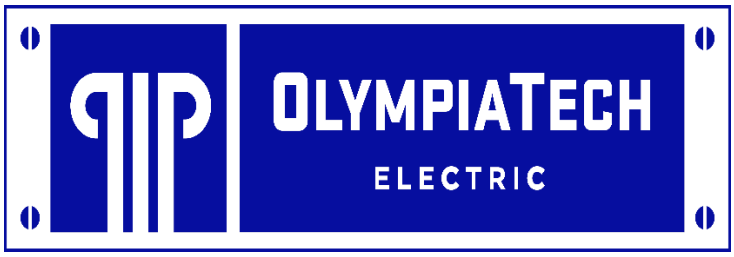

Electrical Safety Data Sheets SDS

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

1.1. Product identifier

Product identifier name: nVent ERICO Cadweld

Other means of identification: Inclusive of material types-

Starting Material

Welding Material - F20 (includes prefixes ACB, ACC and SCC), F80 (includes prefixes SB, PB, ACB, ACC and SCC), F33 (includes prefix CA), XF19 (includes prefix XF), F76

1.2. Recommended use of the chemical and restrictions on use

Application: Exothermic welding material

Restrictions: None specified

1.3. Details of the supplier of the safety data sheet

Manufacturer:
nVent
ERICO International Corporation
34600 Solon Road
Solon, Ohio 44139
Tel: (440) 248-0100

Further information can be obtained from: jacob.williams@nvent.com

1.4. Emergency telephone number

Emergency telephone: ChemTel

1-800-255-3924 USA and Canada

+01-813-248-0585 International

SECTION 2: Hazards Identification

2.1. Classification of the chemical

The inner packaging contains two distinct, separate layers of chemicals. The smaller layer is Starting Material used as an ignition component for the larger layer of Welding Material. Both chemicals are hazardous per OSHA.

OSHA:

Starting Material -
Flammable Solid Category 1
Eye Damage Category 1
Combustible Dust

Welding Material -
Eye Damage Category 1
Acute Toxicity – Oral Category 4
Acute Toxicity – Inhalation Category 4
Combustible Dust

Label elements (combined for Starting Material and Welding Material)

Pictograms: 

Signal word: Danger

Hazard statements:

Flammable solid
Causes serious eye damage
Harmful if swallowed
Harmful if inhaled
May form combustible dust concentrations in air

Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground and bond container and receiving equipment.
Use explosion-proof electrical, ventilating, lighting, and other equipment.
Avoid breathing dust or fume.
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, protective clothing, eye protection and face protection.
If swallowed: Call a poison center or doctor if you feel unwell.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center 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 center, doctor, or seek medical attention if molten product contacts eyes or if eye irritation persists after exposure to dust.
Rinse mouth.
In case of fire: Use dry sand or large amounts of water to extinguish.
Dispose of contents and container in accordance with local, state, national, and international regulations.

2.2. Other hazards

Other: Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 2498ºF (Starting Material), slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Mixtures

Only classified substances above threshold limits are shown.

Starting Material (smaller layer)

%	CAS-No.	Chemical Name
30-40	7429-90-5	Aluminum powder (stabilized)
1-25	1317-38-0	Cupric oxide
1-25	1317-39-1	Cuprous oxide

Welding Material (larger layer)

%	CAS-No.	Chemical Name
25-75	1317-39-1	Cuprous oxide
1-20	1317-38-0	Cupric oxide
1-15	7440-50-8	Copper
1-15	7429-90-5	Aluminum powder (stabilized)

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

Inhalation: Inhalation of welding fumes/dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.

Eye contact: Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects: Chronic inhalation of powder or fumes without proper ventilation or protection may cause symptoms similar to metal fume fever. See section 11 for more detailed information on health effects and symptoms.

4.3. Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with dry sand and/or flood with large amounts of water.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Specific hazards: During fire, gases hazardous to health may be formed.
Ignition temperature: >849° F (Starting Material); >1742°F (Welding Material)

Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

5.3. Advice for firefighters

Protective equipment for firefighters: Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

6.2. Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

6.3. Methods and material for containment and cleaning up

Spill cleanup methods: Remove sources of ignition. Sweep up spilled substance and remove to safe place.
For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

6.4. Reference to other sections

Reference: For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. nVent ERICO Cadweld Starting, Welding and Filler Materials are designed for use in nVent ERICO Cadweld equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts.

Technical measures: Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety.

Technical precautions: Confined space: Local exhaust is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: nVent ERICO Cadweld Starting, Welding and Filler Materials should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings.

Storage conditions: If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, nVent ERICO Cadweld Materials do not exhibit any storage or shelf life.

7.3. Specific end use(s)

Specific use(s): Welding material with ignition component included

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

A detailed fume analysis was conducted on nVent ERICO Cadweld Starting and Welding Materials. Reaction byproducts were tested for total dust, respirable dust, metals, acids, fluorides, and various elements identified in typical welding fume analysis. All sampling and analysis followed methodologies dictated by the National Institute of Occupational Safety and Health (NIOSH) and by the U.S. Occupational Safety and Health Administration (OSHA). A certified Industrial Hygienist did the sample collection and independent labs conducted all analytical work.

Data collected was evaluated and compared to limits set by the American Conference of Governmental Industrial Hygienists (ACGIH) and OSHA.

Starting Material: No threshold limits are attainable with use of this product as intended.

Occupational exposure limits:

CAS-No.:	Chemical name:	As:	Exposure limits:	Type:	Notes:	References:
7429-90-5	Aluminum, metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum, metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
1309-37-1	Iron oxide fume	-	10 mg/m3	TWA	-	OSHA
-	Iron oxide (Fe2O3), respirable fraction	-	5 mg/m3	TWA	A4	ACGIH

Notes: A4: Not classifiable as a Human Carcinogen

Welding Material: As a worst-case scenario, calculations were completed based on a sealed 800 cubic foot room with no ventilation. These calculations indicate that the copper fume PEL would be the limiting factor. Under normal outdoor use or in ventilated areas threshold limits are beyond any expected exposure limits.

Occupational exposure limits:

CAS-No.:	Chemical name:	As:	Exposure limits:	Type:	Notes:	References:
7429-90-5	Aluminum metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-21-3	Silicon, respirable fraction	-	5 mg/m3	TWA	-	OSHA
7440-21-3	Silicon, total dust	-	15 mg/m3	TWA	-	OSHA
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
	Fluoride	F	2.5 mg/m3	TWA		OSHA
	Fluoride	F	2.5 mg/m3	TWA	A4; BEI	ACGIH

Notes: A4 – Not classifiable as a Human Carcinogen; BEI – Biological Exposure Indices

8.2. Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust and fumes.

Personal protection: Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment: Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined rooms, wear suitable respiratory equipment for dusts and metal fumes.

Hand protection: Heat insulated protective gloves. Recommended for handling hot equipment.

Eye protection: Wear safety glasses. Avoid looking directly at the light generated by the reaction, unless specialized welding eye protection is used.

Skin protection: Use protective clothing, which covers arms and legs.

Hygiene measures: Wash hands after handling. Change contaminated clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

	Starting Material (smaller layer)	Welding Material (larger layer)
Form:	Powder	Granular
Color:	Gray-black	Gray-black
Odor:	Odorless	Odorless
pH:	Not available	Not available
Melting point/freezing point:	1112°F	1999°F
Boiling point:	Not relevant	Not relevant
Flash point:	Not relevant	Not relevant
Evaporation rate:	Not relevant	Not relevant
Flammability:	Flammable	Not flammable
Upper/lower flammability or explosive limits:	Not known	Not known
Vapor pressure:	Not relevant	Not relevant
Vapor density:	Not relevant	Not relevant
Relative density/specific gravity (water=1):	4.0	5.5
Solubility:	Insoluble in water	Insoluble in water
Partition coefficient (n-octanol/water):	Not available	Not available
Auto-ignition temperature:	>849°F	>1742°F
Decomposition temperature:	Not available	Not available
Viscosity:	Not relevant	Not relevant
Oxidizing properties:	Not available	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: See hazardous reactions.

10.2. Chemical stability

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

10.3. Possibility of hazardous reactions

Hazardous reactions: Aggressive reactions are possible if excess moisture, grease, or other combustible substances are present in the mold, on the connector, or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

10.4. Conditions to avoid

Conditions/materials to avoid: Temperatures above ignition point. >849°F (Starting Material)

10.5. Incompatible materials

Incompatible materials: Typical of problems associated with molten metals.

10.6. Hazardous decomposition products

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity (oral):	Harmful if swallowed, based on Cuprous oxide component.
Acute toxicity (dermal):	Based on available data, the classification criteria are not met.
Acute toxicity (inhalation):	Harmful if inhaled, based on Cuprous oxide component.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Eye damage/irritation:	Causes serious eye damage from Cuprous oxide component.
Respiratory sensitization:	Based on available data, the classification criteria are not met.
Skin sensitization:	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. Components are not listed as carcinogens by the NTP, IARC, or OSHA at 29 CFR 1910 Subpart Z.
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.
Inhalation:	Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.
Skin contact:	Dust may have an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.

Eye contact:	Particles/fumes in the eyes may cause discomfort/irritation.
Ingestion:	Ingestion may cause nausea, headache, dizziness and intoxication.
Specific effects:	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxides may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis.
Toxicological data:	LD_{50} (oral, rat): 1340 mg/kg (Cuprous oxide) No LC_{50} data available. Cuprous oxide is noted as Acute Toxicity – Inhalation Category 4 for Welding Material per ECHA harmonized classification scheme.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: Very toxic to aquatic organisms with long-term adverse effects in the aquatic environment.
M-factor (acute)
Cuprous oxide: 100
Cupric oxide: 100

12.2. Persistence and degradability

Degradability: The product solely consists of inorganic compounds which are not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available on bioaccumulation.

12.4. Mobility in soil

Mobility: The product is not volatile but may be spread by dust-raising handling.

12.5. Results of PBT and vPvB assessment

PBT/vPvB: This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Other adverse effects: None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with applicable authority requirements.

SECTION 14: TRANSPORT INFORMATION

The product is a hazardous material/dangerous good per US and international transportation regulations. As prepared by nVent, with minimal quantities present per inner and outer packaging, excepted/small quantity and marine pollutant exceptions apply for ground, air, and vessel transport.

14.1. DOT Classification for Domestic (U.S. Only) Ground, Air, and Vessel

Identification number: UN3089

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

Class: 4.1

Packing group: II

Environmentally hazardous to the aquatic environment/marine pollutant: No

Notes: Starting Material limited to 30 g per inner package with outer package gross weight limit of 29 kg for small quantities exception or limited to 30 g per inner package and 500 g per outer package for excepted quantities. Welding Material is not a hazardous material per DOT.

14.2. ICAO/IATA Classification for Domestic/International Air Required by Most Airlines

Identification number: UN3089

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

Class: 4.1

Packing group: II

Environmentally hazardous to the aquatic environment/marine pollutant: Exception applies due to 4.1 classification

Notes: Starting Material limited to 30 g per inner package and 500 g per outer package for excepted quantities. Welding Material limited to 5 kg per inner package for exception for marine pollutants.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation for the substance or mixture

National regulations: Local, state, and national regulations may apply.

TSCA: The ingredients in this product are on the TSCA Inventory.

SARA Title III: Section 302 Extremely Hazardous Substance: Not reportable

Section 304: Not reportable

Section 311/312 Hazard Categories: Immediate (acute), Fire

Section 313: Aluminum (fume or dust), copper and copper compounds are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (EPCRA or SARA Title III) and 40 CFR 372.

CERCLA RQ: Copper = 5,000 pounds (particles of 100 micrometers or less)

Copper compounds are CERCLA hazardous substances but no RQ is assigned,

15.2. Chemical safety assessment

CSA status: No information available.

SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of this SDS.

Abbreviations and acronyms:

ACGIH	American Conference of Industrial Hygienists
CAS No.	Chemical Abstracts Service registry number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOT HMR	Department of Transportation Hazardous Materials Regulations
ECHA	European Chemicals Agency
IARC	International Agency for Research on Cancer
IATA DGR	International Air Transport Association Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
LC_{50}/LD_{50}	Lethal concentration/dose to 50% of exposed laboratory animals
NIOSH	US National Institute of Occupational Safety and Health
n.o.s.	Not otherwise specified
NTP	National Toxicology Program
OSHA	US Occupational Safety Health Administration
PBT	Persistent, bioaccumulative and toxic
PEL	Permissible exposure limit
RQ	Reportable quantity
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety data sheet
STOT	Specific target organ toxicity
Tel	Telephone number
TSCA	Toxic Substances Control Act
TWA	Time weighted average
UN	United Nations
US/USA	United States
vPvB	Very persistent and very bioaccumulative

Additional information: Hazard classification and other information based on 29 CFR 1910.1200 for OSHA, and on 49 CFR Part 173 and 2020 IATA Dangerous Goods Regulations for DOT/IATA transportation.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

SAFETY DATA SHEET

1. Identification

Product identifier: GE012A

Other means of identification
Synonyms: Silicone Sealant

Recommended use and restriction on use
Recommended use: Silicone Elastomer
Restrictions on use: For industrial use only.

Manufacturer/Importer/Distributor Information	:	Momentive Performance Materials LLC 260 Hudson River Road Waterford NY 12188
Contact person	:	commercial.services@momentive.com
Telephone	:	General information +1-800-295-2392
Emergency telephone number **Supplier**	:	CHEMTREC 1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Toxic to reproduction	Category 2

Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	0 %
Acute toxicity, inhalation, vapor	0 %
Acute toxicity, inhalation, dust or mist	0 %

Label Elements

Hazard Symbol:

Signal Word:	Warning
Hazard Statement:	H315; Causes skin irritation. H361; Suspected of damaging fertility or the unborn child.
Precautionary Statements	
Prevention:	Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
Response:	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Take off contaminated clothing.
Storage:	Store locked up.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC):	None.
Substance(s) formed under the conditions of use:	Generates acetic acid during cure.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*	Notes
Distillates, petroleum, hydrotreated middle	64742-46-7	10 - <15%	# This substance has workplace exposure limit(s).
Silane, dichlorodimethyl-, reaction products with silica	68611-44-9	5 - <10%	# This substance has workplace exposure limit(s).
Methyltriacetoxysilane	4253-34-3	3 - <5%	No data available.
Octamethylcyclotetrasiloxane	556-67-2	0.1 - <1%	# This substance has workplace exposure limit(s).

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

(1) The respirable particle(s) listed above are inextricably bound within the polymer matrix, and therefore does not present an inhalation hazard during normal use of this product. Tooling or machining of the cured product (sanding, cutting, milling) may release hazardous, respirable substances.

4. First-aid measures

Ingestion: If swallowed, do NOT induce vomiting. Give a glass of water.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

Skin Contact: To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Treatment is symptomatic and supportive.

5. Fire-fighting measures

General Fire Hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Extinguish with foam, carbon dioxide or dry powder.

Unsuitable extinguishing media: water jet

Specific hazards arising from the chemical: No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep container closed. Avoid contact with skin and eyes. Use only in well-ventilated areas. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the finger and hands. Product releases acetic acid during application and curing. Attention: Not for injection into humans.

Methods and material for containment and cleaning up: Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

7. Handling and storage

Precautions for safe handling: Acetic acid is formed during processing. Wear appropriate personal protective equipment. Use only in well-ventilated areas. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Keep containers tightly closed. See Section 8 of the SDS for Personal Protective Equipment. Sensitivity to static discharge is not expected.

Conditions for safe storage, including any incompatibilities: Keep out of the reach of children.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Distillates, petroleum, hydrotreated middle - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2015)
Distillates, petroleum, hydrotreated middle - Mist.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	STEL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	5 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
Distillates, petroleum, hydrotreated middle	ST ESL	3,500 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL	350 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
Distillates, petroleum, hydrotreated middle - Mist.	TWA PEL	5 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
Distillates, petroleum, hydrotreated middle	IDLH	2,500 mg/m3	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
Silane, dichlorodimethyl-, reaction products with silica	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Silane, dichlorodimethyl-, reaction products with silica - Particulate.	ST ESL	27 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
Octamethylcyclotetrasiloxane	TWA	5 ppm	
Octamethylcyclotetrasiloxane - Vapor.	ST ESL	1,000 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL	100 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
Octamethylcyclotetrasiloxane	TWA	10 ppm	US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended (2014)

This product contains one or more substances with an occupational exposure limit. However, the respirable particle(s) of this/these substance(s) are inextricably bound within the polymer matrix. Therefore, we do not expect an exposure to this/these substance(s) during normal use of this product. Tooling or machining of the cured product (sanding, cutting, milling) may release hazardous, respirable substances.

Appropriate Engineering Controls Eye wash facilities and emergency shower must be available when handling this product. Use only in well-ventilated areas.

Individual protection measures, such as personal protective equipment

General information: Wear suitable gloves and eye/face protection.

Eye/face protection: Safety glasses with side shields

Skin Protection

Hand Protection: Rubber gloves are recommended.

Other: Wear suitable protective clothing and eye/face protection.

Respiratory Protection: If inhalation exposure is expected, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

Hygiene measures: Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation, especially in confined areas. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	Paste
Color:	Colorless
Odor:	Acetic acid.
Odor threshold:	No data available.
pH:	Not applicable
Melting point/freezing point:	Not applicable
Initial boiling point and boiling range:	Not applicable
Flash Point:	> 93.3 °C (estimated)
Evaporation rate:	< 1
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Heat of combustion:	No data available.
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Density:	ca. 1.04 g/cm3
Relative density:	ca. 1.04

Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	Toluene
Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	> 7 mm2/s (40 °C)
VOC:	36 g/l ;

10. Stability and reactivity

Reactivity:	No dangerous reaction if used as recommended.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Keep away from moisture.
Incompatible Materials:	Strong Acids, Strong Bases Water.
Hazardous Decomposition Products:	Carbon dioxide Silicon dioxide. Formaldehyde. Acetic acid. This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150'C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:

ATEmix : 5,831.1 mg/kg

Specified substance(s):

Methyltriacetoxysilane	LD 50 (Rat, female): 1,830 mg/kg LD 50 (Rat): 1,550 mg/kg
Octamethylcyclotetrasiloxane	LD 50 (Rat): > 4,800 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Octamethylcyclotetrasiloxane	LD 50 (Rat): > 2,375 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Octamethylcyclotetrasiloxane	LC50 (Rat): 36 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane	OECD-Guideline 405 (Acute Eye Irritation/Corrosion) (Rabbit): Non irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane	Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic) Mouse Lymphoma Assay (OECD Guidline 476): negative (not mutagenic)

In vivo

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane	Chromosomal aberration (OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)) Inhalation (Rat, male and female): negative

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: Acetic acid released during curing. No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane	3.7 % (29 d, 310 Ready Biodegradability - CO_2 in Sealed Vessels (Headspace Test)) Not readily biodegradable.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane	Fathead Minnow, Bioconcentration Factor (BCF): 12.40

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Distillates, petroleum, hydrotreated middle	No data available.
Silane, dichlorodimethyl-, reaction products with silica	No data available.
Methyltriacetoxysilane	No data available.
Octamethylcyclotetrasiloxane	No data available.

Other adverse effects: No data available.

13. Disposal considerations

General information: The generation of waste should be avoided or minimized wherever possible. See Section 8 for information on appropriate personal protective equipment. Do not discharge into drains, water courses or onto the ground.

Disposal instructions: Disposal should be made in accordance with federal, state and local regulations.

Contaminated Packaging: Dispose of as unused product.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Special precautions for user: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

Chemical Identity	OSHA hazard(s)
Dimethylpolysiloxane	No OSHA Hazards
Distillates, petroleum, hydrotreated middle	Causes mild skin irritation.; Systemic effects
Silane, dichlorodimethyl-, reaction products with silica	No OSHA Hazards
Methyltriacetoxysilane	Corrosive to skin and eyes.; Corrosive to eyes

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Skin Corrosion or Irritation
Reproductive toxicity

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Dimethylpolysiloxane
Distillates, petroleum, hydrotreated middle
Silane, dichlorodimethyl-, reaction products with silica

Methyltriacetoxysilane
METHYLDIACETOXYISOPROPOXYSILANE

US. Massachusetts RTK - Substance List

Chemical Identity
Distillates, petroleum, hydrotreated middle

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Distillates, petroleum, hydrotreated middle

US. Rhode Island RTK

Chemical Identity
Distillates, petroleum, hydrotreated middle

Inventory Status:

Australia AICS:	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	Q (quantity restricted)	Remarks: None.
EINECS, ELINCS or NLP:	On or in compliance with the inventory	Remarks: None.
Japan (ENCS) List:	On or in compliance with the inventory	Remarks: None.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory	Remarks: None.
Canada NDSL Inventory:	Not in compliance with the inventory.	Remarks: None.
Philippines PICCS:	On or in compliance with the inventory	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: None.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory	Remarks: None.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory	Remarks: None.

16.Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	2
Flammability		0
Physical Hazards		1
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 08/25/2020

Revision Date: No data available.

Version #: 4.2

Further Information: No data available.

Disclaimer:

Notice to reader

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives.
Keep out of the reach of children.

Further Information

The information provided in this Safety Data Sheet is correct to the best ofour knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safehandling, 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

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date : 2019-01-25
Publication date : 2018-08-28

Version number : 1.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

SDS : 33614

Lamp Material Data Sheet code (LMDS) : Philips CFN-10001B

* **Supplier** : Signify North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873-4186

Tradename : PHILIPS COMPACT FLUORESCENT LAMPS CFL-ni - ALL TYPES

Other means of identification : ALTO, non-ALTO: PL-C, PL-H, PL-L, PL-Q, PL-S, PL-T

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

General description : Compact Fluorescent Lamp

Recommended Use : Various

Uses advised against : No data available

Details of the supplier of the safety data sheet

Supplier safety data sheet : Philips Electronics Nederland B.V., Philips Environment & Safety, High Tech Campus 37, 5656 AE Eindhoven, Tel. +31 (0)40 27 41 645

Responsible department : hazcom@philips.com

Emergency telephone number

Emergency telephone number:

CHEMTREC : +1 (0)800-424-9300

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification in accordance with 29 CFR 1910.1200

Not classified.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article and as such does not require an SDS per the OSHA hazard communication standard.

Label elements

Labelling in accordance with 29 CFR 1910.1200

Label: not applicable

Remarks on labelling: none

Other hazards

none.

SECTION 3: Composition/information on ingredients

Component	CAS number
INERT MATERIAL	-
FLUORESCENT POWDER	-
$KRYPTON^{85}$	139883-27-2
INDIUM	7440-74-6
MERCURY	7439-97-6
BISMUTH	7440-69-9

Remark: The product contains: 1.4 - 3.5 mg Mercury

SECTION 4: First aid measures

Description of first aid measures

Skin : Not applicable.
Ingestion : Not applicable.
Inhalation : Not applicable.
Eyes : Not applicable.

Most important symptoms and effects, both acute and delayed

Skin	local	:	Under normal circumstances not applicable.
	general	:	Under normal circumstances not applicable
Ingestion	local	:	Under normal circumstances not applicable
	general	:	Under normal circumstances not applicable
Inhalation	local	:	Under normal circumstances not applicable
	general	:	Under normal circumstances not applicable
Eyes	local	:	Under normal circumstances not applicable

Remarks symptoms : None

Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Extinguishing media

Suitable fire-extinguisher
determined by surrounding.
Unsuitable fire-extinguisher
not traceable.

Special hazards arising from the substance or mixture

Hazardous decomposition products in fire**:** Tin oxide, Mercury oxides, metal oxide

Advice for firefighters

In the event of fire, wear protective clothing and use breathing apparatus that is independent of the ambient air.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

In case of broken articles, use protective equipment. Evacuate area.

For non-emergency personnel

Protective equipment

Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedure

Ventilate affected area.

For emergency responders

Use appropriate respiratory protection. Personal protection equipment

Methods and material for containment and cleaning up

For containment

Collect materials needed to clean up broken bulb: stiff paper or cardboard; sticky tape; damp paper towels or disposable wet wipes (for hard surfaces); and a glass jar with a metal lid or a sealable plastic bag. Be thorough in collecting broken glass.

For cleaning up

DO NOT VACUUM. Vacuuming is not recommended unless broken glass remains after all other cleanup steps have been taken. Vacuuming could spread mercury-containing powder or mercury vapor. Scoop up glass fragments using stiff paper or cardboard and sticky tape. Place cleanup materials in a sealable container.

Other information

No information available.

SECTION 7: Handling and storage

Precautions for safe handling

Local exhausting **:** Under normal circumstances not applicable.

Conditions for safe storage, including any incompatibilities

Storage conditions **:** No special precautions.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure limits :

applicable to: United States of America (25 ºC; 1013 mbar)

TWA(8 hours):	0.025 mg/m3	S	MERCURY- [according to ACGIH]
TWA (8 hours):	0.1 mg/m3	C	MERCURY- [according to NIOSH]

TWA (8 hours):	0.1 mg/10m^3	C	MERCURY – [according to OSHA PEL]
TWA (8 hours):	2 mg/m^3		INDIUM- [according to NIOSH]

C=Ceiling; S=Skin

Remarks exposure limits : none

Appropriate engineering controls: Under normal circumstances not applicable

Exposure controls

Advised personal protection:

Hands:	Under normal circumstances not applicable.
Breakthrough time:	Under normal circumstances not applicable.
Eyes:	Under normal circumstances not applicable.
Inhalation:	Under normal circumstances not applicable.
Skin:	Under normal circumstances not applicable.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	:	article
Color	:	type dependent
Odor	:	odorless
Odor threshold (20ºC; 1013 mbar)	:	not traceable
pH	:	not applicable
Melting point/freezing point	:	not traceable
Boiling point/range	:	not traceable
Flash point/range	:	not applicable
Evaporation rate/range	:	not applicable
Vapor rate/range	:	not applicable
Flammability (solid, gas)	:	data not available
Upper/lower flammability or explosive limit	:	not applicable
Vapor pressure	:	not applicable
Vapor density	:	not applicable
Density	:	not traceable
Solubility in water	:	not applicable

Log Po/w: 4.5 MERCURY **Source** : Chemicalcards

Auto-ignition temperature	:	not applicable
Decomposition temperature	:	not traceable
Viscosity	:	not applicable
Dust explosions possible in air	:	not applicable
Oxidizing properties	:	no

SECTION 10: Stability and reactivity

Reactivity

Not applicable.

