1	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2;	>= 2,5 - < 10

		H411	
n-Hexane	110-54-3 203-777-6 601-037-00-0	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361fd STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2,5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause drowsiness or dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential

Advice on safe handling : Do not spray on an open flame or other ignition source.

Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store locked up. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not

pierce or burn, even after use. Keep cool. Protect from sunlight.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.
Do not store together with oxidizing and self-igniting products.
To be observed: TRGS 510

Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives

Storage class (TRGS 510) : 2B, Aerosol cans and lighters

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hydrocarbons, C6, isoalkanes, <5% n-hexane	Not Assigned	AGW	1.500 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
Isobutane	75-28-5	AGW	1.000 ppm 2.400 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
n-Pentane	109-66-0	TWA	1.000 ppm 3.000 mg/m3	2006/15/EC

Further information	Indicative			
		AGW	1.000 ppm 3.000 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW	1.500 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
Propane	74-98-6	AGW	1.000 ppm 1.800 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Butane	106-97-8	AGW	1.000 ppm 2.400 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
n-Hexane	110-54-3	TWA	20 ppm 72 mg/m3	2006/15/EC
Further information	Indicative			
		AGW	50 ppm 180 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	8;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
n-Hexane	110-54-3	2,5-hexanedione plus 4,5-dihydroxy-2-hexanone: 5 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C6, isoalkanes, <5% n-hexane	Workers	Inhalation	Long-term systemic effects	5306 mg/m3
	Workers	Skin contact	Long-term systemic effects	13964 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1131 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1377 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1301 mg/kg bw/day
n-Pentane	Workers	Inhalation	Long-term systemic effects	3000 mg/m3
	Workers	Skin contact	Long-term systemic effects	432 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	643 mg/m3
	Consumers	Skin contact	Long-term systemic effects	214 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	214 mg/kg bw/day
Benzene, mono-C10-13-alkyl derivs., distn. residues	Workers	Skin contact	Long-term systemic effects	96 mg/kg bw/day
n-Hexane	Workers	Skin contact	Long-term systemic effects	11 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	75 mg/m3
	Consumers	Skin contact	Long-term systemic effects	5,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	16 mg/m3
	Consumers	Ingestion	Long-term systemic effects	4 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Residual oils (petroleum), hydrotreated	Oral (Secondary Poisoning)	9,33 mg/kg food
n-Pentane	Fresh water	0,23 mg/l
	Marine water	0,23 mg/l
	Intermittent use/release	0,88 mg/l
	Sewage treatment plant	3,6 mg/l
	Fresh water sediment	1,2 mg/kg
	Marine sediment	1,2 mg/kg

	Soil	0,55 mg/kg
Benzene, mono-C10-13-alkyl derivs., distn. residues	Fresh water	0,000075 mg/l
	Marine water	0,000007 mg/l
	Intermittent use/release	0,001 mg/l
	Sewage treatment plant	2 mg/l
	Fresh water sediment	1761 mg/kg
	Marine sediment	1761 mg/kg

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.
Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential
Use with local exhaust ventilation.

Personal protective equipment

Eye protection : Wear the following personal protective equipment:
Safety glasses

Hand protection
- Material : Nitrile rubber
- Break through time : 480 min
- Glove thickness : 0,45 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
Flame retardant antistatic protective clothing, unless assessment demonstrates that the risk of explosive atmospheres or flash fires is low
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Aerosol containing a liquefied gas
Propellant	:	Isobutane, Propane, Butane
Colour	:	brown
Odour	:	solvent-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	11,0 %(V)
Lower explosion limit / Lower flammability limit	:	1,0 %(V)
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Density	:	0,742 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	200 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Extremely flammable aerosol.
Vapours may form explosive mixture with air.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Acute oral toxicity : LD50 (Rat): 16.750 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): 259,354 mg/l

Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 3.350 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

n-Pentane:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 25,3 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Remarks: Based on data from similar materials

n-Hexane:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 31,86 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

n-Pentane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Assessment: Repeated exposure may cause skin dryness or cracking.

n-Hexane:

Species: Rabbit

Result: Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

n-Pentane:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

n-Hexane:

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative
Remarks: Based on data from similar materials

n-Pentane:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

n-Hexane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

n-Pentane:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (vapour)
Method: Directive 67/548/EEC, Annex V, B.12.
Result: negative

n-Hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: positive

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 yr
Result: negative
Remarks: Based on data from similar materials

Species: Mouse
Application Route: inhalation (vapour)
Exposure time: 2 yr
Result: negative
Remarks: Based on data from similar materials

n-Hexane:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 Years
Method: OECD Test Guideline 451
Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials

n-Pentane:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rabbit Application Route: inhalation (vapour) Result: negative

Remarks: Based on data from similar materials

n-Hexane:

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Assessment: May cause drowsiness or dizziness.

n-Pentane:

Assessment: May cause drowsiness or dizziness.

n-Hexane:

Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

n-Hexane:

Target Organs: Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rat, male
NOAEL: 10,504 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 Days
Remarks: Based on data from similar materials

n-Pentane:

Species: Rat
NOAEL: > 20,5 mg/l
Application Route: inhalation (vapour)
Exposure time: 13 Weeks
Method: OECD Test Guideline 413

n-Hexane:

Species: Rat
LOAEL: 10,6 mg/l
Application Route: inhalation (vapour)
Exposure time: 16 Weeks

Aspiration toxicity

Not classified based on available information.

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

n-Pentane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

n-Hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

n-Hexane:

Inhalation : Target Organs: Central nervous system

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 100 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 (Selenastrum capricornutum (green algae)): > 10 - 100

mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0,1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: > 0,1 - 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

n-Pentane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4,26 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2,7 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Scenedesmus quadricauda (Green algae)): 10,7 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

n-Hexane:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,88 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 55 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %

Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

n-Pentane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 87 %
Exposure time: 28 d

n-Hexane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Partition coefficient: n-octanol/water : log Pow: 3,6

n-Pentane:

Partition coefficient: n-octanol/water : log Pow: 3,45

n-Hexane:

Partition coefficient: n-octanol/water : log Pow: 4

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.
Please ensure aerosol cans are sprayed completely empty (including propellant)

Waste Code : The following Waste Codes are only suggestions:

used product
160504, gases in pressure containers (including halons) containing dangerous substances

unused product
160504, gases in pressure containers (including halons) containing dangerous substances

uncleaned packagings
150110, packaging containing residues of or contaminated by dangerous substances

Acc. Packaging Ordinance properly emptied packaging:
Properly emptied, non-contaminated packaging of non-hazardous products can be supplied to a system for the collection of sales packaging.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1950

ADR : UN 1950

RID : UN 1950

IMDG : UN 1950

IATA : UN 1950

14.2 UN proper shipping name

ADN : AEROSOLS

ADR : AEROSOLS

RID : AEROSOLS

IMDG : AEROSOLS
(Hydrocarbons, C6, isoalkanes, <5% n-hexane, n-Pentane)

IATA : Aerosols, flammable

14.3 Transport hazard class(es)

ADN : 2

ADR : 2

RID : 2

IMDG : 2.1

IATA : 2.1

14.4 Packing group

ADN

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1

ADR

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1
Tunnel restriction code	:	(D)

RID

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Hazard Identification Number	:	23
Labels	:	2.1

IMDG

Packing group	:	Not assigned by regulation
Labels	:	2.1
EmS Code	:	F-D, S-U

IATA (Cargo)

Packing instruction (cargo aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas

IATA (Passenger)

Packing instruction (passenger aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P3a	FLAMMABLE AEROSOLS	150 t	500 t
E2	ENVIRONMENTAL HAZARDS	200 t	500 t
18	Liquefied extremely flammable gases (including LPG) and natural gas	50 t	200 t

Water contaminating class (Germany) : WGK 2 significantly water endangering
Classification according to AwSV, Annex 1 (5.2)

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 72,92 %, 485,6 g/l
Remarks: VOC content excluding water

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H336	:	May cause drowsiness or dizziness.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	:	Chronic aquatic toxicity
Asp. Tox.	:	Aspiration hazard
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2006/15/EC	:	Europe. Indicative occupational exposure limit values
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
TRGS 903	:	TRGS 903 - Biological limit values
2006/15/EC / TWA	:	Limit Value - eight hours
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumu-

lative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Classification of the mixture:		**Classification procedure:**
Aerosol 1	H222, H229	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
STOT SE 3	H336	Calculation method
Aquatic Chronic 2	H411	Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

DE / EN

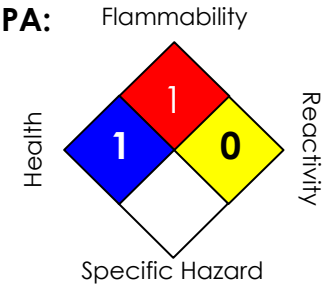
Material Safety Data Sheet

Würth PTFE pipe sealant 50gr

Air Canada #: 99920A1426

Version 1.0 | Revision Date 01/19/2010 | Print Date 02/08/2010

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	1
PHYSICAL	0

0 = Insignificant, 1 =Slight,
2 =Moderate, 3 =High, 4 = Extreme

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Commercial Product Name	:	Würth PTFE pipe sealant 50gr
Product code	:	893,511050 - Air Canada #: 99920A1426
MSDS-Identcode	:	10005924
Product Use Description	:	Adhesives
Company	:	Würth Canada Limited 6330 Tomken Road Mississauga Ontario L5T 1N2 Canada
Telephone	:	+1 (905) 564 6225
Telefax	:	+1 (905) 564 3671
Responsible/issuing person	:	prodsafe.wurth@technidata.com
Emergency telephone	:	CANUTEC +1 (613) 996 6666 Telephone number of the company in case of emergencies (7.00am – 7.00pm): +1 (905) 564 6225

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Regulatory status	:	This product, material or substance is a WHMIS controlled product per Sections 33 - 66, Part IV of the CPR.
Signal Word	:	DANGER
Form	:	liquid
Colour	:	white
Odour	:	mild

Odour - Control parameters	:	no data available
Hazard Summary	:	Irritant Sensitiser May cause cancer.