Chemical stability

The substance or mixture is stable under normal conditions.

Possibility of hazardous reactions

Reactions with water : no

Other hazardous conditions : Data not available.

Conditions to avoid

Data not available.

Incompatible materials

Hazardous reactions with : none

Hazardous decomposition products

Hazardous decomposition products at heating : none

SECTION 11: Toxicological information

Information on toxicological effects

Acute oral toxicity
No data available.

Acute dermal toxicity
No data available.

Acute inhalation toxicity
No data available.

Skin corrosion/irritation
The substance or mixture is not classified for skin corrosion/-irritation.

Serious eye damage/irritation
The substance or mixture is not classified for serious eye damage/irritation.

Respiratory or skin sensitization
The substance or mixture is not classified for respiratory or skin sensitization.

Germ cell mutagenicity
The substance or mixture is not classified for germ cell mutagenicity.

Carcinogenicity

IARC: Group 3: Not classifiable as to its carcinogenicity to humans (Mercury)
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.

Reproductive toxicity
The substance or mixture is not classified for reproductive toxicity.

Specific target organ toxicity-single exposure
The substance or mixture is not classified for specific target organ toxicity-single exposure.

Specific target organ toxicity-repeated exposure
The substance or mixture is not classified for specific target organ toxicity-repeated exposure.

Aspiration hazard
The substance or mixture is not classified for aspiration hazard.

Symptoms

Skin	local	:	Not applicable.
	general	:	Not applicable.
Ingestion	local	:	Not applicable.
	general	:	Not applicable.
Inhalation	local	:	Not applicable.
	general	:	Not applicable.

Eyes	local	:	Not applicable.
Remarks symptoms		:	None

SECTION 12: Ecological information

Toxicity

Ecotoxicity

LC-50: 0.004 mg/l/96H (Fish)	MERCURY	**Source : Easi View**
EC-50: 0.0205 mg/l/48H (Daphnia)	MERCURY	**Source : IFA- Gestis**
IC-50: 0.3 mg/l/72H (Algae)	MERCURY	**Source : Easi View**

Persistence and degradability

Biological oxygen demand:	not applicable
Chemical oxygen demand:	not applicable
Degradability:	not applicable

Bioaccumulative potential

Bioconcentration factor (BCF) **:** >2500 MERCURY

Mobility in soil

Henry Constant **:** Not applicable

Other adverse effects

Remarks on eco-toxicity**:** none

SECTION 13: Disposal considerations

Waste treatment methods

Remainder material or uncleaned empty packaging's have to be incinerated in a proper installation or dumped on an approved landfill, in accordance with local and national legislation.

SECTION 14: Transport information

UN number

DOT/49CFR	:	none
IMDG/IMO	:	none
IATA/ICAO	:	3506
Remarks IATA/ICAO	:	For transport exemptions consult IATA special provisions A48, A69 and A191.

UN proper shipping name

DOT/49CFR	:	none
IMDG/IMO	:	none
IATA/ICAO	:	MERCURY CONTAINED IN MANUFACTURED ARTICLES

Transport hazard class(es)

DOT/49CFR : none IMDG/IMO : none IATA/ICAO : 8 (6.1)

Packing group

DOT/49CFR: none IMDG/IMO : none IATA/ICAO : none

Environmental hazards

Marine pollutant : no

Special precautions for user

EmS (IMDG/IMO) : none

Transport in bulk according to Annex II of Marpol and the IBC Code

Data not available.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal regulations

SARA 313: Mercury
SARA 311/312: not applicable.
HMIS Classification: not applicable.
U.S. Clean Water Act Section 307 – Toxic Pollutants: Mercury

National inventories

Articles are exempted from the Toxic Substances Control Act Inventory (TSCA-USA).

International inventories

DSL/NDSL: This substance is on the DSL (Mercury, Indium, Bismuth)

SECTION 16: Other information

Remarks on SDS : Toxic mercury vapors can be released if the lamp is broken.
For transport exemptions consult applicable regulations.

A key or legend to abbreviations and acronyms used in the safety data sheet

GHS	Globally Harmonized System of Classification and Labelling of Chemicals
CAS	Chemical Abstracts Service
TGG = TWA	Time Weighted Average
LEL	Lower Explosive Limit
UEL	Upper Explosive Limit
NTP	National Toxicology Program
KHC	Known Human Carcinogen
RAHC	Reasonably Anticipated Human Carcinogen
IARC	International Agency for Research on Cancer
OSHA	Occupational Safety & Health Administration
DOT	US Department of Transportation
RID	Règlement concernant le transport international ferroviaire des marchandises dangereuses
UN	United Nations
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
EmS	Emergency Schedule
SARA	Superfund Amendments and Reauthorization Act

DSL	Canadian Domestic Substances List
NDSL	Canadian Non-Domestic Substances List

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* Point to alterations with regard to the previous version.

The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Philips Electronics Nederland B.V. makes no warranty as to its contents, nor as to its fitness for any particular purpose or use.

SAFETY DATA SHEET

1. Identification

Product identifier	**Zinc-It® Instant Cold Galvanize**
Other means of identification	
Product code	18413
Recommended use	Coating (for use in shop applications or on non-stationary structures)
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 liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Harmful if swallowed, in contact with skin or if inhaled. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Suspected of causing cancer by inhalation. Causes damage to organs (central nervous system, liver, kidneys) through prolonged or repeated exposure. 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. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. 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 vapor. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.
Response	If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical attention. Wash contaminated clothing 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 attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If exposed or concerned: Get medical attention. In case of fire: Do not use water. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

14.5% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Zinc, Elemental		7440-66-6	70 - 80
Xylene		1330-20-7	10 - 20
Aliphatic hydrocarbon		Mixture	1 - 3
Ethylbenzene		100-41-4	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. If breathing stops, provide artificial respiration. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. Get medical advice/attention if you feel unwell. 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	Call a physician or poison control center immediately. 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. 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. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. 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. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Water.

Specific hazards arising from the chemical	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. Do not use water. Hydrogen gas may form producing an explosive environment.
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. Do not use water. Do not mix with acid or caustic materials.
General fire hazards	Highly flammable liquid and vapor.

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. Avoid inhalation of vapors and spray mists. Do not breathe vapor. 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. Take precautionary measures against static discharge. Use only non-sparking tools. Dike far ahead of spill for later disposal. 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	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. Use non-sparking tools and explosion-proof equipment. Do not breathe vapor. Do not taste or swallow. Avoid inhalation of vapors and spray mists. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices. For product usage instructions, please see the product label. No Smoking in areas where this material is used. Keep containers closed and upright when not in use. If the painted surface is to be welded, use a fan across the work area to prevent fumes from rising to the welder's face. Pump air into welder's hood to provide positive air pressure to prevent fumes from getting to welder.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Keep container tightly closed. 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

U.S. - OSHA

Components	Type	Value
Aliphatic hydrocarbon	TWA	5 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3 100 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3 100 ppm

ACGIH

Components	Type	Value
Aliphatic hydrocarbon	TWA	5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 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	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. 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 should be available when handling this product. Provide eyewash station. 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: Nitrile. Neoprene.

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. Wash hands after handling and before eating. Keep away from food and drink.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Gray.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -138.8 °F (-94.9 °C) estimated

Initial boiling point and boiling range	210 °F (98.9 °C)
Flash point	45 °F (7.2 °C) Tag Closed Cup
Evaporation rate	Slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 %
Flammability limit - upper (%)	22.7 %
Vapor pressure	1.2 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	2.47
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	810 °F (432.2 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	58.1 %

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. Contact with incompatible materials.
Incompatible materials	Never add water to this product. Acids. Alkalines. Caustics. Oxidizing agents.
Hazardous decomposition products	Carbon oxides.

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.
Skin contact	Harmful in contact with skin. Causes skin irritation.
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. 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. Harmful in contact with skin. May cause respiratory irritation.

Product	Species	Test Results
Zinc-It® Instant Cold Galvanize		
Acute		
Dermal		
LD50	Rabbit	28264 mg/kg estimated
Inhalation		
LC50	Rat	34412 ppm, 4 hours estimated
		151 mg/l, 4 hours estimated

Product	Species	Test Results
Oral		
LD50	Rat	2467 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 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 by inhalation.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

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 Causes damage to organs (central nervous system, liver, kidneys) through prolonged or repeated exposure.

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 Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Product		Species	Test Results
Zinc-It® Instant Cold Galvanize			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	0.0934 mg/l, 48 hours estimated

Components		Species	Test Results
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	2.1 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	12.1 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	9.5 - 19.2 mg/l, 96 hours
Zinc, Elemental (CAS 7440-66-6)			
Aquatic			
Fish	LC50	Bony fish superclass (Osteichthyes)	0.52 - 3.59 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	0.068 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.482 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)

Ethylbenzene	3.15
Xylene	3.12 - 3.2

Bioconcentration factor (BCF)

Xylene	15

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 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	UN1263
UN proper shipping name	Paint, Limited Quantity
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B1, B52, IB3, T2, TP1, TP29
Packaging exceptions	150
Packaging non bulk	173
Packaging bulk	242

IATA

UN number	UN1263
UN proper shipping name	Paint, Limited Quantity
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
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	UN1263
UN proper shipping name	PAINT or PAINT RELATED MATERIAL, LIMITED QUANTITY
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
EmS	F-E, S-E
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

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
Zinc, Elemental (CAS 7440-66-6)

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
Zinc, Elemental (CAS 7440-66-6)

CERCLA Hazardous Substances: Reportable quantity

Ethylbenzene (CAS 100-41-4)	1000 LBS
Xylene (CAS 1330-20-7)	100 LBS
Zinc, Elemental (CAS 7440-66-6)	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.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Ethylbenzene (CAS 100-41-4)
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.

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 - 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))

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
Zinc, Elemental (CAS 7440-66-6)

US. Massachusetts RTK - Substance List

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
Zinc, Elemental (CAS 7440-66-6)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Rhode Island RTK

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
Zinc, Elemental (CAS 7440-66-6)

US. New Jersey Worker and Community Right-to-Know Act

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)

Zinc, Elemental (CAS 7440-66-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
Zinc, Elemental (CAS 7440-66-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethylbenzene (CAS 100-41-4) Listed: June 11, 2004

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	20 %
Architectural coatings (40 CFR 59, Subpt. D)	Not regulated

State

Architectural coatings	Not regulated
VOC content	493.7 g/l

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	08-24-2015
Revision date	01-21-2016
Prepared by	Allison Cho
Version #	02
Further information	Not available.
HMIS® ratings	Health: 2* Flammability: 3 Physical hazard: 1 Personal protection: J
NFPA ratings	Health: 2 Flammability: 3 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 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.

Trade name: Duct Seal

SECTION 1: Identification

Product identifier used on the label:
Product Name: **Duct Seal**

Other means of identification:
Product Code Number: 31-601, 31-605

Recommended use of the chemical and restrictions on use:
Recommended use: Duct Sealer
Recommended restrictions: Uses other than those described above.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:
Not classified as hazardous under OSHA HSC 2012

GHS Signal word: **None Required**

GHS Hazard statement(s): None required

GHS Hazard symbol(s): None required

GHS Precautionary statement(s): None required

Hazard(s) not otherwise Classified (HNOC): None known

Percentage of ingredient(s) of unknown acute toxicity:
Not applicable

SECTION 3: Composition/information on ingredients

None of chemical raw materials contained in this formulation are considered hazardous under the OSHA Hazard Communication Standard and therefore do not need reporting in this section.

SECTION 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:

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Seek medical advice.

Skin contact: Wash with water and soap and rinse thoroughly. Seek medical advice if irritation or pain develops.

Eye contact: In case of contact with eyes, flush with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician if symptoms develop.

Ingestion: Do NOT induce vomiting. If swallowed, wash mouth out with water provided the person is conscious. NEVER GIVE LIQUIDS TO AN UNCONCIOUS PERSON. Call a physician if symptoms develop.

Most important symptoms/effects, acute and delayed:
None known

Indication of immediate medical attention and special treatment needed:
If any symptoms are observed, contact a physician and give them this SDS sheet. Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:
Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.
Unsuitable extinguishing media: None known

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
None expected.
Hazardous combustion products may include the following substances: Carbon oxides

Special protective equipment and precautions for fire-fighters:
Use water spray or fog for cooling exposed containers. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate all non-emergency personnel from area. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
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 the spilled material. Minimize contact with skin or eyes. Provide adequate ventilation. Wear appropriate protective equipment, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions:
Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways.

Methods and material for containment and cleaning up:
Collect spillage and transfer to a lidded container for disposal or recovery. Dispose of via a licensed waste disposal contractor. See Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: Handling and storage

Precautions for safe handling:
Wear recommended personal protective equipment (See Section 8). Provide adequate ventilation in process areas. Avoid contact with eyes, skin and clothing. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for safe storage, including any incompatibles:
Keep only in original container. Store in a dry, well-ventilated place. Keep container closed when not in use. Make sure containers are properly labeled. Store away from incompatible materials. Store at 40-180 ºF
Incompatible materials: Oxidizing agents.

SECTION 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.
None known.

Appropriate engineering controls:
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.
Provide eyewash station. Eye wash fountain and emergency showers are recommended. Concentrations should be monitored hazardous substances in the workplace in accordance with recognized test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

Individual protection measures, such as personal protective equipment:

Eye/face protection: None required but the use of safety glasses is recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).

Skin and Hand protection: None required but use of chemical resistant (rubber, nitrile) gloves is recommended. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection: None required. Use supplied-air respiratory protection in enclosed spaces, if needed.

General hygiene considerations: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):	
Physical state:	Solid Putty.
Color:	Dark Gray.
Odor:	None.
Odor threshold:	Not determined.
pH:	Not determined.
Melting point/freezing point:	Not determined.
Initial boiling point and boiling range:	212 ºF (100 ºC)
Flash point:	310 ºC.
Evaporation rate:	Not determined
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit – lower %):	Not determined
Flammability limit – upper (%):	Not determined
Explosive limit – lower (%):	Not determined
Explosive limit – upper (%):	Not determined
Vapor pressure:	Not determined
Vapor density:	Not determined
Relative density:	1.78
Solubility (ies):	Insoluble.
Partition coefficient (n-octanol/water):	Not determined.
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	2000-40000 cps

SECTION 10: Stability and reactivity

Reactivity:	Not reactive under recommended storage and handling conditions.
Chemical stability:	Stable under recommended storage and handling conditions.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	None known.
Incompatible materials:	Oxidizing agents
Hazardous decomposition Products:	None expected, although in a fire, Carbon oxides will be formed.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Expected to be a route of exposure
Ingestion:	Expected to be a route of exposure
Skin:	Expected to be a route of exposure
Eyes:	Expected to be a route of exposure

Target Organs: Eyes, Skin, Gastrointestinal system

Symptoms related to the physical, chemical, and toxicological characteristics:
None expected.

Delayed and immediate effects and chronic effects from short or long-term exposure:
None known.

Numerical measures of toxicity (such as acute toxicity estimates): None known.

Acute Toxicity:	Does not meet the criteria for classification
Skin corrosion/irritation:	Does not meet the criteria for classification
Serious eye damage/eye irritation:	Does not meet the criteria for classification
Respiratory sensitization:	Does not meet the criteria for classification
Skin sensitization:	Does not meet the criteria for classification
Germ cell mutagenicity:	Does not meet the criteria for classification
Carcinogenicity:	Does not meet the criteria for classification.
Reproductive toxicity:	Does not meet the criteria for classification
Specific target organ toxicity-Single exposure:	Does not meet the criteria for classification
Specific target organ toxicity-Repeat exposure:	Does not meet the criteria for classification,
Aspiration hazard:	Does not meet the criteria for classification

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: None listed.

SECTION 12: Ecological information

Ecotoxicity (aquatic and terrestrial, where available):
Not expected to be toxic to the aquatic environment.

Persistence and Degradability:
No information available

Bioaccumulative Potential:
No information available.

Mobility in Soil:
No information available.

Other adverse effects (such as hazardous to the ozone layer):
No information 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.

Product
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification Dispose via a licensed waste disposal contractor. Observe all federal, state/provincial and municipal regulations.

Contaminated packaging
Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be properly labeled to supplier or everywhere there is a recovery program.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)
Not regulated under DOT.

IMDG (Transport by sea)
Not regulated under IMDG.

IATA (Country variations may apply)
Not regulated under IATA.

Environmental hazards
Marine pollutant: No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.
None known

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not classified as hazardous under OSHA.

Toxic Substances Control Act (TSCA) - All substances in this product are listed as required or are exempt from the TSCA inventory.

CERCLA RQ (lbs) Ingredients (> 0.1%):
None listed**.**

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311, 312 and 313:
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) (> 0.1%):
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 311/312 (40 CFR 370) (> 0.1%):
Not applicable.

Section 313 Toxic Release Inventory (40 CFR 372) (> 0.1%):
None listed**.**

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.
California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986: None listed**.**

Massachusetts Right to Know:
No components are listed on the Massachusetts Right to Know list

New Jersey Right to Know:
No components are listed on the New Jersey Right to Know list

Pennsylvania Right to Know:
No components are listed on the Pennsylvania Right to Know list

SECTION 16: Other Information

Revision Date: June 5, 2023

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume 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 which exist.

CFS-S SIL SL / CFS-S SIL GG

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 9/26/2022 Issue date: 9/26/2022 Supersedes: 5/26/2020 Version: 3.3

SECTION 1: Identification

1.1. Identification

Product form	Mixture
Product name	CFS-S SIL SL / CFS-S SIL GG
Product code	BU Fire Protection

1.2. Recommended use and restrictions on use

Use of the substance/mixture	Firestop silcone sealant

1.3. Supplier

Supplier

Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
Plano, TX 75024
USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
Schaan, 9494
Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries) +1 918 8723000 1-800-879-8000 toll free

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin sensitisation, Category 1	H317	May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)

Signal word (GHS US)	Warning
Hazard statements (GHS US)	H317 - May cause an allergic skin reaction. H361 - Suspected of damaging fertility or the unborn child.
Precautionary statements (GHS US)	P261 - Avoid breathing vapours. P280 - Wear protective gloves, protective clothing, eye protection.

P302+P352 - If on skin: Wash with plenty of water.
P308+P313 - If exposed or concerned: Get medical advice/attention.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification: In use the product releases 2-butanone oxime (methyl ethyl ketoxime; MEKO) (0-24h: <0.2%/h & 24-48h: <0.02%/h) which vaporises.
In cases of prolonged exposure MEKO may damage nasal membranes. If MEKO is inhaled in large quantities over prolonged periods of time
there may be irreversible damage to health:
H351: Suspected of causing cancer.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Methyltris(1-methylpropylideneaminooxy)silane	CAS-No.: 22984-54-9	2.5 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317
Titanium dioxide	CAS-No.: 13463-67-7	1 – 2.5	Carc. 2, H351
octamethylcyclotetrasiloxane	CAS-No.: 556-67-2	0.1 – 1	Flam. Liq. 3, H226 Repr. 2, H361 Aquatic Chronic 4, H413

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

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after 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.

First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation: May cause an allergic skin reaction.

Symptoms/effects after skin contact: May cause an allergic skin reaction.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Carbon dioxide. Carbon monoxide.

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	Self-contained breathing apparatus. Complete protective clothing. Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing vapours.

6.1.2. For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Mechanically recover the product. Notify authorities if product enters sewers or public waters.
Other information	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Ensure good ventilation of the work station. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Avoid breathing vapours.
Hygiene measures	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Store in a dry place. Store locked up. Store in a well-ventilated place.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	35 – 104 °F

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

CFS-S SIL SL / CFS-S SIL GG
No additional information available

Methyltris(1-methylpropylideneaminooxy)silane (22984-54-9)
No additional information available

Titanium dioxide (13463-67-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH OEL TWA	0.2 mg/m³ (Respirable fraction) 2.5 mg/m³ (Respirable fraction)
Remark (ACGIH)	LRT irr; A3
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
OSHA PEL TWA [1]	15 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

octamethylcyclotetrasiloxane (556-67-2)
No additional information available

Additional information: The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

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

Personal protective equipment:

Protective clothing. Safety glasses. Gloves.

Hand protection:				
protective gloves. EN 374				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
Disposable gloves	Nitrile rubber (NBR)	1 (> 10 minutes)	>0.4	

Eye protection:		
EN 166		
Type	**Field of application**	**Characteristics**
Safety glasses		

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of inadequate ventilation wear respiratory protection.

Personal protective equipment symbol(s):

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	Pasty.
Colour	red white
Odour	odourless
Odour threshold	Not determined
pH	8.5
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	412 °F
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	Not applicable.
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.38 g/cm³
Molecular mass	Not determined
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive limits	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2. Other information

VOC content	< 50 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

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

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

Methyltris(1-methylpropylideneaminooxy)silane (22984-54-9)	
LD50 oral rat	2463 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 5.09 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))

octamethylcyclotetrasiloxane (556-67-2)	
LD50 oral rat	> 4800 mg/kg (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LD50 dermal rat	> 2400 mg/kg bodyweight (Equivalent or similar to OECD 402, Rat, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	36 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol))

Skin corrosion/irritation	Not classified pH: 8.5
Serious eye damage/irritation	Not classified pH: 8.5
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified

Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Viscosity, kinematic	No data available
Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met.
Symptoms/effects after inhalation	May cause an allergic skin reaction.
Symptoms/effects after skin contact	May cause an allergic skin reaction.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - water	Harmful to aquatic life with long lasting effects.

Methyltris(1-methylpropylideneaminooxy)silane (22984-54-9)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Semi-static system, Fresh water, Read-across, GLP)
EC50 - Crustacea [1]	201 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Read-across, GLP)
ErC50 algae	16 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

Titanium dioxide (13463-67-7)	
LC50 - Fish [1]	> 1000 mg/l (Pisces, Fresh water)
LC50 - Other aquatic organisms [1]	> 500 mg/l
EC50 - Crustacea [1]	> 1000 mg/l (Invertebrata, Fresh water)
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
ErC50 algae	61 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

CFS-S SIL SL / CFS-S SIL GG	
Persistence and degradability	May cause long-term adverse effects in the environment.

Methyltris(1-methylpropylideneaminooxy)silane (22984-54-9)	
Persistence and degradability	Not readily biodegradable in water.

Titanium dioxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

octamethylcyclotetrasiloxane (556-67-2)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

CFS-S SIL SL / CFS-S SIL GG	
Bioaccumulative potential	Not established.

Methyltris(1-methylpropylideneaminooxy)silane (22984-54-9)	
BCF - Fish [1]	0.5 – 5.8 (6 week(s), Cyprinus carpio, Flow-through system, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	0.36 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Titanium dioxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.

octamethylcyclotetrasiloxane (556-67-2)	
BCF - Fish [1]	12400 l/kg (EPA OTS 797.1520, 28 day(s), Pimephales promelas, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	6.488 (Experimental value, OECD 123: Partition Coefficient (1-Octanol/Water): Slow-Stirring Method, 25.1 °C)
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

12.4. Mobility in soil

Methyltris(1-methylpropylideneaminooxy)silane (22984-54-9)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	5.481 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.

Titanium dioxide (13463-67-7)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.

octamethylcyclotetrasiloxane (556-67-2)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.22 (log Koc, OECD 106: Adsorption/Desorption Using a Batch Equilibrium Method, Experimental value, GLP)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID
14.1. UN number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

Overland transport
No data available

Transport by sea
No data available

Air transport
No data available

Rail transport
No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

octamethylcyclotetrasiloxane	CAS-No. 556-67-2	0.1 – 1%

15.2. International regulations

Titanium dioxide (13463-67-7)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

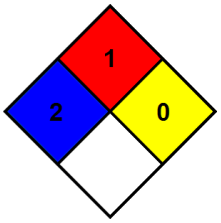
SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date	09/26/2022
Data sources	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 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.
Other information	None.

Full text of H-statements	
H226	Flammable liquid and vapour.
H227	Combustible liquid
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H413	May cause long lasting harmful effects to aquatic life.

NFPA health hazard	2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
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.