Potential Health Effects

Eyes	:	May cause eye irritation.
Skin	:	May cause allergic skin reaction. May cause skin irritation.
Target Organs	:	Eyes Skin

Carcinogenicity:

ACGIH	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC	:	Titanium dioxide (CAS-No.: 13463-67-7)
OSHA	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
CA Prop 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight percent-Weight percent
Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]-	25852-47-5	>= 35 - < 40
Ethene, tetrafluoro-, homopolymer	9002-84-0	>= 7 - < 10
Titanium dioxide	13463-67-7	>= 3 - < 5

SECTION 4. FIRST AID MEASURES

General advice : If you feel unwell, seek medical advice (show the label where possible). First aider needs to protect himself. Move out of dangerous area. Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately.

Inhalation : If breathed in, move person into fresh air. If symptoms persist, call a physician. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If unconscious place in recovery position and seek medical advice.

Skin contact : In case of contact, immediately flush skin with soap and plenty of water. Do NOT use solvents or thinners. If skin irritation persists, call a physician.

Eye contact : Protect unharmed eye. If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. If swallowed, DO NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIRE-FIGHTING MEASURES

Form : liquid

Flash point : >100 °C (212 °F)

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during : Do not use a solid water stream as it may scatter and

fire fighting		spread fire. Hazardous decomposition products formed under fire conditions (see chapter 10). Exposure to decomposition products may be a hazard to health.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Refer to protective measures listed in sections 7 and 8. Use personal protective equipment. Avoid contact with skin and eyes. Ensure adequate ventilation, especially in confined areas. Avoid inhalation of vapour or mist.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE

Handling

Handling	:	For personal protection see section 8. Do not breathe vapours or spray mist. Avoid contact with skin and eyes. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Dust explosion class	:	not applicable

Storage

Requirements for storage areas and containers	:	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep away from heat.
Advice on common storage	:	Keep away from food, drink and animal feedingstuffs.
Other data	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components	CAS-No.	List	Type:	Value	Update
Titanium dioxide	13463-67-7	CA AB OEL	TWA	10 mg/m3	2009-04-30
		CA BC OEL	TWA	10 mg/m3	2006-11-29
		CA BC OEL	TWA	3 mg/m3	2005-12-07
		CA ON OEL	TWAEV	10 mg/m3	2005-02-03
		CA QC OEL	TWA	10 mg/m3	2000-01-12
		CA ON OEL	TWAEV	10 mg/m3	2005-12-17
		CA QC OEL	TWAEV	10 mg/m3	2006-12-29
ethanediol; ethylene glycol	107-21-1	CA ON OEL	CEV	100 mg/m3	2005-12-17
		CA BC OEL	C	50 ppm	2006-11-29

		CA QC OEL	C	50 ppm 127 mg/m3	2006-12-29
		CA AB OEL	(c)	100 mg/m3	2009-04-30
cumene	98-82-8	CA AB OEL	TWA	50 ppm 246 mg/m3	2007-01-01
		CA BC OEL	TWA	25 ppm	2006-11-29
		CA BC OEL	STEL	75 ppm	2006-11-29
		CA ON OEL	TWAEV	50 ppm 245 mg/m3	2005-12-17
		CA QC OEL	TWAEV	50 ppm 246 mg/m3	2006-12-29

Engineering measures : Provide sufficient air exchange and/or exhaust in work rooms.

Eye protection : In case of splash hazard, please wear protective goggles.

Hand protection : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
General industrial hygiene practice.
Avoid breathing vapors, mist or gas.
Avoid contact with skin, eyes and clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.
Follow the skin protection plan.
Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : liquid
Colour : white

Odour	:	mild
Flash point	:	>100 °C (212 °F)
Melting point/range	:	no data available
Boiling point/boiling range	:	no data available
Vapour pressure	:	no data available
Density	:	1.1 g/cm3 at 25 °C (77 °F)
Water solubility	:	partly miscible
Viscosity, dynamic	:	180,000 - 300,000 mPa.s at 25 °C (77 °F) Method: Brookfield

SECTION 10. STABILITY AND REACTIVITY

Materials to avoid	:	Powdered metal salts
Hazardous decomposition products	:	Carbon monoxide Carbon dioxide (CO2) nitrogen oxides (NOx)
Hazardous reactions	:	Note: No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Skin irritation	:	Prolonged skin contact may cause skin irritation.
Eye irritation	:	May irritate eyes.
Carcinogenicity	:	No data is available on the product itself.
Reproductive toxicity	:	No data is available on the product itself.
Teratogenicity	:	No data is available on the product itself.

Component:

Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]-	25852-47-5	Skin irritation: Result: Skin irritation Eye irritation: Result: Eye irritation

Ethene, tetrafluoro-, homopolymer	9002-84-0	Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation
Titanium dioxide	13463-67-7	Acute oral toxicity: LD50 rat Dose: > 10,000 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Adsorbed organic bound halogens (AOX) : not included

Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.

Component:

Titanium dioxide	13463-67-7	Toxicity to fish: LC0 Species: Leuciscus idus (Golden orfe) Dose: 1,000 mg/l Exposure time: 48 h

SECTION 13. DISPOSAL CONSIDERATIONS

Adequate disposal : In accordance with local and national regulations.
Do not dispose of waste into sewer.
This material and its container must be disposed of as hazardous waste.
Do not dispose of together with household waste.