Hazard Rating

Health	1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
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.
Personal protection	B - Safety glasses, Gloves

Indication of changes:			
Section	**Changed item**	**Change**	**Comments**
			general update

SDS_US_Hilti

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

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date : 2018-01-25
Publication date : 2018-08-28

Version number : 1.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

(a) Product identifier

SDS : 33602

Lamp Material Data Sheet code (LMDS) : Philips TL8-13100A

* **Supplier** : Signify North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873-4186

Tradename : PHILIPS T8 FLUORESCENT LAMPS - ALL TYPES

(b) Other means of identification : All ALTO, non-ALTO, Standard, HO, Circular, U-Bent and TuffGuard All lengths, coatings, wattages

(c) Relevant identified uses of the substance or mixture and uses advised against

General description : Fluorescent Lamp

Use : Various

Uses advised against : No data available

(d) Details of the supplier of the safety data sheet

Supplier safety data sheet : Philips Electronics Nederland B.V., Philips Environment & Safety, High Tech Campus 37, 5656 AE Eindhoven, Tel. +31 (0)40 27 41 645

Responsible department : hazcom@philips.com

(e) Emergency telephone number

Emergency telephone number:

CHEMTREC : +1 (0)800-424-9300

SECTION 2: Hazards identification

(a) Classification of the substance or mixture

Classification in accordance with 29 CFR 1910.1200

Not classified.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article and as such does not require an SDS per the OSHA hazard communication standard.

(b) Label elements

Labelling in accordance with 29 CFR 1910.1200

Label : not applicable.

Remarks on labelling: none

(c) Other hazards

none.

SECTION 3: Composition/information on ingredients

Component	CAS number
GLASS	65997-17-3
FLUORESCENT POWDER	-
MERCURY	7439-97-6
POLY(ETHYLENE TEREPHTHALATE)	25038-59-9

Remark: The product contains: 1.7 - 3.5 mg Mercury

SECTION 4: First aid measures

(a) Description of first aid measures

Skin : Not applicable.
Ingestion : Not applicable.
Inhalation : Not applicable.
Eyes : Not applicable.

(b) Most important symptoms and effects, both acute and delayed

Skin	local	:	Under normal circumstances not applicable.
	general	:	Under normal circumstances not applicable
Ingestion	local	:	Under normal circumstances not applicable
	general	:	Under normal circumstances not applicable
Inhalation	local	:	Under normal circumstances not applicable
	general	:	Under normal circumstances not applicable
Eyes	local	:	Under normal circumstances not applicable

Remarks symptoms : None

(c) Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

(a) Extinguishing media

Suitable fire-extinguisher
determined by surrounding.
Unsuitable fire-extinguisher
not traceable.

(b) Special hazards arising from the substance or mixture

Hazardous decomposition products in fire**:** Silicon dioxide, Mercury oxides, metal oxide

(c) Advice for firefighters

In the event of fire, wear protective clothing and use breathing apparatus that is independent of the ambient air.

SECTION 6: Accidental release measures

(a) Personal precautions, protective equipment and emergency procedures

Personal precautions

In case of broken articles, use protective equipment. Evacuate area.

For non-emergency personnel

Protective equipment

Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedure

Ventilate affected area.

For emergency responders

Use appropriate respiratory protection. Personal protection equipment

(b) Methods and material for containment and cleaning up

For containment

Collect materials needed to clean up broken bulb: stiff paper or cardboard; sticky tape; damp paper towels or disposable wet wipes (for hard surfaces); and a glass jar with a metal lid or a sealable plastic bag. Be thorough in collecting broken glass.

For cleaning up

DO NOT VACUUM. Vacuuming is not recommended unless broken glass remains after all other cleanup steps have been taken. Vacuuming could spread mercury-containing powder or mercury vapor. Scoop up glass fragments using stiff paper or cardboard and sticky tape. Place cleanup materials in a sealable container.

Other information

No information available.

SECTION 7: Handling and storage

(a) Precautions for safe handling

Local exhausting : Under normal circumstances not applicable.

(b) Conditions for safe storage, including any incompatibilities

Storage conditions : No special precautions.

SECTION 8: Exposure controls/personal protection

(a) Control parameters

Exposure limits :

applicable to: United States of America (25 ºC; 1013 mbar)

TWA(8 hours):	0.025 mg/m3	S	MERCURY- [according to ACGIH]
TWA (8 hours):	0.1 mg/m3	C	MERCURY- [according to NIOSH]
TWA (8 hours)	0.1 mg/10m^3	C	MERCURY – [according to OSHA PEL]

C=Ceiling; S=Skin

Remarks exposure limits : none

(b) Appropriate engineering controls: Under normal circumstances not applicable

(c) Exposure controls

Advised personal protection:

Hands:	Under normal circumstances not applicable.
Breakthrough time:	Under normal circumstances not applicable.
Eyes:	Under normal circumstances not applicable.
Inhalation:	Under normal circumstances not applicable.
Skin:	Under normal circumstances not applicable.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	:	article
Color	:	type dependent
Odor	:	odorless
Odor threshold (20ºC; 1013 mbar)	:	not traceable
pH	:	not applicable
Melting point/freezing point	:	not traceable
Boiling point/range	:	not traceable
Flash point/range	:	not applicable
Evaporation rate/range	:	not applicable
Vapor rate/range	:	not applicable
Flammability (solid, gas)	:	data not available
Upper/lower flammability or explosive limit	:	not applicable
Vapor pressure	:	not applicable
Vapor density	:	not applicable
Density	:	not traceable
Solubility in water	:	not applicable

Log Po/w:	4.5	MERCURY	**Source**	:	Chemicalcards
	0.54	POLY(ETHYLENE TEREPHTHALATE)	**Source**	:	Easi View

Auto-ignition temperature	:	not applicable
Decomposition temperature	:	not traceable
Viscosity	:	not applicable
Dust explosions possible in air	:	not applicable
Oxidizing properties	:	no

SECTION 10: Stability and reactivity

(a) Reactivity

Not applicable.

(b) Chemical stability

The substance or mixture is stable under normal conditions.

(c) Possibility of hazardous reactions

Reactions with water	:	no
Other hazardous conditions	:	Data not available.

(d) Conditions to avoid

Data not available.

(e) Incompatible materials

Hazardous reactions with	:	none

(f) Hazardous decomposition products

Hazardous decomposition products at heating : none

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity
No data available.

Acute dermal toxicity
No data available.

Acute inhalation toxicity
No data available.

Skin corrosion/irritation
The substance or mixture is not classified for skin corrosion/-irritation.

Serious eye damage/irritation
The substance or mixture is not classified for serious eye damage/irritation.

Respiratory or skin sensitization
The substance or mixture is not classified for respiratory or skin sensitization.

Germ cell mutagenicity
The substance or mixture is not classified for germ cell mutagenicity.

Carcinogenicity

IARC: Group 3: Not classifiable as to its carcinogenicity to humans (Mercury)
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.

Reproductive toxicity
The substance or mixture is not classified for reproductive toxicity.

Specific target organ toxicity-single exposure
The substance or mixture is not classified for specific target organ toxicity-single exposure.

Specific target organ toxicity-repeated exposure
The substance or mixture is not classified for specific target organ toxicity-repeated exposure.

Aspiration hazard
The substance or mixture is not classified for aspiration hazard.

Symptoms

Skin	local	:	Not applicable.
	general	:	Not applicable.
Ingestion	local	:	Not applicable.
	general	:	Not applicable.
Inhalation	local	:	Not applicable.
	general	:	Not applicable.
Eyes	local	:	Not applicable.
Remarks symptoms		:	None

SECTION 12: Ecological information

(a) Toxicity

Ecotoxicity

LC-50: 0.004 mg/l/96H (Fish)	MERCURY	**Source** : Easi View
EC-50: 0.0205 mg/l/48H (Daphnia)	MERCURY	**Source** : IFA- Gestis
IC-50: 0.3 mg/l/72H (Algae)	MERCURY	**Source** : Easi View

(b) Persistence and degradability

Biological oxygen demand:	not applicable
Chemical oxygen demand:	not applicable
Degradability:	not applicable

(c) Bioaccumulative potential

Bioconcentration factor (BCF) **:** >2500 MERCURY

(d) Mobility in soil

Henry Constant **:** 1.46E-1 atm m3/mol POLY(ETHYLENE TEREPHTHALATE) **Source:** Easi View

(e) Other adverse effects

Remarks on eco-toxicity**:** none

SECTION 13: Disposal considerations

Waste treatment methods

Remainder material or uncleaned empty packaging's have to be incinerated in a proper installation or dumped on an approved landfill, in accordance with local and national legislation.

SECTION 14: Transport information

(a) UN number

DOT/49CFR	: none
IMDG/IMO	: none
IATA/ICAO	: 3506
Remarks IATA/ICAO	: For transport exemptions consult IATA special provisions A48, A69 and A191.

(b) UN proper shipping name

DOT/49CFR	: none
IMDG/IMO	: none
IATA/ICAO	: MERCURY CONTAINED IN MANUFACTURED ARTICLES

(c) Transport hazard class(es)

DOT/49CFR : none IMDG/IMO : none IATA/ICAO : 8 (6.1)

(d) Packing group

DOT/49CFR : none IMDG/IMO : none IATA/ICAO : none

(e) Environmental hazards

Marine pollutant : no

(f) Special precautions for user

Hazard identification number (ADR/RID) : none

EmS (IMDG/IMO) : none

(g) Transport in bulk according to Annex II of Marpol and the IBC Code

Data not available.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal regulations

SARA 313: Mercury
SARA 311/312: not applicable.
HMIS Classification: not applicable.
U.S. Clean Water Act Section 307 – Toxic Pollutants: Mercury

National inventories

Articles are exempted from the Toxic Substances Control Act Inventory (TSCA-USA).

International inventories

DSL/NDSL: This substance is on the DSL (Mercury)

SECTION 16: Other information

Remarks on SDS : Working on this product may release toxic dust.
Toxic mercury vapors can be released if the lamp is broken.
For transport exemptions consult applicable regulations.

A key or legend to abbreviations and acronyms used in the safety data sheet

GHS	Globally Harmonized System of Classification and Labelling of Chemicals
CAS	Chemical Abstracts Service
TGG = TWA	Time Weighted Average
LEL	Lower Explosive Limit
UEL	Upper Explosive Limit
NTP	National Toxicology Program
KHC	Known Human Carcinogen
RAHC	Reasonably Anticipated Human Carcinogen
IARC	International Agency for Research on Cancer
OSHA	Occupational Safety & Health Administration
DOT	US Department of Transportation
RID	Règlement concernant le transport international ferroviaire des marchandises dangereuses
UN	United Nations
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
EmS	Emergency Schedule
SARA	Superfund Amendments and Reauthorization Act

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* Point to alterations with regard to the previous version.

SAFETY DATA SHEET

DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC

Product name: GREAT STUFF PRO™ Gasket Foam

Issue Date: 03/14/2024
Print Date: 03/21/2024

DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC 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. IDENTIFICATION

Product name: GREAT STUFF PRO™ Gasket Foam

Recommended use of the chemical and restrictions on use
Identified uses: For industrial use. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION
DDP SPECIALTY ELECTRONIC MATERIALS
US 9, LLC
974 Centre Road
Wilmington DE 19805
UNITED STATES

Customer Information Number: 833-338-7668
SDSQuestion-NA@dupont.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 1-800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with 29 CFR 1910.1200
Flammable aerosols - Category 2
Gases under pressure - Liquefied gas

Label elements
Hazard pictograms

Signal word: **WARNING!**

Hazards
Flammable aerosol.
Contains gas under pressure; may explode if heated.

Precautionary statements

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.

Storage
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Other hazards
No data available
Further information
The values listed below represent the percentages of ingredients of unknown toxicity.
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 36.1913 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Water	7732-18-5	<= 60.0 %
Polyurethane Resin	Not available	<= 40.0 %
Ethanol	64-17-5	<= 5.0 %
Isobutane	75-28-5	<= 3.0 %
Dimethyl ether	115-10-6	<= 2.0 %
Ammonia	7664-41-7	< 1.0 %
Ethoxylated octylphenol	9002-93-1	< 1.0 %

4. FIRST AID MEASURES

Description of first aid measures
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.

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.

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. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

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. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

5. FIREFIGHTING MEASURES

Suitable 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.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture
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.

Unusual Fire and Explosion Hazards: Container may vent and/or rupture due to fire. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. When product is stored in closed containers, a flammable atmosphere can develop. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Water may not be effective in extinguishing fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

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.

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. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. 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. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep away from heat, sparks and flame. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. 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. Never use air pressure for transferring product. Avoid contact with eyes. Avoid breathing vapor. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Minimize sources of ignition, such as static build-up, heat, spark or flame. Keep container closed when not in use. Flammable mixtures may exist within the vapor space of containers at room temperature. Store in a dry place. Flammable vapors may accumulate in some storage situations. Avoid moisture. Avoid contact with air (oxygen). Store in accordance with good manufacturing practices.

Storage stability

Storage temperature:	**Storage Period:**
32 °C (90 °F)	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Ethanol	DUPONT AEL	AEL *	1,000 ppm
	ACGIH	TWA	1,000 ppm
	Further information: URT irr: Upper Respiratory Tract irritation		
	ACGIH	STEL	1,000 ppm
	Further information: URT irr: Upper Respiratory Tract irritation		
	OSHA Z-1	TWA	1,900 mg/m3 1,000 ppm
	CAL PEL	PEL	1,900 mg/m3 1,000 ppm
	NIOSH REL	TWA	1,900 mg/m3 1,000 ppm
Isobutane	ACGIH	STEL	1,000 ppm
	NIOSH REL	TWA	1,900 mg/m3 800 ppm
Dimethyl ether	US WEEL	TWA	1,000 ppm
Ammonia	DUPONT AEL	AEL *	25 ppm
	DUPONT AEL	STEL	35 ppm
	OSHA Z-1	TWA	35 mg/m3 50 ppm
	ACGIH	TWA	25 ppm, Ammonia
	ACGIH	STEL	35 ppm, Ammonia
	CAL PEL	PEL	18 mg/m3 25 ppm
	CAL PEL	STEL	27 mg/m3 35 ppm
	OSHA P0	STEL	27 mg/m3 35 ppm
	NIOSH REL	TWA	18 mg/m3 25 ppm, Ammonia
	NIOSH REL	ST	27 mg/m3 35 ppm, Ammonia

Exposure controls

Engineering measures: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only in enclosed systems or with local exhaust ventilation. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures
Eye/face protection: Use chemical goggles.
Skin protection
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Avoid gloves made of: Polyvinyl alcohol ("PVA"). 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.
Other 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.
Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Aerosol containing a compressed gas
Color	white
Odor	Ammonia odor
Odor Threshold	No test data available
pH	10 - 10.9
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point	**closed cup** -104 °C (-155 °F) *Estimated.*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not expected to form explosive dust-air mixtures.
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	Not applicable to liquids
Relative Density (water = 1)	Not applicable
Water solubility	Not applicable
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available

Kinematic Viscosity	not determined
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7. Hygroscopic

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Avoid contact with air (oxygen). Exposure to elevated temperatures can cause product to decompose. Avoid moisture.

Incompatible materials: Avoid contact with: Bases. Oxidizers. Peroxides. Phosphorous compounds. Reducing agents. Avoid contact with metals such as: Alkali metals.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Product test data not available. Refer to component data.

Acute dermal toxicity
Product test data not available. Refer to component data.

Acute inhalation toxicity
Product test data not available. Refer to component data.

Skin corrosion/irritation
Product test data not available. Refer to component data.

Serious eye damage/eye irritation
Product test data not available. Refer to component data.

Sensitization
Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Single Exposure)
Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Product test data not available. Refer to component data.

Carcinogenicity
Product test data not available. Refer to component data.

Teratogenicity
Product test data not available. Refer to component data.

Reproductive toxicity
Product test data not available. Refer to component data.

Mutagenicity
Product test data not available. Refer to component data.

Aspiration Hazard
Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

Polyurethane Resin

Acute oral toxicity
LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity
The dermal LD50 has not been determined.

Acute inhalation toxicity
The LC50 has not been determined.

Skin corrosion/irritation
Essentially nonirritating to skin.
Mechanical injury only.
Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.
For the major component(s):

Serious eye damage/eye irritation
Solid or dust may cause irritation due to mechanical action.
Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Sensitization
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
No relevant data found.

Carcinogenicity
No relevant data found.

Teratogenicity
No relevant data found.

Reproductive toxicity
No relevant data found.

Mutagenicity
No relevant data found.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

Ethanol

Acute oral toxicity
LD50, Rat, > 7,000 mg/kg

LDLo, human, 1,400 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 15,800 mg/kg

Acute inhalation toxicity
LC50, Rat, 4 Hour, vapour, 124.7 mg/l

Skin corrosion/irritation
Essentially nonirritating to skin.
May cause drying and flaking of the skin.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause moderate corneal injury.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No data available.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
No specific, relevant data available for assessment.

Carcinogenicity

Ethanol when not consumed in an alcoholic beverage is not classifiable as a human carcinogen. Epidemiology studies provide evidence that drinking of alcoholic beverages (containing ethanol) is associated with cancer, and IARC has classified alcoholic beverages as carcinogenic to humans.

Teratogenicity
Has caused birth defects in lab animals at high doses.

Reproductive toxicity
No specific, relevant data available for assessment.

Mutagenicity
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative in some cases and positive in other cases.

Aspiration Hazard
May be harmful if swallowed and enters airways.

Isobutane

Acute oral toxicity
Single dose oral LD50 has not been determined.

Acute dermal toxicity
The dermal LD50 has not been determined.

Acute inhalation toxicity
LC50, Mouse, 4 Hour, gas, 260,200 mg/l

Skin corrosion/irritation
Liquid may cause frostbite upon skin contact.
No hazard from gas.

Serious eye damage/eye irritation
Liquid may cause frostbite.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause drowsiness or dizziness.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity
No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity
No relevant data found.

Mutagenicity
In vitro genetic toxicity studies were negative.

Aspiration Hazard
Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Dimethyl ether

Acute oral toxicity
Single dose oral LD50 has not been determined.

Acute dermal toxicity
The dermal LD50 has not been determined.

Acute inhalation toxicity
LC50, Rat, 4 Hour, gas, 164000 ppm

Skin corrosion/irritation
Liquid may cause frostbite upon skin contact.
Prolonged or repeated exposure may cause defatting of the skin leading to drying or flaking of skin.

Serious eye damage/eye irritation
Liquid may cause frostbite.

Sensitization
No relevant information found.

For respiratory sensitization:
No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
In animals, effects have been reported on the following organs:
Kidney.
Liver.

Carcinogenicity
Did not cause cancer in laboratory animals.

Teratogenicity
Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive toxicity
No relevant data found.

Mutagenicity
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

Ammonia

Acute oral toxicity
Single dose oral LD50 has not been determined.

Acute dermal toxicity
The dermal LD50 has not been determined.

Acute inhalation toxicity
Central nervous system effects. Respiratory effects. LC50, Mouse, 4 Hour, gas, 2115 ppm

Skin corrosion/irritation
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization
For skin sensitization:
No data available

For respiratory sensitization:
No data available

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Target Organs: Respiratory system

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.
Information given is based on data obtained from similar substances.

Carcinogenicity
Animal testing did not show any carcinogenic effects. For similar material(s):

Teratogenicity
Did not cause birth defects or any other fetal effects in laboratory animals. Information given is based on data obtained from similar substances.

Reproductive toxicity
In animal studies, did not interfere with reproduction. Information given is based on data obtained from similar substances.

Mutagenicity
This material was not mutagenic in an Ames bacterial assay. Animal genetic toxicity studies were negative.

Aspiration Hazard
No aspiration toxicity classification

Ethoxylated octylphenol

Acute oral toxicity
LD50, Rat, 1,800 mg/kg

Acute dermal toxicity
LD50, Rabbit, 8,000 mg/kg

Acute inhalation toxicity
The LC50 has not been determined.

Skin corrosion/irritation
Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
No data available

Specific Target Organ Systemic Toxicity (Repeated Exposure)
No relevant data found.

Carcinogenicity
No data available.

Teratogenicity
No relevant data found.

Reproductive toxicity
No relevant data found.

Mutagenicity
No relevant data found.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Polyurethane Resin

Acute toxicity to fish
Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

Ethanol

Acute toxicity to fish
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).
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 11,200 - 13,000 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 5,414 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EbC50, Skeletonema costatum (marine diatom), 5 d, Biomass, 10,943 - 11,619 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 9 d, 9.6 mg/l

Isobutane

Acute toxicity to fish
No relevant data found.

Dimethyl ether

Acute toxicity to fish
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).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 4,000 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, > 4,000 mg/l, OECD Test Guideline 202 or Equivalent

Toxicity to bacteria
EC10, Pseudomonas putida, > 1,600 mg/l

Ammonia

Acute toxicity to fish
Information given is based on data obtained from similar substances.
LC50, Pimephales promelas (fathead minnow), 96 Hour, 0.75 - 3.4 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, 101 mg/l

Acute toxicity to algae/aquatic plants
Information given is based on data obtained from similar substances.
EC50, Chlorella vulgaris (Fresh water algae), 18 d, 2,700 mg/l

Chronic toxicity to fish

NOEC, Ictalurus punctatus (channel catfish), 31 d, 0.048 mg/l

Chronic toxicity to aquatic invertebrates
Information given is based on tests on the mixture itself.
Daphnia magna (Water flea), 21 d, 0.79 mg/l

Ethoxylated octylphenol

Acute toxicity to fish
LC50, Leuciscus idus (Golden orfe), 96 Hour, 0.26 mg/l

Acute toxicity to aquatic invertebrates
EC50, No species specified, 48 Hour, 0.013 mg/l

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, 1.9 mg/l
NOEC, Pseudokirchneriella subcapitata (green algae), 96 Hour, < 1 mg/l

Chronic toxicity to fish
NOEC, Danio rerio (zebra fish), 151 d, 0.012 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, 0.03 mg/l

Persistence and degradability

Polyurethane Resin

Biodegradability: This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Ethanol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: > 70 %
Exposure time: 5 d
Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 2.08 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 2.99 d
Method: Estimated.

Isobutane

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.58 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 4.4 d
Method: Estimated.

Dimethyl ether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Ammonia

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Theoretical Oxygen Demand: 3.76 mg/mg Estimated.

Ethoxylated octylphenol

Biodegradability: Inherently biodegradable.
Method: OECD Test Guideline 301B

Bioaccumulative potential

Polyurethane Resin

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Ethanol

Bioaccumulation: Bioaccumulation is unlikely. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0.31 Measured

Isobutane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.76 Measured

Dimethyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.10 Measured

Ammonia

Bioaccumulation: Does not bioaccumulate.
Partition coefficient: n-octanol/water(log Pow): 0.23 at 20 °C

Ethoxylated octylphenol

Bioaccumulation: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water(log Pow): 4.8

Mobility in soil

Polyurethane Resin

In the terrestrial environment, material is expected to remain in the soil.

In the aquatic environment, material will sink and remain in the sediment.

Ethanol

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 1.0 Estimated.

Isobutane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 35 Estimated.

Dimethyl ether

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 1.29 - 14 Estimated.

Ammonia

No specific, relevant data available for assessment.

13. DISPOSAL CONSIDERATIONS

Disposal methods: 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: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Aerosols
UN number	UN 1950
Class	2.1
Packing group	
Reportable Quantity	Ammonia

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	
Marine pollutant	No
Transport in bulk according to Annex I or II	Consult IMO regulations before transporting ocean bulk

of MARPOL 73/78 and the IBC or IGC Code

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Aerosols, flammable
UN number	UN 1950
Class	2.1
Packing group	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. 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

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Flammable (gases, aerosols, liquids, or solids)
Gases under pressure
Serious eye damage or eye irritation

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 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.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103
Calculated RQ exceeds reasonably attainable upper limit.

Components	**CASRN**	**RQ (RCRA Code)**
Methanol	67-56-1	5000 lbs RQ
Methanol	67-56-1	100 lbs RQ (F003)
Ammonia	7664-41-7	100 lbs RQ

Does not contain HFC.

Compliant with Title 42 Chapter 85 Clean Air Act: Subchapter VII American Innovation and Manufacturing Act of 2020, and Section 612 US EPA Significant New Alternatives Policy.

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Ethanol	64-17-5
Isobutane	75-28-5
Dimethyl ether	115-10-6

California Prop. 65
This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the SDS or label.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the Active inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
2/	4	3

Revision
Identification Number: 12011680 / A776 / Issue Date: 03/14/2024 / Version: 5.1
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
AEL *	8 & 12 hr. TWA
CAL PEL	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
DUPONT AEL	DuPont AEL (Acceptable Exposure Limit)
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA P0	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
PEL	Permissible exposure limit
ST	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
STEL	Short-term exposure limit
TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations
AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic

Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC 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.
US

Diesel Reference Fuel U-32

Version 1.15 Revision Date 2021-03-08

according to GB/T 16483 and GB/T 17519

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product information

Product Name	:	Diesel Reference Fuel U-32
Material	:	1108915, 1024281, 1024280, 1032195, 1024277, 1024279, 1024278
Use	:	Reference Fuel
Company	:	Chevron Phillips Chemical Company LP Specialty Chemicals 10001 Six Pines Drive The Woodlands, TX 77380
Local	:	Chevron Phillips Chemicals (Shanghai) Corporation Room 1810-1812, Shanghai Mart, 2299 Yan An Road (W), Shanghai, PRC 200336 Tel: (86-21) 22157200

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)
Transport:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

Responsible Department	:	Product Safety and Toxicology Group
E-mail address	:	SDS@CPChem.com
Website	:	www.CPChem.com

SECTION 2: Hazards identification

Classification of the substance or mixture
GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)

Emergency Overview

Danger

Physical state: liquid **Color**: Yellow **Odor**: Mild

Hazards : Flammable liquid and vapor. Causes skin irritation. May cause cancer. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Classification

: Flammable liquids, Category 3
Skin corrosion/irritation, Category 2
Carcinogenicity, Category 1B
Specific target organ toxicity - repeated exposure, Category 2, Blood, Liver, thymus gland
Aspiration hazard, Category 1
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

Labeling

Symbol(s) :

Signal Word : Danger

Hazard Statements : H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H350: May cause cancer.
H373: May cause damage to organs (Blood, Liver, thymus gland) through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
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.
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/ vapors/ spray.
P264: Wash skin thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301+P310: IF SWALLOWED: Immediately call a POISON

CENTER/doctor.
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.
P331: Do NOT induce vomiting.
P332 + P313: If skin irritation occurs: Get medical advice/ attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391: Collect spillage.
Storage:
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
Disposal:
P501: Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: Composition/information on ingredients

Synonyms : Diesel Reference Fuel U

Molecular formula : Mixture

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
Light Cycle Oil	64741-59-9	60 - 70
C12-C14 Isoalkanes	68551-19-9	30 - 40

SECTION 4: First aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point	:	48°C (118°F) Method: Tag closed cup
Autoignition temperature	:	No data available
Suitable extinguishing media	:	Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.
Unsuitable extinguishing media	:	High volume water jet.
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	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. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Fire and explosion protection	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.
Hazardous decomposition products	:	Carbon oxides.