SECTION 14. TRANSPORT INFORMATION

DOT 49 CFR

Not dangerous goods

TDGR

Not dangerous goods

ICAO / IATA-DGR

Not dangerous goods

IMDG-Code

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D2A Very Toxic Material Causing Other Toxic Effects
D2B Toxic Material Causing Other Toxic Effects
Carcinogen
Moderate skin irritant
Moderate eye irritant
Skin sensitiser

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by : TechniData BCS GmbH
Birlenbacher Str. 19
D-57078 Siegen
Germany
Telephone: +49-(0)271-88072-0
Revision Date : 01/19/2010

Rost Off Ice 400ml

Version	Revision Date:	SDS Number:	Date of last issue: 28.06.2017
5.0	04.12.2017	708242-00007	Date of first issue: 21.12.2009

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	Rost Off Ice 400ml
Product code	:	0893 240

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Detergent, Cleaning agent

1.3 Details of the supplier of the safety data sheet

Company	:	Wurth UK Ltd 1 Centurion Way Erith, Kent
Telephone	:	+44 (0)3300 555 444
Telefax	:	+44 (0)3300 555 666
E-mail address of person responsible for the SDS	:	prodsafe@wuerth.com

1.4 Emergency telephone number

+44 (0)870 190 6777

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Skin irritation, Category 2	H315: Causes skin irritation.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Chronic aquatic toxicity, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P273 Avoid release to the environment.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Hazardous components which must be listed on the label:
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics

2.3 Other hazards

May displace oxygen and cause rapid suffocation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Not Assigned 01-2119475514-35	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 2.5 - < 10
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not Assigned 01-2119475515-33	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	>= 2.5 - < 10

		Aquatic Chronic 2; H411	
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned 01-2119471843-32	Flam. Liq. 3; H226 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 2.5 - < 10
n-Hexane	110-54-3 203-777-6 601-037-00-0	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361fd STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 0.25 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause drowsiness or dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.
Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential

Advice on safe handling : Do not spray on an open flame or other ignition source.

Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are

located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store locked up. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.

Advice on common storage : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives

Recommended storage temperature : 10 - < 40 °C

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not Assigned	TWA	500 ppm 2,085 mg/m3	2000/39/EC
Further information	Indicative			
		TWA	500 ppm	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
n-Hexane	110-54-3	TWA	20 ppm 72 mg/m3	2006/15/EC
Further information	Indicative			
		TWA	20 ppm 72 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Workers	Inhalation	Long-term systemic effects	2085 mg/m3
	Workers	Skin contact	Long-term systemic effects	300 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	447 mg/m3
	Consumers	Skin contact	Long-term systemic effects	149 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	149 mg/kg bw/day
Di(2-ethylhexyl) adipate	Workers	Inhalation	Long-term systemic effects	17.8 mg/m3
	Workers	Skin contact	Long-term systemic effects	25.5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	4.4 mg/m3
	Consumers	Skin contact	Long-term systemic effects	13 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1.3 mg/kg bw/day
n-Hexane	Workers	Skin contact	Long-term systemic effects	11 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	75 mg/m3
	Consumers	Skin contact	Long-term systemic effects	5.3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	16 mg/m3
	Consumers	Ingestion	Long-term systemic effects	4 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Di(2-ethylhexyl) adipate	Fresh water	0.0032 mg/l
	Marine water	0.0032 mg/l
	Intermittent use/release	0.0032 mg/l
	Sewage treatment plant	35 mg/l
	Fresh water sediment	15.6 mg/kg
	Marine sediment	17 mg/kg
	Soil	0.865 mg/kg

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.
Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential
Use with local exhaust ventilation.

Personal protective equipment

Eye protection	:	Wear the following personal protective equipment: Safety glasses
Hand protection		
Material	:	Nitrile rubber
Break through time	:	480 min
Glove thickness	:	0.45 mm
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing, unless assessment demonstrates that the risk of explosive atmospheres or flash fires is low Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	aerosol
Propellant	:	Isobutane, Propane, Butane
Colour	:	light brown
Odour	:	characteristic
Odour Threshold	:	No data available

pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	-40 °C
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	11 %(V)
Lower explosion limit / Lower flammability limit	:	1 %(V)
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Density	:	0.738 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	ca. 200 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	< 7 mm2/s
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Extremely flammable aerosol.
Vapours may form explosive mixture with air.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.61 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Acute oral toxicity : LD50 (Rat): > 5,840 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 23.3 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity	:	LD50 (Rat): > 2,800 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 4,951 mg/m3 Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rabbit): > 3,160 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

n-Hexane:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 31.86 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Species: Rabbit
Result: Skin irritation
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species: Rabbit

Result: Mild skin irritation

Assessment: Repeated exposure may cause skin dryness or cracking.

n-Hexane:

Species: Rabbit
Result: Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species: Rabbit
Result: No eye irritation

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: Based on data from similar materials

n-Hexane:

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Test Type: Maximisation Test

Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

n-Hexane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (vapour) Method: OPPTS 870.5395 Result: negative

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Result: negative Remarks: Based on data from similar materials Test Type: Bacterial reverse mutation assay (AMES) Result: negative Remarks: Based on data from similar materials Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

n-Hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: positive

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species: Mouse
Application Route: Skin contact
Exposure time: 102 weeks
Result: negative

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 105 weeks
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

n-Hexane:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 Years
Method: OECD Test Guideline 451
Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Fertility/early embryonic development Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: inhalation (vapour) Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials

n-Hexane:

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Assessment: May cause drowsiness or dizziness.