SECTION 6: Accidental release measures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
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 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).

SECTION 7: Handling and storage

Handling

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers	:	No smoking. 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. Electrical installations / working materials must comply with the technological safety standards.
Use	:	Reference Fuel

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Chevron Phillips Chemical Company LP

Components	Basis	Value	Control parameters	Note
C12-C14 Isoalkanes	Manufacturer	TWA	1,200 mg/m3	RCP,

RCP Reciprocal Calculation Procedure

CN

Components	Basis	Value	Control parameters	Note

Not applicable

Engineering measures

Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. 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.

Personal protective equipment

Respiratory protection	:	Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as:. Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-

purifying respirators may not provide adequate protection.

Hand protection	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	:	Eye wash bottle with pure water. Tightly fitting safety goggles.
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. Wear as appropriate:. Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state	:	liquid
Color	:	Yellow
Odor	:	Mild

Safety data

Flash point	:	48°C (118°F) Method: Tag closed cup
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available
Oxidizing properties	:	No
Autoignition temperature	:	No data available
Thermal decomposition	:	No data available
Molecular formula	:	Mixture
Molecular weight	:	Not applicable
pH	:	Not applicable
Pour point	:	No data available
Boiling point/boiling range	:	176-317°C (349-603°F)

Vapor pressure	:	No data available
Relative density	:	0.869 at 15.6 °C (60.1 °F)
Density	:	0.8690 g/cm3
Bulk density	:	7.25 L/G
Water solubility	:	negligible
Partition coefficient: n-octanol/water	:	No data available
Viscosity, kinematic	:	1.898 cSt at 40°C (104°F)
Relative vapor density	:	3 (Air = 1.0)
Evaporation rate	:	< 1
Percent volatile	:	> 99 %

SECTION 10: Stability and reactivity

Reactivity : Stable under recommended storage conditions.

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not occur.

Further information: No decomposition if stored and applied as directed.

Hazardous reactions: Vapors may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Thermal decomposition : No data available

Hazardous decomposition products : Carbon oxides

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Diesel Reference Fuel U-32
Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
Method: Acute toxicity estimate

Diesel Reference Fuel U-32
Acute inhalation toxicity : LC50: > 20 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist
Method: Acute toxicity estimate

Diesel Reference Fuel U-32
Acute dermal toxicity : LD50: > 5,000 mg/kg
Species: Rabbit
Method: Acute toxicity estimate

Diesel Reference Fuel U-32
Skin irritation : Skin irritation
largely based on animal evidence.

Diesel Reference Fuel U-32
Eye irritation : May irritate eyes.

Diesel Reference Fuel U-32
Sensitization : Does not cause sensitization.

Repeated dose toxicity

Light Cycle Oil : Species: Rat, males
Sex: males
Application Route: Dermal
Dose: 0, 8, 25, 125, 500, 1250 mg/kg
Exposure time: 90 day
Number of exposures: 5 days/wk
NOEL: 25 mg/kg
Target Organs: Blood, Liver, Thymus

Species: Rat, females
Sex: females
Application Route: Dermal
Dose: 0, 8, 25, 125, 500, 1250 mg/kg
Exposure time: 90 day
Number of exposures: 5 days/wk
NOEL: 125 mg/kg
Target Organs: Blood, Liver, Thymus

C12-C14 Isoalkanes Species: Rat, male and female
Sex: male and female
Application Route: oral gavage
Dose: 500, 2500, 5000 mg/kg/d

Exposure time: 13 wk
Number of exposures: daily
NOEL: >= 5000 mg/kg/d
Method: OECD Test Guideline 408
No adverse effects expected
Information given is based on data obtained from similar substances.

Species: Rat, male and female
Sex: male and female
Application Route: Dermal
Dose: 165, 330, 495 mg/kg
Exposure time: 13 wk
Number of exposures: 5 d/wk
NOEL: > 495 mg/kg/d
Method: OECD Guideline 411
No adverse effects expected
Information given is based on data obtained from similar substances.

Species: Rat, male and female
Sex: male and female
Application Route: Inhalation
Dose: 5, 10, 30 mg/L
Exposure time: 90 d
Number of exposures: 6 h/d
NOEL: > 30 mg/l
Method: OECD Test Guideline 413
No adverse effects expected
Information given is based on data obtained from similar substances.

Genotoxicity in vitro

Light Cycle Oil	:	Test Type: Modified Ames test Result: positive Test Type: Mouse lymphoma assay Result: positive Test Type: Sister Chromatid Exchange Assay Result: negative
C12-C14 Isoalkanes		Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Result: negative Test Type: Sister Chromatid Exchange Assay Metabolic activation: with and without metabolic activation Result: negative

Genotoxicity in vivo

Light Cycle Oil	:	Test Type: Cytogenetic assay Result: negative

Diesel Reference Fuel U-32
Carcinogenicity : Remarks: May cause cancer.

Reproductive toxicity

C12-C14 Isoalkanes : Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 50, 200, 750 mg/kg/bw/d
Number of exposures: daily
Test period: 70 d
Method: OECD Test Guideline 416
NOAEL Parent: >750 mg/kg/bw/d
NOAEL F1: >750 mg/kg/bw/d
No adverse effects expected
Information given is based on data obtained from similar substances.

Developmental Toxicity

Light Cycle Oil : Species: Rat
Application Route: Dermal
Dose: 1, 50, 250 mg/kg/d
Number of exposures: once daily
Test period: GD 0-19
Method: OECD Guideline 414
NOAEL Teratogenicity: 1 mg/kg
NOAEL Maternal: 1 mg/kg

Diesel Reference Fuel U-32
Aspiration toxicity : May be fatal if swallowed and enters airways.

CMR effects

Light Cycle Oil : Carcinogenicity: Possible human carcinogen

C12-C14 Isoalkanes Carcinogenicity: Not available
Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects., In vivo tests did not show mutagenic effects
Teratogenicity: Animal testing did not show any effects on fetal development.
Reproductive toxicity: Animal testing did not show any effects on fertility.

Diesel Reference Fuel U-32
Further information : Solvents may degrease the skin.

SECTION 12: Ecological information

Ecotoxicity effects
Toxicity to fish

Light Cycle Oil	:	LL50: > 0.3 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test Method: OECD Test Guideline 203
C12-C14 Isoalkanes		LL50: > 1,000 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates

Light Cycle Oil	:	EL50: 0.32 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Immobilization Method: OECD Test Guideline 202
C12-C14 Isoalkanes		EL50: > 1,000 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202 Information given is based on data obtained from similar substances.

Toxicity to algae

Light Cycle Oil	:	EL50: 0.51 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Growth inhibition Method: OECD Test Guideline 201
C12-C14 Isoalkanes		EL50: > 1,000 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Growth inhibition Method: OECD Test Guideline 201 Information given is based on data obtained from similar substances.

M-Factor

Distillates (petroleum), light catalytic cracked	:	M-Factor (Acute Aquat. Tox.)	1
		M-Factor (Chron. Aquat. Tox.)	1

Toxicity to fish (Chronic toxicity)

C12-C14 Isoalkanes	:	No data available:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

C12-C14 Isoalkanes	:	NOELR: 1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

Information given is based on data obtained from similar substances.

Biodegradability : Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

Elimination information (persistence and degradability)

Bioaccumulation : The product may be accumulated in organisms.

Mobility : This product may float or sink in water.

Results of PBT assessment
Light Cycle Oil : Non-classified PBT substance, Non-classified vPvB substance

C12-C14 Isoalkanes : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological information : Very toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard
Light Cycle Oil : Very toxic to aquatic life.

C12-C14 Isoalkanes : This material is not expected to be harmful to aquatic organisms.

Long-term (chronic) aquatic hazard
Light Cycle Oil : Very toxic to aquatic life with long lasting effects.

C12-C14 Isoalkanes : This material is not expected to be harmful to aquatic organisms.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : 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.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
UN1202, DIESEL FUEL, 3, III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1202, DIESEL FUEL, 3, III, (48°C), MARINE POLLUTANT, (LIGHT CYCLE OIL)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
UN1202, DIESEL FUEL, 3, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN1202, DIESEL FUEL, 3, III, (D/E), ENVIRONMENTALLY HAZARDOUS, (LIGHT CYCLE OIL)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1202, DIESEL FUEL, 3, III, ENVIRONMENTALLY HAZARDOUS, (LIGHT CYCLE OIL)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1202, DIESEL FUEL, 3, III, ENVIRONMENTALLY HAZARDOUS, (LIGHT CYCLE OIL)

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

SECTION 15: Regulatory information

Notification status

Europe REACH	:	This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Australia AICS	:	On the inventory, or in compliance with the inventory

New Zealand NZIoC	:	Not in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Korea KECI	:	A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).
Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
Other regulations	:	Law on the Prevention and Control of Occupational Diseases

SECTION 16: Other information

Further information

Legacy SDS Number : 664950

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

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.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery

			Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

SAFETY DATA SHEET

Gasoline (All Grades)

HOLLYFRONTIER

Section 1. Identification

Product name : Gasoline (All Grades)

Product code : Not available.

Synonyms : Gasoline, Unleaded Gasoline, Regular Gasoline, Premium Gasoline, Oxyfuel, Reformulated Gasoline

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

Product use : Use in fuel - Industrial use

Area of application : Industrial applications.

Manufacturer : HollyFrontier Refining & Marketing LLC
2828 North Harwood
Suite 1300
Dallas, Texas 75201
USA
Customer Service: (888) 286-8836

Emergency telephone number : CHEMTREC® (800) 424-9300
CCN 201319

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 :

H224	FLAMMABLE LIQUIDS - Category 1
H315	SKIN IRRITATION - Category 2
H319	EYE IRRITATION - Category 2A
H340	GERM CELL MUTAGENICITY - Category 1
H350	CARCINOGENICITY - Category 1B
H361	TOXIC TO REPRODUCTION (Fertility) - Category 2
H361	TOXIC TO REPRODUCTION (Unborn child) - Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2
H304	ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 9%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 4%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H224 - Extremely flammable liquid and vapor.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H304 - May be fatal if swallowed and enters airways.
H336 - May cause drowsiness or dizziness.
H373 - May cause damage to organs through prolonged or repeated exposure. (liver)

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. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling.

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 (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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 in a well-ventilated place. Keep cool.

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

Ingredient name	Other names	%	CAS number
Gasoline	-	88 - 100	86290-81-5
ethanol	-	0 - 10	64-17-5
toluene	-	0 - 10	108-88-3
1,2,4-trimethylbenzene	-	0 - 5	95-63-6
benzene	-	0 - 5	71-43-2
n-hexane	-	0 - 3	110-54-3

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 : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention. Continue to rinse for at least 15 minutes.

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 15 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : 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. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : pain or irritation; watering; redness

Inhalation : respiratory tract irritation; coughing; nausea or vomiting; headache; drowsiness/ fatigue; dizziness/vertigo; unconsciousness

Skin contact : irritation; redness; dryness; cracking

Ingestion : 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. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents.

Specific treatments : No specific treatment.

Protection of medical responders : 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 : Extremely 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. 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. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, waterways, 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 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. High pressure skin injections are serious medical emergencies. Injury will not appear serious at first. Within a few hours, tissue will become swollen, discolored and extremely painful.

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. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Gasoline	**ACGIH TLV (United States, 3/2017).** TWA: 300 ppm 8 hours. TWA: 890 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 1480 mg/m³ 15 minutes.
ethanol	**ACGIH TLV (United States, 3/2017).** STEL: 1000 ppm 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1900 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, 3/2017).** TWA: 20 ppm 8 hours.
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 3/2017).** TWA: 25 ppm 8 hours. TWA: 123 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 25 ppm 10 hours. TWA: 125 mg/m³ 10 hours.
benzene	**ACGIH TLV (United States, 3/2017). Absorbed through skin.** TWA: 0.5 ppm 8 hours. TWA: 1.6 mg/m³ 8 hours. STEL: 2.5 ppm 15 minutes. STEL: 8 mg/m³ 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 10 ppm 8 hours. CEIL: 25 ppm AMP: 50 ppm 10 minutes. **NIOSH REL (United States, 10/2016).** TWA: 0.1 ppm 10 hours. STEL: 1 ppm 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.
n-hexane	**NIOSH REL (United States, 10/2016).** TWA: 50 ppm 10 hours. TWA: 180 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2017). Absorbed through skin.** TWA: 50 ppm 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 500 ppm 8 hours. TWA: 1800 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.

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

Appearance

Physical state : Liquid.

Color : Clear to Amber

Odor : Gasoline

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 26.667 to 226.67°C (80 to 440°F)

Flash point : -40°C (-40°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Lower: 1.4%
Upper: 7.6%

Vapor pressure : 350-760 mm Hg at 37.8°C (100°F)

Vapor density : 3 to 4 [Air = 1]

Specific gravity : 0.75 [15.5°C (60°F)]

Density : Not available.

Solubility : Negligible

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

Auto-ignition temperature : >260°C (>500°F)

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): 0.0064 cm^2/s (0.64 cSt)

Flow time (ISO 2431) : Not available.

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 : 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
Gasoline	LC50 Inhalation Vapor	Rat	>5.2 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
ethanol	LC50 Inhalation Dusts and mists	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ethanol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Gasoline	skin	Guinea pig	Not sensitizing

Carcinogenicity

Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-
benzene	+	1	Known to be a human carcinogen.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Gasoline	Category 3	Not applicable.	Narcotic effects
ethanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
ethanol	Category 2	Not determined	liver

Aspiration hazard

Name	Result
Gasoline	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

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 : May cause damage to organs through prolonged or repeated exposure.

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

Mutagenicity : May cause genetic defects.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : reduced fetal weight; skeletal malformations

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (vapors)	9768.4 mg/kg 795.6 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
toluene	301C Ready Biodegradability - Modified MITI Test (I)	100 % - 14 days	-	-
benzene	301C Ready Biodegradability - Modified MITI Test (I)	100 % - 14 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Gasoline ethanol	2 to 7 -0.35	10 to 2500 -	high 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. 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.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Toluene; Benzene, methyl- Benzene (I,T)	108-88-3 71-43-2	Listed Listed	U220 U019

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1203	UN1203	UN1203
UN proper shipping name	Gasoline	GASOLINE	Gasoline
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II
Environmental hazards	No.	No.	Yes. The environmentally hazardous substance mark is not required.

Additional information

DOT Classification : **Reportable quantity** 400 lbs / 181.6 kg [63.965 gal / 242.13 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
Limited quantity Yes.
Packaging instruction Exceptions: 150. Non-bulk: 202. Bulk: 242.
Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L.
Special provisions 144, 177, B1, B33, IB2, T4

IMDG : **Emergency schedules** F-E, S-E
Special provisions 243

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.
Special provisions A100

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.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
Clean Water Act (CWA) 307: toluene; benzene
Clean Water Act (CWA) 311: toluene; benzene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 1
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 1B
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2
ASPIRATION HAZARD - Category 1

Composition/information on ingredients

Name	%	Classification
Gasoline	88 - 100	FLAMMABLE LIQUIDS - Category 1 SKIN IRRITATION - Category 2 GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION (Fertility) - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant
ethanol	0 - 10	FLAMMABLE LIQUIDS - Category 2

		SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A 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) (liver) - Category 2 HNOC - Defatting irritant
toluene	0 - 10	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A 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 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) (inhalation) - Category 2 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant
1,2,4-trimethylbenzene	0 - 5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant
benzene	0 - 5	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A 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 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (haematopoietic system) (oral) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (haematopoietic system) (inhalation) - Category 1 ASPIRATION HAZARD - Category 1
n-hexane	0 - 3	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Fertility) - 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) (nervous system, peripheral nervous system) - Category 2 ASPIRATION HAZARD - Category 1 HNOC - Static-accumulating flammable liquid

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	toluene 1,2,4-trimethylbenzene benzene n-hexane	108-88-3 95-63-6 71-43-2 110-54-3	0 - 10 0 - 5 0 - 5 0 - 3
Supplier notification	toluene 1,2,4-trimethylbenzene benzene n-hexane	108-88-3 95-63-6 71-43-2 110-54-3	0 - 10 0 - 5 0 - 5 0 - 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: TOLUENE; METHYLBENZENE; PSEUDOCUMENE; BENZENE; HEXANE; N-HEXANE; ETHYL ALCOHOL; DENATURED ALCOHOL

New York : The following components are listed: Toluene; Benzene; Hexane

New Jersey : The following components are listed: TOLUENE; BENZENE, METHYL-; PSEUDOCUMENE; 1,2,4-TRIMETHYL BENZENE; BENZENE; n-HEXANE; HEXANE; ETHYL ALCOHOL; ALCOHOL

Pennsylvania : The following components are listed: GASOLINE; BENZENE, METHYL-; PSEUDOCUMENE; BENZENE; BENZOL DILUENT; HEXANE; DENATURED ALCOHOL; ETHANOL

California Prop. 65

⚠ **WARNING**: This product can expose you to Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to Toluene, 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.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Toluene Benzene	- Yes.	Yes. Yes.

International regulations

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

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

National Fire Protection Association (U.S.A.)

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Procedure used to derive the classification

Classification	Justification
Flam. Liq. 1, H224	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Muta. 1, H340	Calculation method
Carc. 1B, H350	Expert judgment
Repr. 2, H361 (Fertility)	Calculation method
Repr. 2, H361 (Unborn child)	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373 (liver)	Expert judgment
Asp. Tox. 1, H304	Calculation method

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Version : 2

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

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 manufacturer, 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.

GOJO® ORIGINAL FORMULA™ Hand Cleaner

SECTION 1. IDENTIFICATION

Product name : GOJO® ORIGINAL FORMULA™ Hand Cleaner

Manufacturer or supplier's details

Company name of supplier : GOJO Industries, Inc.

Address : One GOJO Plaza, Suite 500
Akron, Ohio 44311

Telephone : 1 (330) 255-6000

Emergency telephone number : CHEMTREC 1-800-424-9300
CHEMTREC +1-703-527-3887: Outside USA & CANADA

Recommended use of the chemical and restrictions on use

Recommended use : Skin-care

Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H318 Causes serious eye damage.

Precautionary statements : **Prevention:**
P280 Wear eye protection/ face protection.
Response:
P305 + P351 + P338 + P310 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.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
C11-15 Alkane/cycloalkane	64742-47-8	>= 30 - < 50
Mineral Oil (Paraffinum Liquidum)	8042-47-5	>= 10 - < 20
Trideceth-9	24938-91-8	>= 1 - < 5
Propylene Glycol	57-55-6	>= 1 - < 5
Petrolatum	8009-03-8	>= 1 - < 5
Sodium Hydroxymethylglycinate	70161-44-3	>= 0.1 - < 1
Chloroxylenol	88-04-0	>= 0.1 - < 1

SECTION 4. 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.

If inhaled : If inhaled, remove to fresh air.
If symptoms persist, call a physician.

In case of skin contact : Wash with water and soap as a precaution.
Get medical attention if irritation develops and persists.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Seek medical advice.

If swallowed : If swallowed, DO NOT induce vomiting.
Rinse mouth with water.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : Causes serious eye damage.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Dry chemical Carbon dioxide (CO2)
Unsuitable extinguishing media	:	None known.
Hazardous combustion products	:	Carbon oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers.
Further information	:	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.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Material can create slippery conditions.
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.
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). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Do not swallow.

Avoid contact with eyes.
Keep container closed when not in use.

Conditions for safe storage : Keep in properly labelled containers.
Keep container tightly closed in a dry and well-ventilated place.
Store in accordance with the particular national regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
C11-15 Alkane/cycloalkane	64742-47-8	TWA (Mist)	5 mg/m3	OSHA Z-1
		TWA	200 mg/m3 (as total hydrocarbon vapor)	ACGIH
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
Mineral Oil (Paraffinum Liquidum)	8042-47-5	TWA (Mist)	5 mg/m3	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
		TWA (Mist)	5 mg/m3	OSHA P0
Propylene Glycol	57-55-6	TWA	10 mg/m3	US WEEL
Petrolatum	8009-03-8	TWA (Mist)	5 mg/m3	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
		TWA (Mist)	5 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Remarks : No special protective equipment required.

Eye protection : Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : No special measures necessary provided product is used correctly.

Protective measures : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to

		the specific work-place. Ensure that eye flushing systems and safety showers are located close to the working place.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	opaque, white, yellow
Odour	:	solvent-like
pH	:	9.0, (20 °C)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	98 °C
Flash point	:	> 100 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	0.883 g/cm3
Solubility(ies) Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Thermal decomposition	:	The substance or mixture is not classified self-reactive.
Viscosity Viscosity, kinematic	:	> 100000 mm2/s (20 °C)

Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Eye contact
Skin contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Components:

C11-15 Alkane/cycloalkane:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 5.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist 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

Mineral Oil (Paraffinum Liquidum):

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 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Trideceth-9:

Acute oral toxicity	:	LD50 (Rat): > 500 - < 2,000 mg/kg

Propylene Glycol:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rabbit): > 159 mg/l, > 51091 ppm Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Petrolatum:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:

Acute oral toxicity	:	LD50 (Rat): 1,050 mg/kg

Chloroxylenol:

Acute oral toxicity	:	Acute toxicity estimate : 500 mg/kg Method: Expert judgement Remarks: Based on harmonised classification in EU regulati on 1272/2008, Annex VI
Acute inhalation toxicity	:	LC50 (Rat): > 6.29 mg/l Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

C11-15 Alkane/cycloalkane:
Assessment: Repeated exposure may cause skin dryness or cracking.

Mineral Oil (Paraffinum Liquidum):
Species: Rabbit
Result: No skin irritation

Trideceth-9:
Species: Rabbit
Result: No skin irritation

Propylene Glycol:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Petrolatum:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:
Species: Rabbit
Result: Skin irritation

Chloroxylenol:
Result: Skin irritation
Remarks: Based on harmonised classification in EU regulati on 1272/2008, Annex VI

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

C11-15 Alkane/cycloalkane:
Species: Rabbit
Result: No eye irritation

Mineral Oil (Paraffinum Liquidum):
Species: Rabbit
Result: No eye irritation

Trideceth-9:
Species: Rabbit
Result: Irreversible effects on the eye

Propylene Glycol:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Petrolatum:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Chloroxylenol:

Result: Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

Product:

Result: Does not cause skin sensitisation.
Remarks: Patch test on human volunteers did not demonstrate sensitisation properties.

Components:

C11-15 Alkane/cycloalkane:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Mineral Oil (Paraffinum Liquidum):
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Propylene Glycol:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Petrolatum:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

Chloroxylenol:
Assessment: Probability or evidence of skin sensitisation in humans
Remarks: Based on harmonised classification in EU regulati on 1272/2008, Annex VI

Germ cell mutagenicity

Not classified based on available information.

Components:

C11-15 Alkane/cycloalkane:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Chromosomal aberration
Test species: Rat
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Mineral Oil (Paraffinum Liquidum):

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Test species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Propylene Glycol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Test species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Petrolatum:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Test species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with mammali an liver cells in vivo
Test species: Rat
Result: negative

Chloroxylenol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Mineral Oil (Paraffinum Liquidum):
Species: Rat
Application Route: Ingestion
Exposure time: 24 Months
Result: negative

Propylene Glycol:
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative

Petrolatum:
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative

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.

Reproductive toxicity

Not classified based on available information.

Components:

C11-15 Alkane/cycloalkane:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

Mineral Oil (Paraffinum Liquidum):

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Skin contact Result: negative

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

Propylene Glycol:

Effects on fertility	:	Species: Mouse Application Route: Ingestion Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Mouse Application Route: Ingestion Result: negative

Petrolatum:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Skin contact Result: negative Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:

Effects on foetal development	:	Species: Rat Application Route: Ingestion Result: negative

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

C11-15 Alkane/cycloalkane:
Species: Rat
NOAEL: > 10.4 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 d
Remarks: Based on data from similar materials

Mineral Oil (Paraffinum Liquidum):
Species: Rat
LOAEL: 160 mg/kg
Application Route: Ingestion
Exposure time: 90 d

Species: Rat
LOAEL: >= 1 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 4 w
Method: OECD Test Guideline 412

Propylene Glycol:
Species: Rat
NOAEL: 1,700 mg/kg
Application Route: Ingestion
Exposure time: 2 y

Petrolatum:
Species: Rat
NOAEL: 5,000 mg/kg
Application Route: Ingestion
Exposure time: 2 y

Chloroxylenol:
Species: Rabbit
LOAEL: 180 mg/kg
Application Route: Skin contact
Exposure time: 90 d

Aspiration toxicity

Not classified based on available information.