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Assessment: May cause drowsiness or dizziness.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Assessment: May cause drowsiness or dizziness.

n-Hexane:

Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

n-Hexane:

Target Organs: Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species: Rat
NOAEL: > 20 mg/l
Application Route: inhalation (vapour)
Exposure time: 13 Weeks

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Species: Rat
NOAEL: 12.47 mg/l
Application Route: Inhalation
Exposure time: 90 Days
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species: Rat
NOAEL: 10,186 mg/m3
Application Route: inhalation (vapour)
Exposure time: 13 Weeks

n-Hexane:

Species: Rat
LOAEL: 10.6 mg/l

Application Route: inhalation (vapour)
Exposure time: 16 Weeks

Aspiration toxicity

Not classified based on available information.

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

n-Hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

n-Hexane:

Inhalation	:	Target Organs: Central nervous system

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Toxicity to fish	:	LL50 (Pimephales promelas (fathead minnow)): 8.2 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 (Pseudokirchneriella subcapitata (green algae)): 3.1 mg/l

		Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOELR (Pseudokirchneriella subcapitata (green algae)): 0.5 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR: 2.6 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 13.4 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 3 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 (Selenastrum capricornutum (green algae)): > 10 - 100 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOELR (Selenastrum capricornutum (green algae)): 0.1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.17 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test substance: Water Accommodated Fraction Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 30 mg/l Exposure time: 96 h

		Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 22 - 46 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOELR (Pseudokirchneriella subcapitata (green algae)): 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

n-Hexane:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 2.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.88 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 55 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 77.05 % Exposure time: 28 d Method: OECD Test Guideline 301F

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301F Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 89 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Based on data from similar materials

n-Hexane:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 98 % Exposure time: 28 d Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Partition coefficient: n-octanol/water	:	log Pow: 4 Remarks: Based on data from similar materials

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Partition coefficient: n-octanol/water	:	log Pow: > 4 Remarks: Based on data from similar materials

n-Hexane:

Partition coefficient: n-octanol/water	:	log Pow: 4

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or ex-

pose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product. Please ensure aerosol cans are sprayed completely empty (including propellant)

Waste Code : The following Waste Codes are only suggestions:

used product
160504, gases in pressure containers (including halons) containing dangerous substances

unused product
160504, gases in pressure containers (including halons) containing dangerous substances

uncleaned packagings
150110, packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

14.1 UN number

ADN : UN 1950

ADR : UN 1950

RID : UN 1950

IMDG : UN 1950

IATA : UN 1950

14.2 UN proper shipping name

ADN : AEROSOLS

ADR : AEROSOLS

RID : AEROSOLS

IMDG : AEROSOLS

IATA : Aerosols, flammable

14.3 Transport hazard class(es)

ADN : 2

ADR : 2

RID : 2

IMDG : 2.1

IATA : 2.1

14.4 Packing group

ADN

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1

ADR

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1
Tunnel restriction code	:	(D)

RID

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Hazard Identification Number	:	23
Labels	:	2.1

IMDG

Packing group	:	Not assigned by regulation
Labels	:	2.1
EmS Code	:	F-D, S-U

IATA (Cargo)

Packing instruction (cargo aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas

IATA (Passenger)

Packing instruction (passenger aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas

14.5 Environmental hazards

ADN

Environmentally hazardous	:	no

ADR

Environmentally hazardous	:	no

RID

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks	:	Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P3a	FLAMMABLE AEROSOLS	150 t	500 t

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t
18	Liquefied extremely flammable gases (including LPG) and natural gas	50 t	200 t

Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 94.14 %, 574.48 g/l Remarks: VOC content excluding water
Regulation (EC) No. 648/2004, as amended	:	30 % and more: Aliphatic hydrocarbons Other constituents: Perfumes

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H226	:	Flammable liquid and vapour.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H336	:	May cause drowsiness or dizziness.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	:	Chronic aquatic toxicity
Asp. Tox.	:	Aspiration hazard
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	:	Europe. Indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2006/15/EC / TWA	:	Limit Value - eight hours
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Mari-

time Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Classification of the mixture:		**Classification procedure:**
Aerosol 1	H222, H229	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
STOT SE 3	H336	Calculation method
Aquatic Chronic 3	H412	Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN

Conforms to ANSI Z400.5-2004 Standard (Canada).

Material Safety Data Sheet

THE ASSEMBLY PROFESSIONALS
LA FIXATION PROFESSIONELLE

Würth Windshield Adhesive - 890.100043 - Air Canada #: 99902A1442

1. Product and company identification

Product name : Würth Windshield Adhesive - 890.100043

Code : 890.100043 - Air Canada #: 99902A1442

Material uses : Adhesive for windshield repair.

Manufactured/supplied : Würth Canada Limited
6330, Tomken Road
Mississauga, ONT
L5T 1N2
Tel : (905) 564-6225

Validation date : 02/15/2010

Responsible name : KMK Regulatory Services inc.

In case of emergency : CANUTEC (613) 996-6666

2 . Hazards identification

Emergency overview

Color : Black.

Physical state : Liquid. [Paste.]

Odor : Slight

Signal word : WARNING!

Hazard statements : COMBUSTIBLE. CAUSES EYE AND SKIN IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Precautions : Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : Aspiration hazard if swallowed. Can enter lungs and cause damage. May be harmful if swallowed.