Components:

C11-15 Alkane/cycloalkane:
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.

Mineral Oil (Paraffinum Liquidum):
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.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

C11-15 Alkane/cycloalkane:

Toxicity to fish	:	LL50 (Danio rerio (zebra fish)): > 250 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Acartia tonsa): > 3,193 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction
Toxicity to algae	:	EL50 (Skeletonema costatum (marine diatom)): > 3,200 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction

NOELR (Skeletonema costatum (marine diatom)): 993 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Ceriodaphnia Dubia (water flea)): > 70 mg/l
Exposure time: 8 d
Test substance: Water Accommodated Fraction

Toxicity to bacteria : EC50: > 100 mg/l
Exposure time: 3 h

Mineral Oil (Paraffinum Liquidum):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1,000 mg/l
Exposure time: 28 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1,000 mg/l
Exposure time: 21 d

Trideceth-9:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 1 - 10 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50: > 1 - 10 mg/l
Exposure time: 48 h

Toxicity to algae : EC50: > 1 - 10 mg/l
Exposure time: 72 h

Propylene Glycol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia Dubia (water flea)): 18,340 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Skeletonema costatum (marine diatom)): 19,000 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : Chronic Toxicity Value: 2,500 mg/l
Exposure time: 30 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Ceriodaphnia Dubia (water flea)): 29,000 mg/l Exposure time: 7 d
Toxicity to bacteria	:	NOEC (Pseudomonas putida): > 20,000 mg/l Exposure time: 18 h

Petrolatum:

Toxicity to fish	:	LL50 (Pimephales promelas (fathead minnow)): > 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	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials
Toxicity to algae	:	NOEL (Pseudokirchneriella subcapitata (green algae)): >= 100 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 (Daphnia magna (Water flea)): 10 mg/l Exposure time: 21 d Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:

Toxicity to fish	:	LC50: > 10 - 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia pulex (Water flea)): > 10 - 100 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 10 - 100 mg/l Exposure time: 72 h
Toxicity to bacteria	:	EC50: > 100 mg/l Exposure time: 120 h

Chloroxylenol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.76 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 7.7 mg/l Exposure time: 48 h
M-Factor (Acute aquatic toxicity)	:	1

Persistence and degradability

Components:

C11-15 Alkane/cycloalkane:
Biodegradability : Result: Readily biodegradable.
Biodegradation: 82 %
Exposure time: 24 d
Method: OECD Test Guideline 301F

Mineral Oil (Paraffinum Liquidum):
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 31 %
Exposure time: 28 d

Trideceth-9:
Biodegradability : Result: Readily biodegradable.
Biodegradation: > 60 %
Exposure time: 28 d

Propylene Glycol:
Biodegradability : Result: Readily biodegradable.
Biodegradation: 98.3 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Petrolatum:
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Sodium Hydroxymethylglycinate:
Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

Propylene Glycol:
Partition coefficient: n-octanol/water : log Pow: -1.07

Sodium Hydroxymethylglycinate:
Partition coefficient: n-octanol/water : log Pow: < 3

Chloroxylenol:
Partition coefficient: n-octanol/water : log Pow: 3.27

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : 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 Regulation

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

National Regulations

49 CFR
Not regulated as a dangerous good

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)
Sodium Hydroxide	1310-73-2	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Propylene Glycol	57-55-6	1.7691 %

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

C11-15 Alkane/cycloalkane	64742-47-8	30 - 50 %
Mineral Oil (Paraffinum Liquidum)	8042-47-5	10 - 20 %
Petrolatum	8009-03-8	1 - 5 %
Sodium Hydroxymethylglycinate	70161-44-3	0.1 - 1 %

Pennsylvania Right To Know

C11-15 Alkane/cycloalkane	64742-47-8	30 - 50 %
Water (Aqua)	7732-18-5	30 - 50 %
Mineral Oil (Paraffinum Liquidum)	8042-47-5	10 - 20 %
Oleic Acid	112-80-1	5 - 10 %
Trideceth-9	24938-91-8	1 - 5 %
Propylene Glycol	57-55-6	1 - 5 %
Petrolatum	8009-03-8	1 - 5 %
Sodium Hydroxide	1310-73-2	0.1 - 1 %
Sodium Hydroxymethylglycinate	70161-44-3	0.1 - 1 %

New Jersey Right To Know

C11-15 Alkane/cycloalkane	64742-47-8	30 - 50 %
Water (Aqua)	7732-18-5	30 - 50 %
Mineral Oil (Paraffinum Liquidum)	8042-47-5	10 - 20 %
Oleic Acid	112-80-1	5 - 10 %
Trideceth-9	24938-91-8	1 - 5 %
Propylene Glycol	57-55-6	1 - 5 %
Sodium Hydroxymethylglycinate	70161-44-3	0.1 - 1 %

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.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

AICS	:	On the inventory, or in compliance with the inventory
DSL	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	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
NZIoC	:	On the inventory, or in compliance with the inventory

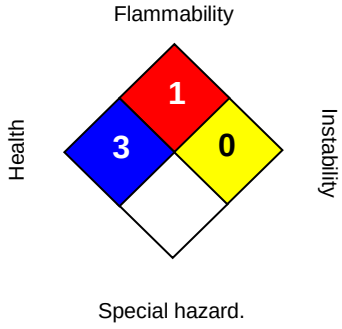
Inventories

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

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 02/28/2018

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.

GREENLEE.

SAFETY DATA SHEET

Section 1 – Product & Company Identification

Product Name:	GREENLEE Hydraulic Oil
Product Catalog No:	4016GB and 4017GB
Product ID No:	90510593 (Gallon); 90508608 (Quart)
Recommended Use:	For use with Greenlee hydraulic equipment
Restrictions on Use:	Industrial use only

Company Information:

North America	Canada
GREENLEE TOOLS, INC. 4455 Boeing Drive Rockford, Illinois 61109-2932 1-815-387-9547 (8:00 am – 5:00 pm EST, M-F) Emergency Telephone call 9-1-1 or local emergency number www.Greenlee.com	Emerson Electric Canada Limited 66 Leek Crescent , Richmond Hill, Ontario L4B 1H1 905-762-1010

Revision:	C
Issue Date:	January 12, 2024

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Castellano – pág. 16

Section 2 – Hazards Identification

EMERGENCY OVERVIEW				
		HMIS		
GHS Classification		HEALTH	1	
Physical Hazards	Not Classified	FLAMMABILTY	1	
		PHYSICAL HAZARD	0	
Health and Environmental Hazards	See below	PERSONAL PROTECTION	See Section 8	
Signal Word	**WARNING**			

Health and Environmental Hazards
Eye damage/irritation Category 2B – Causes eye irritation.
Precautionary Statements
Wash 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 advice or attention.

Section 3 – Composition / Information On Ingredients

Component	**CAS Number**	**Percentage**
Petroleum oil	64742-65-0	>90

Section 4 – First Aid Measures

Skin Contact
First aid not normally required. Remove contaminated clothing. Wash area of contact with soap and water. Wash clothing before reuse. Get medical attention if irritation occurs and persists.

Eye Contact
Remove contact lenses. Flush with water until all traces of material are gone. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Inhalation
Remove affected person from source of exposure. Get medical attention if discomfort persists.

Ingestion
Do not induce vomiting because of danger of aspiration into

lungs. If spontaneous vomiting occurs, monitor for breathing difficulty. Get medical attention.

Section 5 – Fire Fighting Measures

Basic Firefighting Procedures

Treat as an oil fire. Do not use a water jet. Use water spray, dry chemical, foam or CO2 to extinguish fire. Use a water spray to cool fire-exposed containers, structures and to protect personnel. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus with full-face mask and full protective equipment. Flush spills away from sources of ignition.

Unusual Fire and Explosion Hazards

Combustible at high temperatures. Irritating or toxic substances may be emitted.

Section 6 – Accidental Release Measures

Refer to Section 8: Exposure Control and Personal Protection

Emergency Action	Isolate release area and keep unnecessary people away. Exercise caution regarding personnel safety and exposure.
Spill/Leak Procedure	Floor and surfaces may be slippery. Dike with sand or other noncombustible material. Flush area with water provided runoff does not enter drain or sewer; use absorbent material and dispose of properly.
Notification	Any spill or release to navigable water that causes a visible sheen upon the water must be reported immediately to the National Response Center (800/424-8802), as required by U.S. federal law.

Section 7 – Handling And Storage

Refer to Section 8: Exposure Control and Personal Protection

Handling

Wear proper protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Do not ingest. For industrial use only. Use good hygiene practices when handling product, including changing and laundering work clothes after use. Get medical attention if you are exposed and feel unwell. The shipping and storage container is not designed to be pressurized. Do not use pressure to empty the container as it may rupture with explosive force. Containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly. Empty containers may contain residue or vapors. Do not cut, grind, drill, weld or reuse containers.

Storage

Store product in closed containers in a well-ventilated area away from heat, sources of ignition and incompatibles. Do not store in unlabeled containers. Empty containers may contain residue or vapors.

Section 8 – Exposure Controls / Personal Protection

Component	**ACGIH TLV**	**OSHA PEL**
Petroleum oil	5 mg/m^3	5 mg/m^3

Engineering Controls

Use appropriate ventilation to maintain airborne concentration limits below recommended exposure limits.

Eye and Face Protection

Wear safety glasses; use face shield if splashing is possible.

Skin Protection

Oil resistant gloves should be used to avoid repeated contact.

Respiratory Protection

Not normally needed. A NIOSH or MSHA approved respirator should be used in areas with high vapor concentrations or oil misting.

Section 9 – Physical And Chemical Properties

Appearance/Physical State	Amber liquid	**Flash Point**	>300 °F
Specific Gravity (Water=1)	See Data Sheet	**Upper/Lower Flammability Limits (Vol. %)**	Not Determined
pH	Not Applicable	**Auto-ignition Temperature**	Not Determined
Solubility in Water	Negligible	**Decomposition Temperature**	Not Determined
Odor	Petroleum	**Vapor Pressure**	Not Determined
Odor Threshold	Not Determined	**Vapor Density (Air-=1)**	>1
Melting/Freezing Point	Not Determined	**Partition Coefficient (n-octanol/water)**	Not Determined
Boiling Range	Not Determined	**Viscosity**	See Data Sheet
Initial Boiling Point	Not Determined	**Critical Temperature**	Not Determined
Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Those should be requested separately.			

Section 10 – Stability And Reactivity

Reactivity Does not react under normal conditions of use.
Chemical Stability Stable under normal conditions of use.
Stability/Incompatibility Avoid contact with strong oxidizers.
Conditions to Avoid Open flame or sources of ignition.
Hazardous Reactions/Decomposition Products
Does not decompose under normal conditions; combustion may produce CO, CO2, volatile hydrocarbons and other possibly toxic gases.

Section 11 – Toxicological Information

Likely Routes of Exposure Inhalation, skin, eyes
Acute Effects Product not tested. Based on components the effects of skin contact, inhalation and ingestion are expected to be mild. Some temporary eye irritation may occur. Refer to

	Sections 2 and 4 for recommended actions.
Chronic Effects	Any acute symptoms may be aggravated. Refer to Sections 2 and 4 for recommended actions.
Symptoms	Prolonged or repeated exposure may cause redness, drying, or cracking of the skin, eye irritation, gastrointestinal and respiratory discomfort. Refer to Sections 2 and 4 for recommended actions.
Carcinogenicity	No components of this product are found to be carcinogens by NTP, IARC or OSHA.

Section 12 – Ecological Information

Ecotoxicity	Not Determined
Persistence and Biodegradability	Not Determined
Bioaccumulative Potential	Not Determined
Mobility in Soil	Not Determined

Section 13 – Disposal Consideration

Dispose of this product in compliance with all applicable federal, state and local regulations.

Section 14 – Transportation Information

DOT	Not Regulated
UN Proper Shipping Name/Number	Not Regulated

Section 15 – Regulatory Information

Chemical Inventory Lists	All ingredients are listed on TSCA and DSL
SARA (311/312) Reportable Hazard Categories	None
SARA 313 Ingredients	None

Section 16 – Other Information

Prepared by:..... GREENLEE TOOLS, INC.

Operating Standard..... 6-603

Revision C

EC Number 002871

Issue Date..... January 12, 2024

Last Revision Date..... June 22, 2023

GREENLEE TOOL BELIEVES THE STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE RELIABLE BUT THEY ARE GIVEN WITHOUT WARRANTY OR GUARANTEE OF ANY KIND, EXPRESSED OR IMPLIED, AND WE ASSUME NO RESPONSIBILITY FOR ANY LOSS, DAMAGE OR EXPENSE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THEIR USE.

GREENLEE.

Fiche des données de sécurité

Section 1 – Identification du produit et du fournisseur

Nom du produit :	GREENLEE Hydraulic Oil
N° de catalogue du produit :	4016GB et 4017GB
Références du produit :	90510593 (gallon) ; 90508608 (quart)
Utilisation recommandée :	Prévu pour le matériel hydraulique Greenlee
Limites d'utilisation :	Utilisation industrielle uniquement
Fournisseur :	

Amérique du Nord GREENLEE TOOLS, INC. 4456 Boeing Drive Rockford, Illinois 61109-2932 1-800-435-0786 (8h à 17h CST, du lundi au vendredi Numéro d'urgence Composer le 9-1-1 ou le numéro d'urgence local www.Greenlee.com	Canada Emerson Electric Canada Limited 66 Leek Crescent, Richmond Hill, Ontario L4B 1H1 906-762-1010

Révision :	C
Date de publication :	12 janvier 2024

Section 2 – Identification des dangers

UREGENCES (aperçu)				
		HMIS		
Classification GHS		Santé	1	
Dangers physiques	Non classifié	Inflammabilité	1	
		Danger physique	0	
Dangers pour la santé et l'environnement	Voir ci-dessous	Protection individuelle	Voir Section 8	
Mot clé	**AVERTISSEMENT**			

Dangers pour la santé et l'environnement
Blessure ou irritation oculaire Catégorie 2B – Provoque des irritations oculaires.
Avertissements
Se laver soigneusement après manipulation.
En cas d'atteinte oculaire : Rincer soigneusement avec de l'eau pendant quelques minutes. Si possible, enlever d'éventuelles lentilles. Continuer le rinçage.
Si l'irritation oculaire persiste : Consulter les services médicaux.

Section 3 – Composition/information sur les composants

Composant	**Numero CAS**	**Pourcentage**
Huile minérale	64742-65—0	>90

Section 4 – Premiers soins

Contact cutané
Normalement, aucuns premiers soins ne sont nécessaires. Retirer les vêtements contaminés. Laver la peau exposée au produit avec de l'eau et du savon. Laver les vêtements avant leur réutilisation. Consulter les services médicaux en cas d'irritation persistante.

Contact oculaire
Elever les lentilles. Rincer avec de l'eau jusqu'à élimination de toutes traces du produit. Eloigner les paupières des yeux pour parfaire le rinçage. Consulter les services médicaux si l'irritation persiste.

Inhalation	Eloigner l'individu atteint de la source d'exposition. Faire appel aux services médicaux si le malaise persiste.
Ingestion	Ne pas provoquer de vomissement en raison des risques d'inhalation. En cas de vomissement spontanée, s'assurer qu'il n'y a pas de difficulté respiratoire. Consulter les services médicaux.

Section 5 – Mesures à prendre en cas d'incendie

Principes de lutte contre l'incendie	Traiter l'incendie comme incendie pétrolifère. Ne pas utiliser de jet d'eau haute pression. Utiliser un extincteur à eau, à poudre, à mousse ou au CO_2. pour éteindre l'incendie. Arroser les conteneurs et les structures exposées au feu avec de l'eau pour les refroidir, et le personnel pour le protéger. Les pompiers exposés devraient porter des respirateurs autonomes homologués MSHA/NIOSH avec masque intégral et équipements de protection individuelle. Chasser les déversements à l'écart de la source d'allumage.
Dangers d'incendie et d'explosion inhabituels	Combustible à hautes températures. Substances irritantes ou toxiques peuvent être émises.

Section 6 – Mesures à prendre en cas de déversements accidentels

Se reporter à la Section 8 : Contrôle d'exposition et protection individuelle

Mesures d'urgence	Isoler la zone de déversement et éloigner tout personnel non nécessaire. Respecter les précautions d'usage visant la sécurité et l'exposition du personnel.
Méthodes de confinement et de nettoyage des déversements et fuites	Les sols et les surfaces risquent d'être glissants. Bloquer à l'aide de sable ou autre matière non combustible. Rincer la zone à grande eau tant que l'effluent ne risque pas d'atteindre les réseaux d'eaux pluviales ou usées. Sinon, utiliser des matériaux absorbants pour éponger et recycler de manière

	appropriée.
Notification	Selon la réglementation fédérale des Etats-Unis, tout déversement qui laisse une pellicule luisante sur les eaux navigables doit être immédiatement signalé auprès du National Response Center (800/424-8802).

Section 7 – Manutention et stockage

Se reporter à la Section 8 : Contrôle d'exposition et protection individuelle

Manutention	Prévoir les équipements de protection appropriés. Eviter tout contact avec la peau, les yeux et les vêtements. Eviter d'en inhaler la vapeur ou la buée. Ne pas ingérer. Pour utilisation industrielle uniquement. Manipuler ce produit de manière hygiénique, y compris lors du changement ou du lessivage des vêtements de travail en fin d'opération. Consulter les services médicaux en cas de malaise après exposition au produit. Le conteneur d'expédition et de stockage n'est pas sensé être pressurisé. Ne pas pressuriser le conteneur pour le vider, car cela risque de le faire éclater avec une force explosive. Les conteneurs doivent être complètement égouttés et fermés avant d'être envoyés à un centre de reconditionnement ou de recyclage approprié. Les conteneurs vides risquent de renfermer des résidus ou des vapeurs. Ne pas couper, meuler, percer souder ou réutiliser les conteneurs.
Stockage	Stockez ce produit dans des conteneurs fermés entreposés dans des locaux bien ventilés et à l'abri de la chaleur, des sources de combustion et des produits incompatibles. Ne pas stocker dans des conteneurs non étiquetés. Les conteneurs vides risquent de renfermer des résidus ou des vapeurs

Section 8 – Contrôle de l'exposition/protection individuelle

Composant	ACGIH TLV	OSHA PEL
Huile minérale	5 mg/m^3	5 mg/m^3

Contrôles techniques	Prévoir une ventilation suffisante pour maintenir l'exposition aux concentrations aériennes sous les limites d'exposition recommandées.
Protection des yeux et du visage	Porter des lunettes de sécurité, voire une visière intégrale s'il y a risque d'éclaboussure.
Protection de la peau	Le port de gants résistants à l'huile est conseillé pour éviter les contacts répétitifs.
Protection respiratoire	Pas normalement requise. Un respirateur homologué NIOSH ou MSHA devrait être prévu face aux zones renfermant d'importantes concentrations de vapeur ou de buée d'huile.

Section 9 – Propriétés physiques et chimiques

Apparence/état physique	Liquide ambré	**Point d'éclair**	>300 °F
Densité (eau = 1)	Voir fiche technique	**Limites supérieure/inférieure d'inflammabilité (Vol. %)**	Non déterminé
pH	Non applicable	**Température d'auto-inflammation**	Non déterminé
Solubilité dans l'eau	Négligeable	**Température de décomposition**	Non déterminé
Odeur	Pétrole	**Pression de vapeur**	Non déterminé
Seuil odorifique	Non déterminé	**Densité de vapeur (air = 1)**	>1
Point de fusion/congélation	Non déterminé	**Coefficient de partage (n-octanol/eau)**	Non déterminé
Plage d'ébullition	Non déterminé	**Viscosité**	Voir fiche technique
Point d'ébullition initial	Non déterminé	**Température critique**	Non déterminé

Nota : Les propriétés physiques et chimiques ne sont indiquées que pour raisons de sécurité, de santé et de considérations environnementales, sans nécessairement représenter les caractéristiques actuel du produit. Ces caractéristiques devraient être demandées séparément.

Section 10 – Stabilité et réactivité

Réactivité	Ne réagit pas sous conditions d'utilisation normales.
Stabilité chimique	Stable sous conditions d'utilisation normales.
Stabilité/incompatibilité	Eviter le contact avec les oxydants puissants.
Conditions à éviter	Flammes ouvertes et sources d'allumage.
Réactions dangereuses/produits de décomposition	Ne décompose pas sous conditions normales ; sa combustion risque d'émettre du CO, du CO_2, des hydrocarbures volatiles et autres gaz potentiellement toxiques.

Section 11 – Données toxicologiques

Voies d'exposition probables	Inhalation, cutanée, oculaire
Effets aigus	Produit non testé. Basé sur les composants, ses effets en cas de contact cutané, d'inhalation et d'ingestion sont estimés légers. Une certaine irritation oculaire temporaire est possible. Se reporter aux Sections 2 et 4 pour les mesures conseillées.
Toxicité reproductive	Risque de nuire aux enfants allaitants.
Effets chroniques	Tout symptôme aigu risque d'être aggravé. Se reporter aux Sections 2 et 4 pour les mesures conseillées.
Symptômes	Une exposition prolongée ou répétée risque d'occasionner des rougeurs, dessèchements ou fissurations de la peau, des irritations oculaires, voire des malaises gastro-intestinaux ou respiratoires. Se reporter aux Sections 2 et 4 pour les mesures conseillées.
Cancérogénicité	Aucun composant de ce produit n'a été trouvé cancérogène par NTP, IARC ou OSHA.

Section 12 – Données écologiques

Ecotoxicité	Non déterminé
Persistance et biodégradabilité	Non déterminé
Potentiel de bioaccumulation	Non déterminé
Mobilité dans le sol	Non déterminé

Section 13 - Recyclage

Le recyclage de ce produit doit se faire selon l'ensemble de la réglementation fédérale, régionale et locale applicable.

Section 14 - Transport

DOT	Non réglementé
Nom/numéro d'expédition NU	Non réglementé

Section 15 – Règlementation

Répertoires d'inventaire chimique	Tous ingrédients indiqués sur TSCA et DSL
Catégories des dangers reportables SARA (311/312)	Aucun
Ingrédients SARA 313	Aucun

Section 16 – Autres informations

Rédigé par..... GREENLEE TOOLS, INC.

Norme applicable 6-603

Révision C

ECN..... 002871

Date de publication ..... 12 janvier 2024

Dernière révision ..... 22 juin 2023

Greenlee Tools considère que les affirmations, renseignements techniques et recommandations ci-présentes sont fiables, mais les avance sans garantie quelconque, formelle ou impliquée, et n'accepte aucune responsabilité en cas de perte, de dommages ou de dépenses directes ou consécutives résultant de leur utilisation.

Sección 1 – Identificación del producto y de la empresa

Nombre del producto:	GREENLEE Hydraulic Oil
N.º del catálogo de productos:	4016GB y 4017GB
N.º de ID del producto:	90510593 (galón); 90508608 (cuarto)
Uso recomendado:	Para uso con equipamiento hidráulico de Greenlee
Restricciones de uso:	Solo para uso industrial

Información de la empresa:

Norteamérica	Canadá
GREENLEE TOOLS, INC. 4455 Boeing Drive Rockford, Illinois 61109-2932 1-815-387-9547 (8:00 a. m. - 5:00 p. m. CST, L-V) Teléfono de emergencia Llamar al 9-1-1 o al número de emergencia local www.Greenlee.com	Emerson Electric Canada Limited 66 Leek Crescent, Richmond Hill, Ontario L4B 1H1 905-762-1010

Revisión:	C
Fecha de publicación:	12 de enero de 2024

Sección 2 – Identificación de peligros

DESCRIPCIÓN GENERAL DE EMERGENCIAS				
		HMIS		
Clasificación GHS		SALUD	1	
Peligros físicos	No homologado	INFLAMABILIDAD	1	
		PELIGROS FÍSICOS	0	
Peligros medioambientales y para la salud	Consultar a continuación	PROTECCIÓN PERSONAL	Consultar la Sección 8	
Palabra clave	**ADVERTENCIA**			

Peligros medioambientales y para la salud
Irritación o daño ocular Categoría 2B – Causa irritación ocular.
Notas de precaución
Lavar a fondo después de la manipulación.
Si entra en contacto con los ojos: Enjuagar cuidadosamente con agua durante varios minutos. Retirar lentes de contacto si las hay y es fácil de hacer. Seguir enjuagando.
Si la irritación persiste: Buscar atención médica.

Sección 3 – Composición/información sobre los componentes

Componente	**Número CAS**	**Porcentaje**
Aceite de petróleo	64742-65-0	>90

Sección 4 – Medidas de primeros auxilios

Contacto con la piel Normalmente no se requieren primeros auxilios. Quitarse las prendas de ropa contaminadas. Lavar el área de contacto con agua y jabón. Lavar la ropa antes de reutilizarla. Si la irritación persiste, obtener atención médica.

Contacto con los ojos Retirar las lentes de contacto. Lavar con agua hasta que no haya restos de material. Los párpados deben mantenerse alejados del globo ocular para asegurar un enjuague profundo. Si la irritación persiste, obtener atención médica.

Inhalación	Alejar a la persona afectada de la fuente de exposición. Si la molestia persiste, obtener atención médica.
Ingestión	No inducir el vómito por el riesgo de aspiración hacia los pulmones. Si se producen vómitos de forma espontánea, comprobar si hay dificultad para respirar. Obtener atención médica.

Sección 5 – Medidas para combatir incendios

Procedimientos básicos contra incendios

Tratar como un incendio de aceite. No utilizar chorro de agua. Utilizar rocío de agua, polvo químico, espuma o CO2 para extinguir el fuego. Utilizar rocío de agua para enfriar recipientes y estructuras expuestas al fuego y para proteger al personal. Los bomberos expuestos deben usar un aparato de respiración autónomo aprobado por MSHA/NIOSH con máscara facial completa y equipo de protección completo. Enjuagar los derrames alejándolos de fuentes de ignición.

Peligros inusuales de incendio y explosión

Combustible a altas temperaturas. Pueden emanarse sustancias irritantes o tóxicas.

Sección 6 – Medidas en caso de derrames accidentales

Consultar la Sección 8: Controles de exposición y protección personal

Acción de emergencia	Aislar el área donde se produjo la fuga y mantener alejadas a las personas innecesarias. Actuar con cautela con respecto a la seguridad y la exposición del personal.
Procedimiento ante derrames/fugas	El suelo y las superficies pueden estar resbaladizos. Hacer un dique con arena u otro material no combustible. Lavar bien el área con agua siempre que no ingrese al desagüe ni al alcantarillado; utilizar material absorbente y desecharlo adecuadamente.

Notificación	Cualquier derrame o fuga que llegue al agua navegable y que cause un brillo visible sobre el agua debe notificarse de inmediato al Centro Nacional de Respuesta (800/424-8802), según lo requiere la ley federal de los EE. UU.

Sección 7 – Manipulación y almacenamiento

Consultar la Sección 8: Controles de exposición y protección personal

Manipulación	Utilizar el equipo de protección personal adecuado. Evitar el contacto con la piel, los ojos y la ropa. No respirar vapores o nieblas. No ingerir. Solo para uso industrial. Seguir buenas prácticas higiénicas al manipular el producto, como cambiar y lavar la ropa de trabajo después de su uso. Obtener atención médica si está expuesto y se siente mal. El contenedor de envío y almacenamiento no está diseñado para ser presurizado. No aplicar presión para vaciar el envase, ya que podría romperse con fuerza explosiva. Los envases deben drenarse completamente, cerrarse adecuadamente y devolverse rápidamente para el reacondicionamiento del tambor o bien ser desechados correctamente. Los envases vacíos pueden contener residuos o vapores. No cortar, esmerilar, perforar, soldar ni reutilizar envases.
Almacenamiento	Conservar el producto en envases cerrados, en una zona bien ventilada, lejos del calor, fuentes de ignición y otras sustancias incompatibles. No se debe guardar en un envase sin rotular. Los envases vacíos pueden contener residuos o vapores.

Sección 8 – Controles de exposición/Protección personal

Componente	**TLV de la ACGIH**	**PEL de la OSHA**
Aceite de petróleo	5 mg/m^3	5 mg/m^3

Controles de ingeniería	Utilizar ventilación adecuada para mantener límites de concentración en el aire por debajo de los límites de exposición recomendados.
Protección ocular y del rostro	Usar gafas de seguridad; utilizar un protector facial si es posible que haya salpicaduras.
Protección de la piel	Deberán utilizarse guantes resistentes al aceite para evitar el contacto repetido.
Protección respiratoria	No se necesita normalmente. Se debe utilizar un equipo de respiración aprobado por NIOSH o MSHA en áreas con altas concentraciones de vapor o niebla de aceite.

Sección 9 – Propiedades físicas y químicas

Aspecto y estado físico	Líquido ámbar	**Punto de inflamación**	>300 °F
Gravedad específica (agua=1)	Consultar la Hoja de datos	**Límites de inflamabilidad superior/inferior (vol. %)**	Sin determinar
pH	No se aplica	**Temperatura de autoignición**	Sin determinar
Solubilidad en agua	Insignificante	**Temperatura de descomposición**	Sin determinar
Olor	Petróleo	**Presión de vapor**	Sin determinar
Umbral de olor	Sin determinar	**Densidad de vapor (Aire-=1)**	>1
Temperatura de congelamiento/fusión	Sin determinar	**Coeficiente de reparto (n-octanol/ agua)**	Sin determinar
Intervalo de ebullición	Sin determinar	**Viscosidad**	Consultar la Hoja de datos
Punto inicial de ebullición	Sin determinar	**Temperatura crítica**	Sin determinar

Nota: Las propiedades físicas y químicas se proporcionan solo por consideraciones de seguridad, salud y medioambiente, y pueden no representar completamente las especificaciones del producto. Deben solicitarse por separado.

Sección 10 – Estabilidad y reactividad

Reactividad	No reacciona en condiciones de uso normales.
Estabilidad química	Estable en condiciones de uso normales.
Estabilidad/incompatibilidad	Evitar el contacto con oxidantes fuertes.
Condiciones a evitar	Llama abierta o fuente de ignición.
Reacciones/Productos de descomposición peligrosos	No se descompone en condiciones normales; la combustión puede producir CO, CO2, hidrocarburos volátiles y otros gases posiblemente tóxicos.

Sección 11 – Información toxicológica

Vías de exposición probables	Inhalación, piel, ojos
Efectos agudos	Producto no probado. Según los componentes, se espera que los efectos del contacto con la piel, inhalación e ingestión sean leves. Se puede producir cierta irritación ocular temporal. Consultar las acciones recomendadas en las Secciones 2 y 4.
Efectos crónicos	Los síntomas agudos pueden empeorar. Consultar las acciones recomendadas en las Secciones 2 y 4.
Síntomas	La exposición prolongada o repetida puede causar enrojecimiento, sequedad o agrietamiento de la piel, irritación ocular, molestias gastrointestinales y respiratorias. Consultar las acciones recomendadas en las Secciones 2 y 4.
Carcinogenicidad	No se ha determinado que ningún componente de este producto que sea una sustancia carcinogénica según NTP, IARC u OSHA.

Sección 12 – Información ecológica

Ecotoxicidad	Sin determinar
Persistencia y biodegradabilidad	Sin determinar
Potencial de bioacumulación	Sin determinar
Movilidad en el suelo	Sin determinar

Sección 13 – Consideraciones de desecho

Desechar este producto de acuerdo con todas las

normas federales, estatales y locales aplicables.

Sección 14 – Información de transporte

DOT	No está reglamentado
Nombre/Número de envío correcto de la ONU:	No está reglamentado

Sección 15 – Información normativa

Listas de inventario de productos químicos	Todos los componentes figuran en TSCA y DSL
Categorías de peligros que se deben informar según SARA (311/312)	Ninguno
Componentes según SARA 313	Ninguno

Sección 16 – Otra información

Preparado por: ..... GREENLEE TOOLS, INC.

Norma operativa..... 6-603

Revisión C

Número EC 002871

Fecha de publicación ..... 12 de enero de 2024

Fecha de última revisión ..... 22 de junio de 2023

GREENLEE TOOL CONSIDERA QUE LAS DECLARACIONES, LA INFORMACIÓN TÉCNICA Y LAS RECOMENDACIONES CONTENIDAS EN ESTE DOCUMENTO SON CONFIABLES, PERO SE OFRECEN SIN GARANTÍA DE NINGÚN TIPO, EXPRESA O IMPLÍCITA, Y NO ASUMIMOS NINGUNA RESPONSABILIDAD POR PÉRDIDAS, DAÑOS O GASTOS, DIRECTOS O INDIRECTOS, DERIVADOS DE SU USO.

Trade name: **Noalox® Anti Oxidant**

SECTION 1: Identification

Product identifier: **Noalox® Anti Oxidant.**
Synonyms: None available.
Product Code Number: 30-024, 30-026, 30-030, 30-031, 30-032, 30-040.
SDS number: ID019
Recommended use: Anti oxidant.
Recommended restrictions: Uses other than those recommended.

Manufacturer/Importer/Supplier/Distributor information:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

Physical hazards
Not classified as a physical hazard under GHS criteria.

Health hazards
Not classified as a physical hazard under GHS criteria.

Environmental hazards
Not classified as a physical hazard under GHS criteria.

GHS Signal word: **Not applicable.**

GHS Hazard statement(s): Not applicable.

GHS Hazard symbol(s): **Not applicable**

GHS Precautionary statement(s):

Prevention: No prevention precautionary statements required.

Response: No response precautionary statements required.

Storage: No storage precautionary related statements required.

Disposal: No disposal precautionary statements required.

Hazard(s) not otherwise Classified (HNOC): None known.

Percentage of ingredient(s) of unknown acute toxicity:
Not applicable.

SECTION 3: Composition/information on ingredients

Mixture:

Chemical name	CAS#	Concentration (weight %)
Zinc Dust	7440-66-6	15 - 20 %
Hydrophillic Fumed Silica	7631-86-9	1 – 5%

Note: The balance of the ingredients are not classified as hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 4: First-aid Measures

Description of necessary measures:
Inhalation: If inhaled, move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms persist.

Skin contact: Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing seek medical attention. Clean contaminated clothing before reuse.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

Ingestion: Induce vomiting and consult physician or local poison control center.

Most important symptoms/effects, acute and delayed: None expected.

Indication of immediate medical attention and special treatment needed: If any symptoms are observed, contact a physician and give them this SDS sheet. If exposed or concerned: Get medical advice/attention.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Use dry chemical, carbon dioxide or foam.

Unsuitable extinguishing media: Do not use water. Water reacts with zinc dust.

Specific hazards arising from the chemical: Water or foam may cause a frothing reaction. Combustion products - Carbon monoxide, Carbon dioxide.

Special protective equipment and precautions for fire-fighters: For fire involving this material, do not enter any enclosed or confined fire space without proper protective equipment. Use self-contained breathing apparatus with full face shield to protect against the hazardous effects of combustion products and oxygen deficiencies. Keep fire exposed containers cool with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Methods and material for containment and cleaning up:
Ventilate area. Collect for disposal. Clean up remaining materials from spill with suitable absorbent. Clean area as appropriate since some material, even in small quantities; may present a slip hazard. Observe all personal protection equipment recommendations.

SECTION 7: Handling and Storage

Precautions for safe handling: Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Conditions for safe storage, including any incompatibles: Keep away from children, infants and pets. Keep in dry location. Keep container(s) tightly closed and properly labeled. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Store in dry conditions at temperatures between 40 - 120 F.

"Empty" containers retain residue and may be dangerous. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 8: Exposure controls/personal protection

Control Parameters:

Occupational exposure limits:

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): Permissible Exposure Limits		
Substance	**PEL-TWA (8 hour)**	**PEL-STEL (15 min)**
Zinc Dust	No data available	No data available
Hydrophillic Fumed Silica	80 mg/m^3 /(% SiO2)	No data available

US ACGIH Threshold Limit Values		
Substance	**TLV-TWA (8 hour)**	**TLV-STEL (15 min)**
Zinc Dust	No data available	No data available
Hydrophillic Fumed Silica	No data available	No data available

NIOSH Exposure Limits		
Substance	**TWA**	**STEL**
Zinc Dust	No data available	No data available
Hydrophillic Fumed Silica	6 mg/m^3	No data available

Appropriate engineering controls: General (mechanical) room ventilation is expected to be adequate. Special local ventilation is recommended to keep dust below exposure limits.

Individual protection measures, such as personal protective equipment:

Eye/face protection: The use of OSHA compliant safely glasses or splash goggles are recommended.

Skin and Hand protection: None normally required. Use neoprene gloves if necessary.

Respiratory protection: None required

Other: An eye fountain in work area is recommended.

Thermal hazards: No data available.

SECTION 9: Physical and chemical properties

Appearance

Physical state:	Paste
Form:	Gray solid paste.
Color:	Gray.
Odor:	Mild odor.
Odor threshold:	No data available
pH:	6.5 – 8.0
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	> 500ºF
Flash point:	310ºF
Evaporation rate:	No data available
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit – lower %):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative Density:	1.04
Solubility(ies):	Moderate.
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Other information:	
% Volatile by volume:	None
Percent solids by weight:	~ 100%

SECTION 10: Stability and Reactivity

Reactivity:	Not chemically reactive.
Chemical stability:	Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions:	Hazardous reactions not anticipated.
Conditions to avoid:	Avoid conditions of moisture or high humidity.
Incompatible materials:	Avoid strong oxidizers, strong acids and water.
Hazardous decomposition Products:	Excessive heat and burning may release oxides of carbon.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Not an expected route of entry.
Ingestion:	Not an expected route of entry.

Skin: Skin contact is a potential route of entry.
Eyes: Not an expected route of entry.

Symptoms related to the physical, chemical, and toxicological characteristics:
None normally expected.

Delayed and immediate effects and chronic effects from short or long-term exposure:
Upon prolonged contact, may cause temporary eye discomfort and damage to organs.

Numerical measures of toxicity:

Ingredient Information:

Substance	Test Type (species)	Value
Zinc Dust	LD_{50} Oral (Rat)	No data available
	LD_{50} Dermal (Rabbit)	No data available
	LC_{50} Inhalation	No data available
Hydrophilic Fumed Silica	LD_{50} Oral (Rat)	3160 mg/kg
	LD_{50} Intravenous (Rat)	15 mg/kg
	LC_{50} Inhalation (Rat)	> 200 gm/m^3 (1H)

Product Acute Toxicity Estimates:
Acute Oral Toxicity – no data available
Acute Dermal Toxicity - no data available
Acute Inhalation Toxicity - no data available

Skin corrosion/irritation: No information available on the mixture, however none of the components have been classified to cause skin corrosion/irritation (or are below the concentration threshold for classification).

Serious eye damage/eye irritation: No information available on the mixture, however none of the components have been classified to cause eye damage/irritation (or are below the concentration threshold for classification).

Respiratory sensitization: No information available on the mixture, however none of the components have been classified as a respiratory sensitizer (or are below the concentration threshold for classification).

Skin sensitization: No information available on the mixture, however none of the components have been classified as a skin sensitizer (or are below the concentration threshold for classification).

Germ cell mutagenicity:	No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).
Carcinogenicity:	No information available on the mixture, however none of the components are 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.
Reproductive toxicity:	No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).
Specific target organ toxicity-Single exposure:	No information available on the mixture, however none of the components have been classified for STOT SE (or are below the concentration threshold for classification).
Specific target organ toxicity-Repeat exposure:	No information available on the mixture, however Hydrophilic Fumed Silica has been classified for STOT RE and may cause damage to organs over prolonged periods.
Aspiration hazard:	No information available on the mixture, however none of the components have been classified for aspiration hazard (or are below the concentration threshold for classification).
Further information:	No data available.

SECTION 12: Ecological information

Ecotoxicity:

Product data: No data available

Ingredient Information:

Substance	Test Type	Species	Value
Zinc Dust	LC_{50}	Fish	No data available
	LC_{50}	Aquatic crustacea	No data available
	EC_{50}	Algae	No data available
Hydrophilic Fumed Silica	LC_{50}	Fish	No data available
	LC_{50}	Aquatic crustacea	No data available
	EC_{50}	Algae	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.

SECTION 13: Disposal considerations

Disposal instructions:
This product, in its present state, when discarded or disposed of, may be 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 in accordance with all applicable regulations.

See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)
This material is not classified as dangerous under DOT regulations

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

Environmental hazards
Marine pollutant: No.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.
None.

SECTION 15: Regulatory Information

Safety, health and environmental regulations specific for the product.

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All substances in this product are listed, as required, on the TSCA inventory.

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:
Section 302 – No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

CERCLA Hazardous Substance List, 40 CFR 302.4:
None listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None listed.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None listed.

SARA Title III
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed.

Section 311/312 (40 CFR 370):

Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Pressure Hazard: No
Reactivity Hazard: No

Section 313 Toxic Release Inventory (40 CFR 372):
This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: Zinc powder (stabilized).

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986: No components are listed on Prop 65.

Massachusetts Right to Know: Zinc powder (stabilized) and Silicon dioxide are listed on the Massachusetts Right to Know List.

New Jersey Right to Know: Zinc powder (stabilized) and Silicon dioxide are listed on the New Jersey Right to Know list.

Pennsylvania Right to Know: Zinc powder (stabilized) and Silicon dioxide are listed on the Pennsylvania Right to Know List.

Canada WHMIS Hazard Class: D2B – Very Toxic Material

SECTION 16: Other information, including date of preparation or last revision.

Revision Date: July 05, 2016

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume 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 which exist.

SAFETY DATA SHEET

RDMI1001A

Section 1. Identification

Product name : KRYLON® MARK-IT® Inverted Marking Paint
Red Fluorescent

Product code : RDMI1001A

Other means of identification : Not available.

Product type : Aerosol.

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

Paint or paint related material.

Manufacturer : Krylon Products Group
101 W. Prospect Avenue
Cleveland, OH 44115

Emergency telephone number of the company : US / Canada: (216) 566-2917
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: (800) 457-9566
Mexico: Not Available

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

Transportation Emergency Telephone Number : US / Canada: (216) 566-2917
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 : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
TOXIC TO REPRODUCTION - 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 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 18.7% (oral), 28.5% (dermal), 18.7% (inhalation)

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.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
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.

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. 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 : 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.

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

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.

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	<10	108-88-3
Propane	≤10	74-98-6
Light Aliphatic Hydrocarbon	≤10	64742-47-8
Butane	≤5	106-97-8
Lt. Aliphatic Hydrocarbon Solvent	≤3	64742-89-8

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 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. 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. 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
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 4. First aid measures

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 : 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
sulfur 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. 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	CAS #	Exposure limits
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, 10/2020).** 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, 1/2021).** **Ototoxicant.** TWA: 20 ppm 8 hours.
Propane	74-98-6	**NIOSH REL (United States, 10/2020).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. **ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.**
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 1/2021).** **Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Butane	106-97-8	**NIOSH REL (United States, 10/2020).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 1/2021).** **Explosive potential.** STEL: 1000 ppm 15 minutes.
Lt. Aliphatic Hydrocarbon Solvent	64742-89-8	None.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
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, 1/2021).** 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.
Normal propane	74-98-6	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 7/2019).**

Section 8. Exposure controls/personal protection

		TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.** **CA Ontario Provincial (Canada, 6/2019). Oxygen Depletion [Asphyxiant]. Explosive potential.**
Petroleum refining, hydrotreated light distillate	64742-47-8	**CA British Columbia Provincial (Canada, 1/2021). 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.
Butane	106-97-8	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 7/2019).** TWAEV: 800 ppm 8 hours. TWAEV: 1900 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 1/2021). Explosive potential.** STEL: 1000 ppm 15 minutes. **CA Ontario Provincial (Canada, 6/2019). Explosive potential.** STEL: 1000 ppm 15 minutes.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
Toluene	108-88-3	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 20 ppm 8 hours.
Propane	74-98-6	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 1000 ppm 8 hours.
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 1/2021). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Butane	106-97-8	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 1000 ppm 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 : 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

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 : 7

Melting point/freezing point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Section 9. Physical and chemical properties

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 2 (butyl acetate = 1)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Lower: 0.9%
Upper: 9.5%

Vapor pressure : 101.3 kPa (760 mm Hg)

Relative vapor density : 1 [Air = 1]

Relative density : 0.86

Solubility : Not available.

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

Type of aerosol : Spray

Heat of combustion : 13.193 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/m^3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m^3	4 hours

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	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Propane	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Light Aliphatic Hydrocarbon	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Butane	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Lt. Aliphatic Hydrocarbon Solvent	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Toluene	Category 2	-	-
Propane	Category 2	-	-
Light Aliphatic Hydrocarbon	Category 2	-	-
Butane	Category 2	-	-
Lt. Aliphatic Hydrocarbon Solvent	Category 2	-	-

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Light Aliphatic Hydrocarbon	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 : 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
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
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

Section 11. Toxicological information

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 : 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	5293.29 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 >433 ppm Marine water	Algae - Skeletonema costatum	96 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
Light Aliphatic Hydrocarbon	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Toluene	-	-	Readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene Lt. Aliphatic Hydrocarbon Solvent	- -	90 10 to 2500	low 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** F-D, S-U

Section 14. Transport information

	Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Dependent upon container size, this product may ship under the Limited Quantity shipping exception.

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

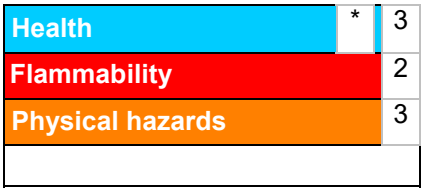
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

International lists : **Australia inventory (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

Section 16. Other information

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
TOXIC TO REPRODUCTION - 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 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 10/27/2021

Date of issue/Date of revision : 10/27/2021

Date of previous issue : 9/29/2021

Version : 16.02

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)
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.

CEMENT & CONCRETE PRODUCTS™

C1: Portland Cement Based Concrete Products

SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
5 Concourse Parkway, Suite 1900
Atlanta, GA 30328

Emergency Telephone Number
INFOTRAC (800) 535-5053
Information Telephone Number
(800) 282-5828

SDS C1
Revision: Feb-23

QUIKRETE® Product Name	Item #(s)
Fence Post Mix	1005
Fiber-Reinforced Concrete Mix	1006
Crack Resistant Concrete Mix	1006-80, -50
Pro-Finish Crack Resistant Concrete Mix	1006-68
QUIKRETE 5000 Concrete Mix	1007-80, -50
QUIKRETE 6000 Concrete Mix	1007
Pro-Finish QUIKRETE 5000	1007-85
Lightweight Concrete Mix	1008
Basic Concrete Mix	1015
Maximum Yield Concrete Mix	1100-80
Concrete Mix	1101-10, -20, -40, -60, -80, -90
Green Concrete Mix	1101-63, -73
B-Crete	1101-81
Red-E-Crete Concrete mix	1101-91, -87; 1141-62, -63, -92, -93, Bulk NR810035
Countertop Mix	1106-80
Form & Pour Concrete Mix MS	1120-80/NR810065
All-Star Concrete Mix	1121
Rip Rap	1129
Rip Rap Scrim	1134-80
Handicrete Concrete Mix	1141-59, -60, -80
RiteMix Concrete	1171-60
Fiber Reinforced Deck Mix	1251-80, -81
All-Star Crack Resistant Concrete Mix	1470-03
All-Star 5000 Concrete Mix	1470-01
Moxcrete	40810015
FlowCrete 5000 (Mix 801)	8080026/NR80026
Mix 801 Concrete Mix	NR81001

Product Use: Portland cement-based, aggregated products for general construction

See most current revision of this document at www.QUIKRETE.com.

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement

2.1 Classification of the substance or mixture

Carcinogen – Category 1A
Skin Corrosion – Category 1B
Eye Damage – Category 1
Skin Sensitization – Category 1B
Specific Target Organ Toxicity Repeat Exposure – Category 1
Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation
Causes severe skin burns and serious eye damage
May cause an allergic skin reaction
Causes damage to lungs through prolonged or repeated inhalation
May cause respiratory irritation
Harmful if swallowed.

2.2c Pictograms

2.2d Precautionary statements

Do not handle until all safety precautions have been read and understood.
Wear impervious gloves, such as nitrile. Wear eye protection, protective clothing and rubber boots.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use only in a well-ventilated area. Wear a NIOSH approved respirator (mask) such as N95 in poorly ventilated areas, when used for extended periods, when use is frequent, or when permissible exposure limits may be exceeded.

Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.
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 on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.
If significant skin irritation or rash occurs: get medical attention.

Immediately seek medical attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information

The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable
2.3b Unknown Acute Toxicity: None

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	60-100*
Portland Cement	65997 15 1	10-30*
Fly Ash	68131-74-8	5-10*

*The concentrations ranges are provided due to batch-to-batch variability.
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures
General information:
After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.
After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical attention.
After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed
Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.
Skin contact: Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer.
Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible
5.2 Suitable extinguishing agents: Treat for surrounding material
5.3 Special hazards arising from the substance or mixture: None
5.3a Products of Combustion: None
5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:
Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling
Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8).Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 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: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	0.05	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Fly Ash	68131-74-8	N/A	N/A

8.2 Exposure Controls
Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures
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.

8.3a Personal protective equipment
Protection of hands and feet:
Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Wear rubber boots when stepping in concrete. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization.

Eye protection:
Wear approved eye protection (properly fitted dust- or splash-proof chemical safety glasses.

Respiratory protection:
Wear a NIOSH approved respirator (mask) such as N95 in poorly ventilated areas, when used for extended periods, when use is frequent, or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information

Appearance	Form: Granular Solid Color: Gray to gray-brown colored Odor: None
pH-value at 20°C (68 °F):	13 (10%)
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Auto igniting:	Product is not self-igniting
Vapor pressure at 21°C (70°F)	Not available
Density at 25°C (77 °F):	2.6 to 3.15

Solubility in / Miscibility with Water:	Insoluble
VOC content:	0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity
No dangerous reaction known under conditions of normal use.
10.2 Chemical stability
Stable under normal storage conditions. Keep in dry storage.
10.3 Possibility of hazardous reaction
No dangerous reaction known under conditions of normal use.
10.4 Thermal decomposition / conditions to be avoided
No decomposition if used according to specifications.
10.5 Incompatible materials
Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires
10.6 Hazardous Decomposition or By-products
Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes severe skin burns. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure
Short Term

Skin Corrosion/Irritation: Causes severe skin burns.
Serious Eye Damage/Irritation: Causes severe eye damage.
Respiratory Sensitization: Not available
Skin Sensitization: May cause an allergic skin reaction.
Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation.

Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.
Germ Cell Mutagenicity: Not available
Reproductive Toxicity: Not available
Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure
Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity

May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized

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 Other Adverse Effects

No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations

Uncleaned packaging

Recommendation: Disposal must be made in accordance with local, state and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:
Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code
Not available

14.3 Special precautions for user
Do not handle until all safety precautions have been read and understood.

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Hazardous Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the HPR.

15.2 US Federal Information

SARA 302/311/312/313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.
RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.
CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.
Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).
NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.
OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components

WARNING: This product can expose you to chemicals including crystalline silica which is known to the State of California to cause cancer and hexavalent chromium compounds which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is “toxic” for purposes of the Massachusetts Toxic Use Reduction Act.

15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.
TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

SECTION XVI – OTHER INFORMATION

Last Updated: February 10, 2023

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express 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 silica contained in our products.

Prepared by The QUIKRETE Companies, LLC

End of SDS

SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, Japanese Standard JIS Z 7250:2000, and EU REACH Regulations

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**CARTRIDGES - FOR TOOLS, BLANK or CARTRIDGES, POWER DEVICES**
CAS Number:	Mixture – Metal Alloy
Synonyms:	Rimfire Cartridge for Power Device, Centerfire Powertool Loaded Round, 22, 25, 27, 32, 38 Caliber Powertool Round, Power Load, Blank Power Load and/or Booster, Powder Load, Cartridges for Tools, Blank
Product Use:	Powertool Loaded Round
U.N. Number:	UN 0014 or UN 0323
U.N. Dangerous Goods Class	Explosive, 1.4S
Manufacturer/Responsible Party:	Olin Winchester, LLC
Manufacturers' Address:	600 Powder Mill Road, East Alton, IL 62024 www.winchester.com
Emergency Telephone Number:	US/Canada: 1-800-424-9300 Outside US/Canada: 703-527-3887
SDS Control Group:	618-258-3507 (Technical Information Only)

Olin SDS No.: 00102.0001 **Issue Date:** 6/1/15

Revision Date: 01/17/2022

Revision No.: 8

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: EXPLOSIVE. KEEP AWAY FROM HEAT. DO NOT SUBJECT TO MECHANICAL SHOCK. PARTICLES FROM FIRING MAY BE HARMFUL IF INHALED. DO NOT TAKE INTERNALLY.

US DOT SYMBOLS	CANADA (WHMIS) SYMBOLS	GHS HAZARD SYMBOLS
	This Product is not subject to WHMIS Class 6 Explosive	

GHS Classifications:
Carcinogenicity Category 1A
Reproductive Toxicity Category 1A
Explosive Division 1.4
STOT RE Category 1
Aquatic Environment, Chronic II

Signal Word:
Danger

Hazard Statements :
H204: Fire or projection hazard
H350: May cause cancer
H360: May damage fertility or the unborn child
H362: May cause harm to breast-fed children
H372: Causes damage to nervous system, kidney, and hematopoietic system through prolonged or repeated exposure
H360: May damage fertility or the unborn child
H411: Toxic to aquatic life with long lasting effects

Target organs:
Nervous, renal and hematopoietic systems

Precautionary Statements:
P102: Keep out of reach of children
P210: Keep away from heat/sparks/open flame/hot surfaces
P250: Do not subject to shock/friction
P260: Do not breathe dust/fume/gas/mist/vapors/spray
P264: Wash hands thoroughly after handling
P270: Do not eat, drink or smoke when using this product
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

GHS Pictograms:
Explosive; Pictogram: exploding bomb
Specific Target Organ Toxicity; Pictogram Code: GHS08
Environment; Pictogram Code: GHS09

EU Classifications:

Hazard Symbols	E, T, N
Risk Phrases	R2: Risk of explosion by shock, friction, fire or other sources of ignition R45 (Category 1): May cause cancer R48: Danger of serious damage to health by prolonged exposure R60/61 (Category 1): May impair fertility or cause harm to the unborn child R63: Possible risk of harm to the unborn child R64: May cause harm to breast-fed children R51/53: Toxic to aquatic organisms and many cause long-term adverse effects in the aquatic environment
Safety Phrases	S2: Keep out of reach of children S15: Keep away from heat S20/21: When using do not eat, drink or smoke S22: Do not breathe dust S39: Wear eye/face protection S51: Use only in well-ventilated areas S61: Avoid release to the environment

Health Hazards or Risks From Exposure

This product is composed of a finished metal alloy cartridge which contains the various components completely sealed within. Therefore, under normal handling of this product, no exposure to any harmful materials will occur. When the product is fired, a small amount of particles may be generated which may be slightly irritating to the eyes and the respiratory tract. The particles may contain trace amounts of these harmful substances:

Lead: Ingestion of large amounts of lead can cause abdominal pain, constipation, cramps, nausea and/or vomiting. Chronic exposure to lead can cause kidney damage, anemia, reproductive effects, developmental effects and permanent nervous system damage in humans including changes in cognitive function. Occupational exposure to lead is associated with lung and stomach cancer. Lead is classified as a probable human carcinogen.

Nitroglycerin: Will produce dilation of blood vessels and drop in blood pressure which may affect the heart. It has also been shown to cause methemoglobinemia (cyanosis).
Copper: Inhalation of high concentrations of metallic copper dusts or fumes may cause nasal irritation and/or nausea, vomiting and stomach pain.

It is unlikely that the amount of particles that someone would be exposed to from firing would be sufficient to cause any of these effects.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% By Weight	CAS Number	EINECS/ ELINCS #
Iron	0 – 97	7439-89-6	231-096-4
Copper	50 - 65	7440-50-8	231-159-6
Zinc	15 - 32	7440-66-6	231-175-3
Nitrocellulose	2 - 13	9004-70-0	Polymer
Nitroglycerin	0.5 - 2	55-63-0	200 – 240 -8
Lead styphnate	0.1 - 1	15245–44–0	239–290-0

4. FIRST AID MEASURES

Eye Contact:	Immediately flush out fume or particles with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician at once.
Skin Contact:	Wash skin with plenty of soap and water.
Inhalation:	If symptoms of lung irritation occur (coughing, wheezing or breathing difficulty), remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep affected person warm and at rest. Get medical attention.
Ingestion:	If ingested, immediately call a physician.

Medical Conditions Aggravated By Exposure:

There are no medical conditions known to be aggravated by exposure to this product in its solid form. Exposure to lead can aggravate anemia, cardiovascular and respiratory disease.

Recommendations To Physcians:
Remove from exposure, if possible, and treat symptoms

5. FIRE FIGHTING MEASURES

PROPERTY	*VALUE*	*PROPERTY*	*VALUE*
Explosive	Yes	Flammable	Not applicable
Combustible	Not applicable	Pyrophoric	No
Flash Point (°C):	Not applicable	Burning Rate of Material:	Not applicable
Lower Explosive Limit:	Not applicable	Autoignition Temp.:	No data
Upper Explosive Limit:	Not applicable	Flammability Classification: (defined by 29 CFR 1910.1200)	Explosive

Unusal Fire and Explosion Hazards: Possible projection hazard.

Extinguishing Media: Flood area with water. If no water is available, carbon dioxide, dry chemical or earth may be used.

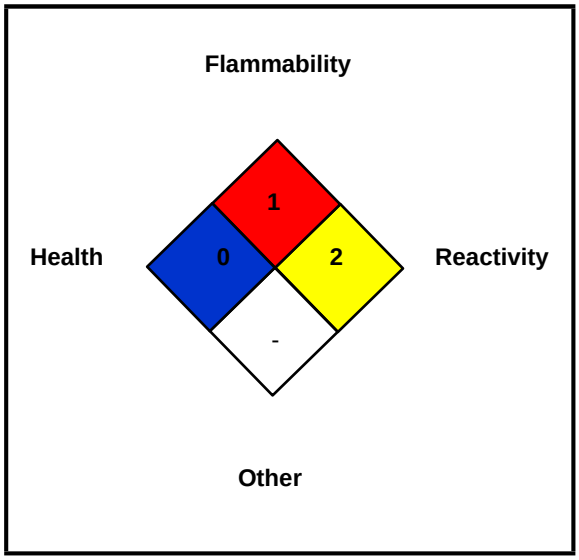
Special Firefighting Procedures: Do not fight fire when fire reaches cargo. Cargo may explode.

Firefighters must wear self-contained breathing apparatus (SCBA) and full protective equipment. Structural firefighters' protective clothing will only provide limited protection.

Isolate materials not yet involved in the fire. Move containers from fire area if possible; otherwise, cool with carefully applied water spray.

Prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas, if practical.

NFPA RATING SYSTEM



HMIS RATING SYSTEM

HEALTH HAZARD (BLUE)	**0***
FLAMMABILITY HAZARD (RED)	**1**
PHYSICAL HAZARD (YELLOW)	**2**

PROTECTIVE EQUIPMENT			
EYES	PPE CODE	RESPIRATORY	HEARING
	A	See Sect 8	See Sect 8

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe * = Chronic hazard

6. ACCIDENTAL RELEASE MEASURES

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT 800-424-9300.

Spill Response: A spill of this material will normally not require emergency response team capabilities. If, however, a large spill occurs, call 1-888-289-1911 for technical assistance.

Accidental Release Procedures: Spills of this material should be handled carefully. Do not subject materials to mechanical shock. Collect material and place in a designated, labeled waste container. See Section 13 for waste disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Use appropriate personal protective equipment (see Section 8). Workers should wash hands thoroughly after handling. Eating, drinking and smoking should be prohibited in areas where this material is handled and stored.

Conditions for Safe Storage: Store in accordance with local regulations. Store in original containers in a cool, dry location away from Acids, Class A & B explosives, strong oxidizers, and caustics. Avoid mechanical impact or shock and electrical discharge.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

CAS #	*CHEMICAL NAME*	*ACGIH TLV*	*OSHA PEL*	*INTERNATIONAL OELS*
7439-89-6	Iron	None established	None established	None established
7440-50-8	Copper	0.2 mg/m^3 (fume), 1 mg/m^3 (dusts and mists)	0.1 mg/m^3 (fume) 1 mg/m^3 (dusts and mists)	Austria, Belgium, Canada: 0.2 mg/m^3 (fumes), 1 mg/m^3 (dusts) Denmark: 1.0 mg/m^3 (dust and powder) Germany (MAK): 0.1 mg/m^3 (fume), 1 mg/m^3 (dusts and mists)
7440-66-6	Zinc	None established	None established	None established
9004-70-0	Nitrocellulose	None established	None established	None established

55-63-0	Nitroglycerin	0.05 ppm (0.46 mg/m^3) Skin	Ceiling – 0.2 ppm (2 mg/m^3) Skin	Denmark: 0.02 ppm (0.2 mg/m^3) Norway, Sweden: 0.03 ppm (0.3 mg/m^3) Austria, Belgium, Germany, The Netherlands, Poland, Switzerland: 0.05 ppm (0.47 mg/m^3), skin Finland, France: 0.1 ppm (0.9 mg/m^3), skin U.K.: 0.2 ppm (2 mg/m^3), skin
15245-44-0	Lead styphnate	None established	None established	None established

Engineering Controls: Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation. Use explosion-proof ventilation.

Respiratory Protection: Not normally needed. Maintain airborne contaminant concentrations below guidelines listed above. Use an appropriate approved air-purifying respirator equipped with HEPA cartridges/canisters where there is the potential for exceeding established occupational exposure limits.

Eye/Face Protection: Use safety glasses.

Hand Protection: Not normally needed

Skin Protection: Not normally needed.

Hearing Protection: Not normally needed. During firing use hearing protection.

General Hygiene: Do not eat, drink, or smoke while using this product. Wash hands thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PROPERTY	*VALUE*	*PROPERTY*	*VALUE*
Appearance:	Cylindrical brass cartridge	*Physical State:*	Solid
Odor:	None	*Odor Threshold:*	None
Boiling Point (°F):	Not applicable	*Melting point:*	Not applicable
Vapor Pressure (mm Hg):	Not applicable	*Freezing point:*	Not applicable
Vapor Density(air = 1):	Not applicable	*Bulk Density*	Not applicable
Specific gravity (g/cc):	Not applicable	*Viscosity (cps):*	Not applicable
pH:	Not applicable	*Decomposition Temperature:*	Not applicable
Solubility in Water (20 °C):	Insoluble	*Evaporation Rate:*	Not applicable
Volatiles, Percent by volume:	Not applicable	*Octanol/water partition coefficient:*	Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur

Incompatible Materials: Acids, Class A & B explosives, strong oxidizers, and caustics

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, lead oxides, carbon dioxide, lead dust/fume

Conditions to Avoid: Contact with incompatible materials. Physical damage to containers; cartridges may detonate if case is punctured.

11. TOXICOLOGICAL INFORMATION

Potential Routes of Entry: Inhalation, Skin, and by Ingestion.

The physical nature of this product makes absorption from any route unlikely. A small amount of inhalable particles may be created when cartridge is fired.

Effects Of Acute Exposure:

PRODUCT		COMPONENTS					
		Lead styphnate	Nitroglycerin	Copper	Nitrocellulose	Iron	Zinc
Inhalation LC_{50}	Particles generated from firing may be slightly toxic	No data	No data	No data	No data	No data	No data
Skin Contact LD_{50}	Skin absorption unlikely	No data	> 280 mg/kg (rabbit)	375 mg/kg, sc (rabbit)	No data	No data	No data
Ingestion LD_{50}	Ingestion unlikely	No data	105 mg/kg (rat)	3.5 mg/kg, ip (mouse)	> 5 g/kg (rat)	30 g/kg (rat)	No data

PRODUCT		COMPONENTS					
		Lead styphnate	Nitroglycerin	Copper	Nitrocellulose	Iron	Zinc
Irritation	Particles generated from firing may be slightly irritating to the eyes	No data	Mild eye and skin irritant	Respiratory irritant	No data	Eye irritant	Eye irritant
Sensitization	Sensitization to this Product has not been reported	No data	No data	No data	No data	No data	No data

Other Adverse Effects:

Target Organ Toxicity: No reported target organ toxicity from this product. Lead has caused nervous system, kidney and hematopoietic system damage in humans and laboratory animals.

Reproductive Toxicity: This product is not known or reported to cause reproductive effects. Lead has been shown to reduce male reproductive function in humans and laboratory animals.

Teratogenicity (Birth Defects): This product is not known or reported to cause developmental toxicity. Lead has been shown to affect fetal development including birth defects.

Mutagenicity: This product is not known or reported to be mutagenic. Lead has been shown to be mutagenic in several *in vitro* assays.

Carcinogenicity: IARC and US EPA list lead and lead compounds as probable human carcinogens (Group 2A) based on sufficient evidence from animal studies and limited evidence from human studies (epidemiology). NTP classifies lead and lead compounds as reasonably anticipated to be human carcinogens. Inorganic arsenic is causally associated with lung cancer via inhalation and skin cancer by ingestion. Arsenic is listed as a known human carcinogen by IARC (Group 1), OSHA, NTP and EPA

12. ECOLOGICAL INFORMATION

Environmental Effects:

PRODUCT: Product has not been tested for environmental properties.

COMPONENTS:

Copper: Copper concentrations from 0.1 to 1.0 mg/l have been found to be not toxic for most fish. However, concentrations of 0.015 to 3.0 mg/l have been reported as toxic, particularly in soft water to many kinds of fish, crustacea, mollusks, insects, and plankton.

Lead: LC 50 (48 hrs.) to bluegill is reported to be 2-5 mg/l. Lead is toxic to waterfowl.

Nitrocellulose: LC_{50} > 1000 mg/l to fish, invertebrates, and algae.

Nitroglycerin: LC_{50} = 1.228 mg/l to Bluegill, (96 hour, static)

Zinc: The following concentrations of zinc have been reported as lethal to fish: 0.13 mg/l, for 12 – 24 hours to Rainbow trout fingerlings; 1.9 – 3.6 mg/l, 6 hr TLM (soft water, 30°C) to Bluegill Sunfish; 4 mg/l, 3 days (hard water) to Rainbow trout; 1 mg/l, 24 hours (soft water) to Sticklebacks.
The presence of copper appears to have a synergistic effect on the toxicity of zinc towards fish.

Environmental Fate:

MOBILITY: Dissolved lead may migrate through soil.
PERSISTANCE/DEGRADABILITY: Not biodegradable.
BIOACCUMULATION: No data

13. DISPOSAL CONSIDERATIONS

Care must be taken to prevent environmental contamination from the use of this material. 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 the treatment, storage and disposal for hazardous and nonhazardous wastes.

14. TRANSPORT INFORMATION

Regulatory Information for US DOT, IATA, IMO, and ADR:

Proper Shipping Name	Cartridges for Tools, Blank	Cartridges, Power Device
Hazard Class Number and Description	Explosive 1.4S	Explosive 1.4S
UN Identification Number	UN0014	UN0323
Packing Group	PGII	PGII
DOT Label(s) Required	None	Explosive 1.4S

Marine Pollutant: None of the ingredients are classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)

Additional Information:

North American Emergency Response Guidebook Number (2004): 114

U.S. DEPARTMENT OF TRANSPORTATION SHIPPING REGULATIONS: This product is classified as dangerous goods under 49 CFR 172.101. Note: May be reclassified domestically as a Limited Quantity if packaged in accordance with 49 CFR 173.63.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is classified as Dangerous Goods.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is classified as Dangerous Goods.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is classified as Dangerous Goods.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is classified by the United Nations Economic Commission for Europe to be dangerous goods.

15. REGULATORY INFORMATION

US FEDERAL

TSCA	The components of this product are listed on the Toxic Substance Control Act inventory.				
CERCLA:	Copper, R.Q.* = 5000 lbs.; Zinc, R.Q. = 1000 lbs.; Nitroglycerin, R.Q. = 10 lbs; Lead, R.Q. = 10 lbs. (No reporting is required if diameter of the pieces of metal is equal to or exceeds 100 micrometers (0.004 inches).				
SARA 313:	Copper, Lead and Lead compounds, Nitroglycerin, Zinc (fume or dust)				
SARA 311/312:	*Health*:	Acute – No Chronic - No	*Fire:* No	*Reactivity:* Yes	*Release of Pressure*: No
SARA 302 EHS List:	None of the components of this product are listed.				

*RQ = Reportable Quantity

STATE RIGHT-TO-KNOW STATUS

Component	California	New Jersey	Pennsylvania	Massachusetts	Michigan
Iron	Not listed	Not listed	Not listed	Not listed	Not listed
Copper	Not listed	X	X	X	X
Zinc	Not listed	X	Not listed	X	X
Nitrocellulose	Not listed	X	X	X	Not listed
Nitroglycerin	Not listed	X	X	X	Not listed
Lead styphnate	X	Not listed	Not listed	X	Not listed

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)

Warning! This product contains detectable amounts of a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

GHS CLASSIFICATION

Carcinogenicity Category 1A
Reproductive Toxicity Category 1A
Explosive Division 1.4
STOT RE Category 1
Aquatic Environment, Chronic II

EUROPEAN REGULATIONS

Hazard Classification

Danger Symbols:	E, T, N
Risk Phrases:	R2, R48, R60, R63, R51/53
Safety Phrases:	S2, S15, S20/21, S22, S39, S51, S61

German WGK Classification: Not known.

CANADIAN REGULATIONS

DSL/NDSL Inventory: The components of this product are on the DSL

IDL: Copper, Lead

CEPA PRIORITIES LIST: None

WHMIS: This product is not subject to WHMIS. It is regulated as a Class 6 Explosive in Canada.

JAPANESE REGULATIONS

Existing National Inventory of Chemical Substances (ENCS): The components of this product are listed

Japanese Priority Assessment Chemical Substances: None of the components of this product are listed

OTHER INTERNATIONAL CHEMICAL INVENTORIES

Swiss Giftliste List of Toxic Substances:	All Components Listed
Australian Inventory (AICS):	All Components Listed

16. OTHER INFORMATION

REVISIONS: 08
DATE: 01/17/2022
PREPARED BY: Olin Winchester, LLC
OTHER: Additional information available from: www.winchester.com
NOTICE: THE INFORMATION IN THIS SDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. OLIN BELIEVES THIS INFORMATION TO BE RELIABLE AND CURRENT AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS.

SAFETY DATA SHEET

1. Identification

Product identifier **PVC Medium Clear Cement**

Other means of identification

SDS number 1101C

Synonyms Part Numbers: Clear - 30350, 31017, 31018, 31019, 31020, 31021, 31535, 31536, 31537, 31538, 31539, 31550, 31551, 31552, 31553, 31946, 31947, 31948, 31949, 32222, 32223, 32224, 32225

Recommended use Joining PVC Pipes

Recommended restrictions None known.

	Manufacturer	Distributor
Company Name	Oatey Co.	Oatey Canada Supply Chain Services Co.
Address	4700 West 160th St. Cleveland, OH 44135	145 Walker Drive Brampton, ON L6T 5P5, Canada

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
	Physical hazards not otherwise classified	Category 1
Health hazards	Acute toxicity, oral	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
	Aspiration hazard	Category 1
	Health hazards not otherwise classified	Category 1

Environmental hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing 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. Wear protective gloves/protective clothing/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 or 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. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Take off contaminated clothing and wash it 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.
Other hazards	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-50
Acetone	67-64-1	10-25
Methyl ethyl ketone	78-93-3	10-25
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC;	9002-86-2	12-20
Cyclohexanone	108-94-1	10-20
Fumed Silica	112945-52-5	1-5

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	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash 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	Call a physician or poison control center immediately. 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. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Causes eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. 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	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	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	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. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

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 protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. 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). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. 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. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. This product is miscible in water.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not taste or swallow. 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. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store locked up. Do not handle or store near an open flame, heat or other sources of ignition. Keep away from heat, sparks and open flame. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a closed container away from incompatible materials. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Keep container tightly closed. Store in a well-ventilated place. Keep out of the reach of children. Keep in an area equipped with sprinklers. 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. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	TWA	3 mg/m3	Respirable particles.
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 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	
Cyclohexanone (CAS 108-94-1)	STEL	200 mg/m3	
		50 ppm	
	TWA	80 mg/m3	
		20 ppm	
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Total particulate.
Furan, Tetrahydro- (CAS 109-99-9)	STEL	295 mg/m3	
		100 ppm	
	TWA	147 mg/m3	
		50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3	
		300 ppm	
	TWA	590 mg/m3	
		200 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	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	100 ppm	
	TWA	50 ppm	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	TWA	10 mg/m3	Inhalable particles.
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 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	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 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	
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3	
		25 ppm	
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	TWA	10 mg/m3	Total dust.
Furan, Tetrahydro- (CAS 109-99-9)	TWA	300 mg/m3	
		100 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 mg/m3	
		100 ppm	
	TWA	150 mg/m3	
		50 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9)	Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9)	Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9)	Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9)	Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1)	Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9)	Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. 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 appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

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 Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Wash hands after handling and before eating.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Translucent liquid.

Color Clear.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 151 °F (66.11 °C)

Flash point 14.0 - 23.0 °F (-10.0 - -5.0 °C)

Evaporation rate 5.5 - 8

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.8

Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.93 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	1200 - 2500 cP
Viscosity temperature	77 °F (25 °C)
Other information	
Bulk density	7.7 lbs/gal
VOC (Weight %)	< 510 g/l SCAQMD 1168/M316A

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	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Causes 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. May cause respiratory irritation.

Components	Species	Test Results
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 hours

Components	Species	Test Results
Oral		
LD50	Rat	800 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 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 Not classified.

ACGIH Carcinogens

Acetone (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.
Cyclohexanone (CAS 108-94-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	A4 Not classifiable as a human carcinogen.
Furan, Tetrahydro- (CAS 109-99-9)	A3 Confirmed animal carcinogen with unknown relevance to humans.

Canada - Manitoba OELs: carcinogenicity

ACETONE (CAS 67-64-1)	Not classifiable as a human carcinogen.
CYCLOHEXANONE (CAS 108-94-1)	Confirmed animal carcinogen with unknown relevance to humans.
POLYVINYL CHLORIDE (PVC), RESPIRABLE FRACTION (CAS 9002-86-2)	Not classifiable as a human carcinogen.
TETRAHYDROFURAN (CAS 109-99-9)	Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1)	3 Not classifiable as to carcinogenicity to humans.
Ethene, chloro-, homopolymer, Polyvinyl chloride; PVC; (CAS 9002-86-2)	3 Not classifiable as to carcinogenicity to humans.
Fumed Silica (CAS 112945-52-5)	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 Narcotic effects. Respiratory tract irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

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
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 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 (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

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. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. 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

TDG

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
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 available.

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
Methyl ethyl ketone (CAS 78-93-3)	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)	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)	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

Issue date 17-December-2015

Revision date -

Version # 01

List of abbreviations

TWA: Time weighted average.
STEL: Short term exposure limit.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
ACGIH: American Conference of Industrial Hygienists.
CAS: Chemical Abstracts Service.
OEL: Occupational Exposure Limit.
LD50: Lethal dose 50% (dose that kills 50% of test animals).
LC50: Lethal concentration 50% (concentration that kills 50% of test animals).
MARPOL: International Convention for the Prevention of Pollution from Ships.

Disclaimer

Oatey Co. 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.

SAFETY DATA SHEET

1. Identification

Product identifier **Oatey Purple Primer- NSF Listed for PVC and CPVC**

Other means of identification

SDS number 1402C

Synonyms Part Numbers: 30755(TV), 30756(TV), 30757(TV), 30758, 30759, 30927, 31462, 31480, 31481, 31482, 31483

Recommended use Joining PVC Pipes

Recommended restrictions None known.