Skin : Irritating to skin. May be harmful if absorbed through skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: kidneys, liver, upper respiratory tract, skin, eyes, central nervous system (CNS).

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

2 . Hazards identification

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
Carbon black	1333-86-4	10 - 30
Toluene	108-88-3	5 - 10
Diphenylmethane-4,4'-diisocyanate	101-68-8	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically.

5. Fire-fighting measures

Flammability of the product : Combustible liquid and vapor.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Carbon black	US ACGIH 1/2009	-	3.5	-	-	-	-	-	-	-	
	AB 4/2009	-	3.5	-	-	-	-	-	-	-	
	BC 9/2009	-	3.5	-	-	-	-	-	-	-	
	ON 8/2008	-	3.5	-	-	-	-	-	-	-	
	QC 6/2008	-	3.5	-	-	-	-	-	-	-	
Toluene	US ACGIH 1/2009	20	-	-	-	-	-	-	-	-	
	AB 4/2009	50	188	-	-	-	-	-	-	-	[1]
	BC 9/2009	20	-	-	-	-	-	-	-	-	
	ON 8/2008	20	-	-	-	-	-	-	-	-	
	QC 6/2008	50	188	-	-	-	-	-	-	-	[1]
Diphenylmethane-4,4'-diisocyanate	US ACGIH 1/2009	0.005	-	-	-	-	-	-	-	-	
	AB 4/2009	0.005	0.05	-	-	-	-	-	-	-	

8. Exposure controls/personal protection

	BC 9/2009 QC 6/2008	0.005 0.005	- 0.051	-	- -	- -	- -	0.01 -	- -	-	[1][3] [3]

[1]Absorbed through skin. [3]Skin sensitization

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Respiratory : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.

Hands : Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).

Eyes : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid. [Paste.]

Flash point : Closed cup: >50°C (>122°F) [Pensky-Martens.]

Auto-ignition temperature : 450°C (842°F)

Flammable limits : Lower: 1%
Upper: 8%

Color : Black.

Odor : Slight

Boiling/condensation point : 110°C (230°F)

Specific gravity : 1.2 g/cm^3

Volatility : 4.2% (v/v)

Solubility : Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid exposure - obtain special instructions before use. Do not swallow.

Materials to avoid : Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10. Stability and reactivity

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Carbon black	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Diphenylmethane-4,4'-diisocyanate	LC50 Inhalation Dusts and mists	Rat - Male	380 mg/m³	4 hours
	LD50 Oral	Rat	9200 mg/kg	-

Chronic toxicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Carbon black	A4	2B	-	+	-	-
Toluene	A4	3	-	-	-	-

12. Ecological information

Environmental effects : Not established

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 6000 ug/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 15.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 5500 ug/L Fresh water	Fish - Oncorhynchus kisutch - FRY - 1 g	96 hours
	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
Diphenylmethane-4,4'-diisocyanate	Acute IC50 1.5 mg/l	Algae	72 hours

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN1993	FLAMMABLE LIQUIDS, N.O.S. (Toluene)	3	III		-

14 . Transport information

IMDG Class	UN1993	FLAMMABLE LIQUIDS, N.O.S. (Toluene)	3	III		-
IATA-DGR Class	UN1993	FLAMMABLE LIQUIDS, N.O.S. (Toluene)	3	III		-

PG* : Packing group

Exemption to the above classification may apply.

AERG : 128

15 . Regulatory information

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists : **CEPA Toxic substances**: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Toluene
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

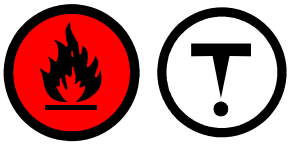
Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16 . Other information

WHMIS (Canada) :



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Version : 2

16 . Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET
Zinsser Covers UP™ Aerosol Spray

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME	Zinsser Covers UP™ Aerosol Spray
PRODUCT NO.	ZN03688
APPLICATION	Intended for use as a spray, applied coating
SUPPLIER	William Zinsser (UK) Ltd Portobello Industrial Estate Birtley County Durham England DH3 2RE +44(0)191 4106611 +44(0)191 4920125 enquiries@tor-coatings.com
CONTACT PERSON	ian.mccormack@tor-coatings.com
EMERGENCY TELEPHONE	+44(0)1865 407333 (NCEC)

2 HAZARDS IDENTIFICATION

Extremely flammable Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness. Irritating to eyes.

CLASSIFICATION (1999/45) Xi;R36. F+;R12. R66, R67.

ENVIRONMENT

The product is not expected to be hazardous to the environment.

PHYSICAL AND CHEMICAL HAZARDS

The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures.

HUMAN HEALTH

In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Risk of serious damage to eyes. Vapours/aerosol spray may irritate the respiratory system. Repeated exposure may cause skin dryness or cracking.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content %	Classification (67/548/EEC)
ACETONE	200-662-2	67-64-1	10-25%	F;R11 Xi;R36 R66 R67
Alkanes (C9-C12, iso)	292-459-0	90622-57-4	10-25%	Xn;R65. R10,R53,R66.
BUTANE	203-448-7	106-97-8	5-10%	F+;R12
ISOBUTANE	200-857-2	75-28-5	2.5-5.0%	F+;R12
MonoPropylene Glycol	200-338-0	57-55-6	< 1%	-
XYLENE	215-535-7	1330-20-7	< 1%	R10 Xn;R20/21 Xi;R38
ETHYLBENZENE	202-849-4	100-41-4	< 1%	F;R11 Xn;R20

The Full Text for all R-Phrases is Displayed in Section 16

4 FIRST-AID MEASURES

GENERAL INFORMATION

General first aid, rest, warmth and fresh air. Do not give victim anything to drink if they are unconscious. Get medical attention if any discomfort continues.

INHALATION

Place unconscious person on the side in the recovery position and ensure breathing can take place. If respiratory problems, artificial respiration/oxygen. Get medical attention if any discomfort continues.

INGESTION

Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Transport immediately to hospital and bring along these instructions.

Zinsser Covers UP™ Aerosol Spray

SKIN CONTACT

Use appropriate hand lotion to prevent defatting and cracking of skin. Immediately remove contaminated clothing. Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water.

EYE CONTACT

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention promptly if symptoms occur after washing.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Fire can be extinguished using: Water spray, fog or mist. Foam, carbon dioxide or dry powder. Dry chemicals, sand, dolomite etc. Do not use water jet as an extinguisher, as this will spread the fire.

SPECIAL FIRE FIGHTING PROCEDURES

Use pressurised air mask if product is involved in a fire. Cool containers exposed to flames with water until well after the fire is out. Keep run-off water out of sewers and water sources. Dike for water control.

UNUSUAL FIRE & EXPLOSION HAZARDS

Aerosol cans may explode in a fire. If heated, volume and pressure increases strongly, resulting in explosion of container.

PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet.

ENVIRONMENTAL PRECAUTIONS

Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS

Keep combustibles away from spilled material. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Static electricity and formation of sparks must be prevented. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Vapours are heavier than air and may spread near ground to sources of ignition.

STORAGE PRECAUTIONS

Flammable/combustible - Keep away from oxidisers, heat and flames. Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container. Avoid contact with oxidising agents.

STORAGE CLASS

Flammable compressed gas storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
ACETONE	WEL	500 ppm	1210 mg/m3	1500 ppm	3620 mg/m3	
BUTANE	WEL	600 ppm	1450 mg/m3	750 ppm	1810 mg/m3	
ETHYLBENZENE	WEL	100 ppm(Sk)	441 mg/m3(Sk)	125 ppm(Sk)	552 mg/m3(Sk)	
ISOBUTANE	WEL	600 ppm		750 ppm		
MonoPropylene Glycol	WEL	150 ppm	474 mg/m3			
XYLENE	WEL	50 ppm(Sk)	220 mg/m3(Sk)	100 ppm(Sk)	441 mg/m3(Sk)	Sk

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through skin.

INGREDIENT COMMENTS

WEL = Workplace Exposure Limits

PROTECTIVE EQUIPMENT



Zinsser Covers UP™ Aerosol Spray

PROCESS CONDITIONS

Provide eyewash station.

ENGINEERING MEASURES

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. All handling to take place in well-ventilated area.

RESPIRATORY EQUIPMENT

Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. Wear mask supplied with: Gas cartridge suitable for organic substances.

HAND PROTECTION

For prolonged or repeated skin contact use suitable protective gloves. Use protective gloves made of: Neoprene. Nitrile. Rubber (natural, latex).

EYE PROTECTION

Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of skin contact.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Aerosol.
COLOUR	White.
ODOUR	Mild. Characteristic.
SOLUBILITY	Partially miscible with water.
RELATIVE DENSITY	0.94 Approx. @20°C.
VAPOUR DENSITY (air=1)	Heavier than air
VAPOUR PRESSURE	4700 mbar 20
FLASH POINT (°C)	-74°C. CC (Closed cup).
FLAMMABILITY LIMIT - LOWER(%)	1.8
FLAMMABILITY LIMIT - UPPER(%)	10.0
VOLATILE ORGANIC COMPOUND (VOC)	EXEMPT

10 STABILITY AND REACTIVITY

STABILITY

No particular stability concerns.

CONDITIONS TO AVOID

Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidisers.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

11 TOXICOLOGICAL INFORMATION

GENERAL INFORMATION

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION

In high concentrations, vapours may irritate throat and respiratory system and cause coughing. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea.

INGESTION

Gastrointestinal symptoms, including upset stomach.

SKIN CONTACT

Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Irritating to skin.

EYE CONTACT

Irritation of eyes and mucous membranes.

Name	PROPANE
Name	BUTANE
Toxic Conc. - LC 50	658 mg/l/4h (inh-rat)

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Name	XYLENE
Toxic Dose 1 - LD 50	3523 mg/kg (oral rat)
Toxic Conc. - LC 50	6191 mg/l/4h (inh-rat)
Other Health Effects	
May cause skin and eye irritation.	
Name	ETHYLBENZENE
Toxic Dose 1 - LD 50	3500 mg/kg (oral rat)
Toxic Conc. - LC 50	17.2 - 35.7 mg/l/4h (inh-rat)
Name	ACETONE
Toxic Dose 1 - LD 50	5800 mg/kg (oral rat)
Name	ISOBUTANE
Toxic Conc. - LC 50	658 mg/l/4h (inh-rat)
Name	MonoPropylene Glycol
Toxic Dose 1 - LD 50	>2000 mg/kg (oral rat)
Name	Alkanes (C9-C12, iso)
Toxic Dose 1 - LD 50	>5000 mg/kg (oral rat)

12 ECOLOGICAL INFORMATION

ECOTOXICITY

The product is not expected to be hazardous to the environment.

Zinsser Covers UP™ Aerosol Spray

Name	PROPANE
LC 50, 96 Hrs, Fish mg/l	>1000
Name	BUTANE

Ecotoxicity

Not considered dangerous to aquatic organisms.

LC 50, 96 Hrs, Fish mg/l	>1000

Mobility

The product contains organic solvents which will evaporate easily from all surfaces.

Bioaccumulative potential

This material is not expected to significantly bioaccumulate.

Degradability

The product is expected to be biodegradable. The product is degraded completely by photochemical oxidation.

Name	XYLENE
Partition Coefficient (N-Octanol/Water)	3.2

Ecotoxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product must not be allowed to enter drains or water courses.

IC 50, 72 Hrs, Algae, mg/l	2.2

Mobility

Water: Insoluble, the product will spread over the surface and rapidly evaporate. Soil: The product has only slight mobility in the soil and will partially evaporate

Bioaccumulative potential

Likely to bio-accumulate, but with short retention of the order of a week or less.

Degradability

The product is readily biodegradable.

Name	ETHYLBENZENE

Ecotoxicity

Toxic to aquatic organisms.

LC 50, 96 Hrs, Fish mg/l	4.2 - 14
EC 50, 48 Hrs, Daphnia, mg/l	2.1 - 2.9
IC 50, 72 Hrs, Algae, mg/l	4.6

Degradability

The product is moderately biodegradable.

Name	ACETONE
LC 50, 96 Hrs, Fish mg/l	8300
EC 50, 48 Hrs, Daphnia, mg/l	10

Mobility

The product is soluble in water.

Bioaccumulative potential

The product is not bioaccumulating.

Degradability

The product is readily biodegradable.

Name	ISOBUTANE

Ecotoxicity

Not considered dangerous to aquatic organisms.

Mobility

The product contains volatile substances, which may spread in the atmosphere.

Bioaccumulative potential

This material is not expected to significantly bioaccumulate.

Degradability

The product is expected to be biodegradable. The product is degraded completely by photochemical oxidation.

Name	MonoPropylene Glycol
Partition Coefficient (N-Octanol/Water)	0.92 (water/Octanol)
LC 50, 96 Hrs, Fish mg/l	40613
EC 50, 48 Hrs, Daphnia, mg/l	>100
Name	Alkanes (C9-C12, iso)
LC 50, 96 Hrs, Fish mg/l	>100

Mobility

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

Degradability

Zinsser Covers UP™ Aerosol Spray

The product is biodegradable.

13 DISPOSAL CONSIDERATIONS

GENERAL INFORMATION

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements. Make sure containers are empty before discarding (explosion risk). Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point.

14 TRANSPORT INFORMATION

PROPER SHIPPING NAME	AEROSOLS
ENVIRONMENTALLY HAZARDOUS SUBSTANCE/MARINE POLLUTANT	No.
UN NO. ROAD	1950
ADR CLASS NO.	2.1
ADR CLASS	Class 2: Gases
TUNNEL RESTRICTION CODE	(D)
ADR LABEL NO.	2.1
UN NO. SEA	1950
IMDG CLASS	2.1
EMS	F-D, S-U
UN NO. AIR	1950
AIR CLASS	2.1

15 REGULATORY INFORMATION

LABELLING

Irritant

Extremely flammable

RISK PHRASES

R12	Extremely flammable.
R36	Irritating to eyes.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

SAFETY PHRASES

S2	Keep out of the reach of children.
S9	Keep container in a well-ventilated place.
S16	Keep away from sources of ignition - No smoking.
S23	Do not breathe vapour/spray.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S51	Use only in well-ventilated areas.
A1	Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
A2	Do not spray on a naked flame or any incandescent material.

UK REGULATORY REFERENCES

The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

EU DIRECTIVES

System of specific information relating to Dangerous Preparations. 2001/58/EC. Dangerous Preparations Directive 1999/45/EC.

Zinsser Covers UP™ Aerosol Spray

APPROVED CODE OF PRACTICE

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

NATIONAL REGULATIONS

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No. 1689. Workplace Exposure Limits 2005 (EH40)

16 OTHER INFORMATION

INFORMATION SOURCES

Croner's Emergency Spillage Guide Croner's Emergency First Aid Guide Croner's Substances Hazardous to Health

REVISION COMMENTS

Amended in line with HSE requirements.

ISSUED BY

I McCormack

REVISION DATE	18/08/2011
REV. NO./REPL. SDS GENERATED	4
SDS NO.	17669

SAFETY DATA SHEET STATUS

Approved.

DATE	16/07/2012

RISK PHRASES IN FULL

R12	Extremely flammable.
R10	Flammable.
R20/21	Harmful by inhalation and in contact with skin.
R20	Harmful by inhalation.
R65	Harmful: may cause lung damage if swallowed.
R11	Highly flammable
R36	Irritating to eyes.
R38	Irritating to skin.
R53	May cause long-term adverse effects in the aquatic environment.
NC	Not classified.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.