	Manufacturer	**Distributor**
Company Name	Oatey Co.	Oatey Canada Supply Chain Services Co.
Address	4700 West 160th St. Cleveland, OH 44135	145 Walker Drive Brampton, ON L6T 5P5, Canada

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
	Physical hazards not otherwise classified	Category 1
Health hazards	Acute toxicity, oral	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
	Aspiration hazard	Category 1
	Health hazards not otherwise classified	Category 1

Environmental hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention 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/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing 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. Wear protective gloves/protective clothing/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. 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. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Take off contaminated clothing and wash it 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.
Other hazards	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Acetone	67-64-1	25-40
Cyclohexanone	108-94-1	25-40
Methyl ethyl ketone	78-93-3	15-30

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	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
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	Call a physician or poison control center immediately. 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	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. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. 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	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	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	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. Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

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 protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. 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). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

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 to original containers for re-use. This product is miscible in water. 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

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not taste or swallow. 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. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	1800 mg/m3
		750 ppm
	TWA	1200 mg/m3
		500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	200 mg/m3
		50 ppm
	TWA	80 mg/m3
		20 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	100 ppm
	TWA	50 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	2380 mg/m3
		1000 ppm
	TWA	1190 mg/m3
		500 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 mg/m3
		100 ppm
	TWA	150 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	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. 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 appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

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 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 Translucent liquid.

Color Purple

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 151 °F (66.11 °C)

Flash point	14.0 - 23.0 °F (-10.0 - -5.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.84 +/- 0.02 @20°C
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	7 lb/gal
VOC (Weight %)	505 g/l SQACMD Method 24

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	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	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. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	20 ml/kg
Inhalation		
LC50	Rat	50 mg/l, 8 Hours
Oral		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 hours
Oral		
LD50	Rat	800 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 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 In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

ACGIH Carcinogens

Acetone (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.
Cyclohexanone (CAS 108-94-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.

Canada - Manitoba OELs: carcinogenicity

ACETONE (CAS 67-64-1)	Not classifiable as a human carcinogen.
CYCLOHEXANONE (CAS 108-94-1)	Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1)	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 Narcotic effects. Respiratory tract irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

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
Acetone (CAS 67-64-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 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 (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Methyl ethyl ketone (CAS 78-93-3)	0.29

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. 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.

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

TDG

UN number UN1993
UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards D
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number UN1993
UN proper shipping name Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 3H
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1993
UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)

Transport hazard class(es)

Class	3
Subsidiary risk	-
Packing group	II
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 available.

15. Regulatory information

Canadian regulations 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.

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
Methyl ethyl ketone (CAS 78-93-3)	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)*
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 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

Issue date	21-December-2015
Revision date	-01-Jan-2020
Version #	02-1 - Added part 31462
Disclaimer	Oatey Co. 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.

SAFETY DATA SHEET

1. Identification

Product identifier	**Smoke Test® - 2.5 oz**
Other means of identification	
Product Code	No. 02105 (Item# 1003205)
Recommended use	Smoke detector tester
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)
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 2
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes serious eye irritation.
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. 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 outdoors or in a well-ventilated area. 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 thoroughly after handling. Wear eye protection/face protection.
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.
Storage	Store in a well-ventilated place. 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.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
liquefied petroleum gas		68476-86-8	60 - 70
ethanol		64-17-5	20 - 30
1,2,3-propanetriol		56-81-5	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

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 Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

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 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 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 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.

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. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. 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 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 contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. 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. 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	Form
1,2,3-propanetriol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
ethanol (CAS 64-17-5)	PEL	1900 mg/m3	
		1000 ppm	

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
1,2,3-propanetriol (CAS 56-81-5)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value
ethanol (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 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. 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: Neoprene. Rubber. Vinyl.

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	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	Colorless.
Odor	Alcoholic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-173.4 °F (-114.1 °C) estimated
Initial boiling point and boiling range	172.9 °F (78.3 °C) estimated
Flash point	56.0 °F (13.3 °C) Tag Closed Cup
Evaporation rate	Very fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	3.3 % estimated
Flammability limit - upper (%)	19 % estimated
Vapor pressure	3320.9 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.63 estimated
Solubility(ies)	
Solubility (water)	Complete.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	363 °F (183.9 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Percent volatile	65.8 % 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	Acetyl chloride. Nitric acids. Strong acids. Chromium trioxide. Potassium chlorate. Potassium permanganate. Peroxides. Chromates. Strong oxidizing agents.
Hazardous decomposition products	Acrolein. Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Prolonged skin contact may cause temporary irritation.

Eye contact Causes serious eye irritation.

Ingestion May cause gastrointestinal irritation, including nausea and vomiting. Ingestion of ethanol can cause drunkenness and central nervous system depression.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
ethanol (CAS 64-17-5)		
Acute		
Dermal		
LD50	Rabbit	20 g/kg
Inhalation		
LC50	Rat	8000 mg/l, 4 hours

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Repeated exposure may cause skin dryness or cracking.

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 Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

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 May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

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.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

1,2,3-propanetriol	-1.76
ethanol	-0.31

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	If discarded, this product is considered a RCRA ignitable waste, D001. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. 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	-
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

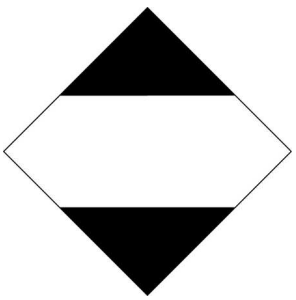
IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	-
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	2.1
Subsidiary risk	-
Packing group	-
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT; IMDG



IATA

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)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

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.

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

1,2,3-propanetriol (CAS 56-81-5)	Other Flavoring Substances with OSHA PEL's
ethanol (CAS 64-17-5)	Low priority

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Gas under pressure
Serious eye damage or eye irritation

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

1,2,3-propanetriol (CAS 56-81-5)
ethanol (CAS 64-17-5)

US. Massachusetts RTK - Substance List

1,2,3-propanetriol (CAS 56-81-5)
ethanol (CAS 64-17-5)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,3-propanetriol (CAS 56-81-5)
ethanol (CAS 64-17-5)

US. Rhode Island RTK

1,2,3-propanetriol (CAS 56-81-5)
ethanol (CAS 64-17-5)

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. For more information go to www.P65Warnings.ca.gov.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	97.5 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	97.5 %
VOC content (OTC)	97.5 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	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)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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	06-18-2022
Prepared by	Allison Yoon
Version #	01
Further information	CRC # 418/1002399
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

1. Identification

Product identifier **TFE Paste**

Other means of identification

SDS number 3701E

Synonyms Part Numbers: 23014, 23015, 23030, 23045, 23060, 23075

Recommended use Pipe Joint Compound for Threaded Metal Pipes

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name William H. Harvey Company

Address 4334 South 67th Street
Omaha, NE 68117

Telephone 402-331-1175

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium carbonate	1317-65-3	50-70
Oxidized Soy Bean Oil	68152-81-8	10-30
Polyfluoroethylene	9002-84-0	3-7
2-Butoxyethanol	111-76-2	1-5
Alkyl Quaternary Ammonium Bentonite	68953-58-2	1-5
Distillates (petroleum), Hydrotreated Light Naphthenic	64742-53-6	1-5

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	1-5
Titanium dioxide	13463-67-7	1-5
Quartz	14808-60-7	<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 Move to fresh air. Call a physician if symptoms develop or 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 Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed 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 Move containers from fire area if you can do so without risk. Cool material exposed to heat with water spray and remove it if no risk is involved.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

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. 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. 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.

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 prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. 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	Form
2-Butoxyethanol (CAS 111-76-2)	PEL	240 mg/m3	
		50 ppm	
Calcium carbonate (CAS 1317-65-3)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
Quartz (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Quartz (CAS 14808-60-7)	TWA	0.3 mg/m3	Total dust.
		0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2-Butoxyethanol (CAS 111-76-2)	TWA	20 ppm	
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
2-Butoxyethanol (CAS 111-76-2)	TWA	24 mg/m3	
		5 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
	TWA	5 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
Quartz (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

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.

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. NIOSH: Pocket Guide to Chemical Hazards

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.

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.

Skin protection

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 Liquid.

Form Liquid paste.

Color White.

Odor Petroleum.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point	153.0 °F (67.2 °C)
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	Not available.
Vapor density	< 1
Relative density	1.7
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	30000 cP
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	86 g/l 4.9% by weight

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 temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Fluorine. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	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.
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	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Titanium dioxide (CAS 13463-67-7)		
Acute		
Inhalation		
LC50	Rat	3.43 mg/l, 4 Hours

Components	Species	Test Results
Oral		
LD50	Rat	> 5000 mg/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 In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Butoxyethanol (CAS 111-76-2)	3 Not classifiable as to carcinogenicity to humans.
Quartz (CAS 14808-60-7)	1 Carcinogenic to humans.
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	Known To Be Human Carcinogen.
Quartz (CAS 14808-60-7)	Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Quartz (CAS 14808-60-7)	Cancer

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 an aspiration hazard.

Chronic effects 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.

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.

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-Butoxyethanol (CAS 111-76-2)	0.83

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.

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

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.
General information	DOT: Not regulated as dangerous goods except when shipped in bulk. This material is not regulated if in a container of 119 gallon (450 L) capacity or less.

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be 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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Quartz (CAS 14808-60-7)	Cancer lung effects immune system effects kidney effects

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Butoxyethanol (CAS 111-76-2)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
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.
2-Butoxyethanol	111-76-2	1-5

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

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Quartz (CAS 14808-60-7)
Titanium dioxide (CAS 13463-67-7)

US. Massachusetts RTK - Substance List

2-Butoxyethanol (CAS 111-76-2)

Calcium carbonate (CAS 1317-65-3)
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)
Quartz (CAS 14808-60-7)
Titanium dioxide (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

2-Butoxyethanol (CAS 111-76-2)
Calcium carbonate (CAS 1317-65-3)
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)
Quartz (CAS 14808-60-7)
Titanium dioxide (CAS 13463-67-7)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Butoxyethanol (CAS 111-76-2)
Calcium carbonate (CAS 1317-65-3)
Quartz (CAS 14808-60-7)
Titanium dioxide (CAS 13463-67-7)

US. Rhode Island RTK

Calcium carbonate (CAS 1317-65-3)
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)
Quartz (CAS 14808-60-7)
Titanium dioxide (CAS 13463-67-7)

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)	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)	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 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-February-2015

Revision date 26-April-2017

Version # 02

HMIS® ratings
Health: 0
Flammability: 2
Physical hazard: 0

NFPA ratings

Disclaimer William H. Harvey Company 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.

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: WD-40® Multi-Use Product - Aerosol

Container size: 100 ml, 125 ml, 150ml, 200 ml, 240 ml, 250 ml, 300 ml, 400 ml, 420 ml

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

Application: Universal lubricant.

1.3. Details of the supplier of the safety data sheet

Manufacturer:
WD-40
Brick Close | Kiln Farm
MK11 3LJ Milton Keynes
United Kingdom

Supplier/Distributor:
Hashahal, Inc.
HaRav Shalom Jarufi St 4
Rishon LeTsiyon
Tel:03-7612700

1.4. Emergency telephone number

Emergency telephone: Israel Poison Information Center: 04-7771900 (24/7)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified:

SI 2302 (1): Flam. Aerosol 1 - STOT SE 3;H336 - Asp. Tox. 1

2.2. Label elements

Danger

Contains: Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

H336 May cause drowsiness or dizziness.

P102 Keep out of reach of children.

P271 Use only outdoors or in a well-ventilated area.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C.

P211 Do not spray on an open flame or other ignition source.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331 Do NOT induce vomiting.

Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

PBT/vPvB: This product does not contain any PBT or vPvB substances.

Other: Aerosol containers can burst violently when heated, due to excess pressure build-up. The product contains volatile, organic compounds which have a photochemical ozone creation potential. The product contains organic solvents. Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: organic solvents, propellants and mineral oil.

SI 2302 (1):

%:	CAS-No.:	EC No.:	Chemical name:	Hazard classification:	Notes:
60-80	-	919-857-5	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Flam. Liq. 3;H226 STOT SE 3;H336 Asp. Tox. 1;H304	

Reference: The full text for all hazard statements is displayed in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring along these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

Ingestion: Aspiration hazard. Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Immediate transport to hospital. Bring along these instructions.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects: Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Treat symptomatically. If there is any suspicion of aspiration into the lungs either directly or as a result of vomiting, obtain medical advice.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with carbon dioxide or dry powder. Cool containers exposed to heat with water spray and remove container, if no risk is involved.
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Aerosol containers can explode when heated, due to excessive pressure build-up. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Do not smoke or use open fire, or other sources of ignition.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Absorb spillage with non-combustible, absorbing material. Clean contaminated area with oil-removing material.

6.4. Reference to other sections

Reference: For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Observe good chemical hygiene practices.
Work practice should minimise contact. Avoid inhalation of vapours and spray mists. Avoid contact with skin and eyes.

Technical measures: Do not smoke or use open fire or other sources of ignition.

Technical precautions: Provide adequate ventilation. Provide easy access to water supply or an emergency shower.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: Follow the rules for storage of flammable products.

Storage conditions: Store in a cool and well-ventilated place. Do not store near heat sources or expose to high temperatures.

Specific use(s): No information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits:

CAS-No.:	Chemical name:	As:	Exposure limits:	Type:	Notes:	References:
124-38-9	Carbon dioxide	-	5000 ppm	TWA	-	ACGIH
		-	30000 ppm	STEL	15min	

8.2. Exposure controls

Engineering measures:	Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.
Personal protection:	Personal protection equipment should be chosen according to the ANSI standards and in discussion with the supplier of the personal protective equipment.
Respiratory equipment:	In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment.
Hand protection:	Risk of contact: Wear protective gloves. It is recommended to use gloves of Viton or nitrile rubber. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Other types of gloves can be recommended by the glove supplier.
Eye protection:	Risk of splashes: Wear goggles/face shield.
Hygiene measures:	Wash hands after handling. Do not eat, drink or smoke when using the product. Change contaminated clothing. Wash contaminated clothing before reuse.
Environmental Exposure Controls:	Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	Aerosol.
Colour:	Light brown.
Odour:	Characteristic.
pH:	Not available.
Melting point / freezing point:	< - 66°C (ASTM D 97)
Boiling point:	176°C (liquid phase)
Flash point:	47°C (liquid phase)
Explosion limits:	0.6-8.2% vol. (Main components)
Vapour pressure:	7.2 bar (20°C) 9.4 bar (50°C)
Vapour density:	Not available.
Relative density:	0.817 g/ml
Solubility:	Insoluble in water.
Partition coefficient (n-octanol/water):	Not available.
Decomposition temperature (°C):	Not available.
Viscosity:	Kinematic viscosity: 2-3 mm²/s (40 °C)

9.2. Other information

Other data:	Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity:	Not reactive.

10.2. Chemical stability

Stability:	Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions:	None known.

10.4. Conditions to avoid

Conditions to avoid:	Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Incompatible materials:	Strong oxides.

10.6. Hazardous decomposition products

Hazardous decomposition products:	None in particular.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Low order of acute toxicity, but aspiration following ingestion and vomiting may cause severe and potentially fatal chemical pneumonitis.

Acute Toxicity (Oral):	Based on available data, the classification criteria are not met.
Acute Toxicity (Dermal):	Based on available data, the classification criteria are not met.
Acute Toxicity (Inhalation):	Based on available data, the classification criteria are not met.
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.
STOT - Single exposure:	May cause drowsiness or dizziness.
STOT - Repeated exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	May be fatal if swallowed and enters airways.
Inhalation:	In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.
Skin contact:	Prolonged contact may cause redness, irritation and dry skin.
Eye contact:	May irritate and cause redness and pain.
Ingestion:	Low order of acute toxicity, but aspiration following ingestion and vomiting may cause severe and potentially fatal chemical pneumonitis.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity:	Not classified as dangerous to the environment. Oil spills are generally hazardous to the environment.

12.2. Persistence and degradability

Degradability:	The degradability of the product has not been stated.

12.3. Bioaccumulative potential

Bioaccumulative potential:	No data available on bioaccumulation.

12.4. Mobility in soil

Mobility:	No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB:	This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Other adverse effects:	An oil film may cause physical damage to organisms and disturb the transportation of oxygen in the intermediate zone between air/water or water/air.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Do not puncture or incinerate even when empty.

Contaminated packaging: Empty aerosol containers before disposal.

SECTION 14: TRANSPORT INFORMATION

The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

UN-No: 1950

14.2. UN proper shipping name

Proper Shipping Name: AEROSOLS, flammable

14.3. Transport hazard class(es)

Class: 2

14.4. Packing group

PG: -

14.5. Environmental hazards

Marine pollutant: No.

Environmentally Hazardous Substance: No.

14.6. Special precautions for user

Special precautions: None known.

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

Transport in bulk: This product is not intended for transport in bulk.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulation: SI 2302 part 1 - Dangerous substances and mixtures: Classification, labelling, marking and packaging, with amendments.
Work Safety Regulations (Safety Data Sheets, Classification, Packing, Labeling and Marking of Packages), 5758-1998, with amendments.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 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 with amendments.
Threshold Limit Values (2018), ACGIH, by the American Conference on Governmental Industrial Hygienists.

SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

Abbreviations and acronyms used in the safety data sheet:	Flam. Liq. = Flammable liquid. Asp. Tox. = Aspiration toxicity. PBT = Persistent, Bioaccumulative and Toxic. STOT SE = Specific target organ toxicity, single exposure. vPvB = very Persistent and very Bioaccumulative.
Additional information:	Classification according to Regulation (EC) No. 1272/2008: Health Hazards: Calculation method. Physical Hazards: Expert judgement.

Wording of H-statements:

H222	Extremely flammable aerosol.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.
www.dhigroup.com.

Trade name: IDEAL Wipes Multi-Purpose Wipes

SECTION 1: Identification

Product identifier used on the label:
Product Name: **IDEAL Wipes Multi-Purpose Wipes**

Other means of identification:
Product Code Number: 38-500

Recommended use of the chemical and restrictions on use:
Recommended use: Cleaner.
Recommended restrictions: Uses other than those described above.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:
Not classified as hazardous under OSHA HSC 2012

GHS Signal word: **None Required**

GHS Hazard statement(s): None required

GHS Hazard symbol(s): None required

GHS Precautionary statement(s): None required

Hazard(s) not otherwise Classified (HNOC): None known

Percentage of ingredient(s) of unknown acute toxicity:
Not applicable

SECTION 3: Composition/information on ingredients

Chemical name	CAS#	Concentration (weight %)
Alcohols, C12-15, ethoxylated	68131-39-5	< 5%
Alcohols, C9-11, ethoxylated	68439-46-3	< 5%

NOTE: The balance of the ingredients is not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 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:

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Call a physician if symptoms develop.

Skin contact: Wash immediately with plenty of water and soap for 15 minutes and rinse thoroughly. Remove clothing while washing. Call a physician if symptoms develop.

Eye contact: In case of contact with eyes, flush with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Do not apply neutralizing agents. Call a physician if symptoms develop.

Ingestion: Do NOT induce vomiting. If swallowed, wash mouth out with water provided the person is conscious. NEVER GIVE LIQUIDS TO AN UNCONCIOUS PERSON. Call a physician if symptoms develop.

Most important symptoms/effects, acute and delayed:
May cause eye irritation.

Indication of immediate medical attention and special treatment needed:
If any symptoms are observed, contact a physician and give them this SDS sheet. Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:
Suitable extinguishing media: Alcohol-resistant foam, water spray or fog. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
Harmful vapors may be released in a fire.

Hazardous combustion products may include the following substances: Carbon monoxide, Carbon dioxide.

Special protective equipment and precautions for fire-fighters:
Use water spray or fog for cooling exposed containers. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate all non-emergency personnel from area. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
No action shall be taken involving any personal risk or without suitable training. Isolate the area. Evacuate personnel to safe areas. Approach from upwind. Ventilate the area. Keep away from incompatible products. Prevent further leakage or spillage if safe to do so.
Wear chemical resistant personal protective equipment, as conditions warrant (see Section 8).
See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions:
Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways.

Methods and material for containment and cleaning up:
Take up liquid spill with inert absorbent material. Scoop absorbed substance into containers. Flush contaminated areas with large amounts of water and direct wash waters to chemical sewer or collect for treatment. Dispose of via a licensed waste disposal contractor.
See Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: Handling and storage

Precautions for safe handling:
Take precautionary measures against static discharges. Wear recommended personal protective equipment (See Section 8). Avoid eye and skin contact. Remove contaminated clothing. Keep away from incompatible products. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for safe storage, including any incompatibles:
Store in a well-ventilated area. Store at ambient temperature. Keep container closed when not in use. Make sure containers are properly labeled.
Incompatible materials: Strong oxidizing agents.

SECTION 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.

Substance	OSHA PEL	ACGIH TLV	NIOSH IDLH
Alcohols, C12-15, ethoxylated	None known	None known	None known
Alcohols, C9-11, ethoxylated	None known	None known	None known

Appropriate engineering controls:
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.
Concentrations should be monitored hazardous substances in the workplace in accordance with recognized test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses or chemical safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).

Skin and Hand protection: Wear impervious gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection: None normally required**.** In the case of dust or aerosol formation use respirator with an approved filter.

General hygiene considerations: Eye wash fountains should be located in the work areas. Take off contaminated clothing and shoes immediately. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):

Physical state:	Liquid.
Color:	Clear.
Odor:	Citrus.
Odor threshold:	Not determined.
pH:	5.0 - 8.0
Melting point/freezing point:	Not determined.
Initial boiling point and boiling range:	212 F.
Flash point:	> 300 F.
Evaporation rate:	Not determined.
Flammability (solid, gas):	Not applicable

Upper/lower flammability or explosive limits

Flammability limit – lower %):	Not determined.
Flammability limit – upper (%):	Not determined.
Explosive limit – lower (%):	Not determined.
Explosive limit – upper (%):	Not determined.
Vapor pressure:	Not determined.
Vapor density:	Not determined.
Relative density:	1.
Solubility (ies):	Dispersible in water.
Partition coefficient (n-octanol/water):	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	Not determined.

SECTION 10: Stability and reactivity

Reactivity:	Not expected to be chemically reactive.
Chemical stability:	Stable under recommended storage and handling conditions.
Possibility of hazardous reactions:	Hazardous reactions not anticipated.
Conditions to avoid:	None known.
Incompatible materials:	Avoid contact with strong oxidizers.
Hazardous decomposition Products:	None expected, however in case of fire, carbon oxides may be released.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Expected to be a route of exposure
Ingestion:	Expected to be a route of exposure
Skin:	Expected to be a route of exposure
Eyes:	Expected to be a route of exposure
Target Organs:	Eyes

Symptoms related to the physical, chemical, and toxicological characteristics:
May cause eye irritation.

Delayed and immediate effects and chronic effects from short or long-term exposure:
No additional information available.

Numerical measures of toxicity (such as acute toxicity estimates):

Substance	Test Type (species)	Value
Alcohols, C12-15, ethoxylated	LD_{50} Oral (Rat)	> 2000 mg/kg
	LD_{50} Dermal (Rabbit)	2500 mg/kg
	LC_{50} Inhalation (Rat)	None known

Alcohols, C9-11, ethoxylated	LD_{50} Oral (Rat)	3488 mg/kg
	LD_{50} Dermal (Rabbit)	> 2000 mg/kg
	LC_{50} Inhalation (Rat)	> 1600mg/m³

Acute Toxicity: Does not meet the criteria for classification.
Skin corrosion/irritation: Does not meet the criteria for classification.
Serious eye damage/eye irritation: Does not meet the criteria for classification.
Respiratory sensitization: Does not meet the criteria for classification.
Skin sensitization: Does not meet the criteria for classification.
Germ cell mutagenicity: Does not meet the criteria for classification.
Carcinogenicity: Does not meet the criteria for classification.
Reproductive toxicity: Does not meet the criteria for classification.
Specific target organ toxicity-Single exposure: Does not meet the criteria for classification.
Specific target organ toxicity-Repeat exposure: Does not meet the criteria for classification,
Aspiration hazard: Does not meet the criteria for classification.

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:

Component	IARC	NTP	ACGIH	OSHA
Alcohols, C12-15, ethoxylated	Not listed	Not listed	Not listed	Not listed
Alcohols, C9-11, ethoxylated	Not listed	Not listed	Not listed	Not listed

SECTION 12: Ecological information

Ecotoxicity (aquatic and terrestrial, where available):
Harmful to aquatic life with long lasting effects

Substance	Test Type	Species	Value
Alcohols, C12-15, ethoxylated	LC_{50}	Fish - Pimephales promelas	0.628 mg/L 96h
	EC_{50}	Aquatic Invertebrates - Daphnia magna	0.143 mg/L 48h
	EC_{50}	Algae - Raphidocelis subcapitata	0.031 mg/L 72h

Alcohols, C9-11, ethoxylated	LC_{50}	Fish – Oncorhynchus mykiss	5 - 7 mg/L 96h
	EC_{50}	Aquatic Invertebrates – Daphnia magna	2.5 mg/L 48h
	ErC_{50}	Algae - Desmodesmus subspicatus	1.978 mg/L72h

Persistence and Degradability:
Expected to be readily biodegradable

Bioaccumulative Potential:
Bioaccumulation in organisms is negligible, due to biotransformation and excretion of alcohol ethoxylates.

Mobility in Soil:
No data available

Other adverse effects (such as hazardous to the ozone layer):
No data 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.

Product
Dispose of waste materials in accordance with applicable local and national laws and regulations. Where possible, recycling is preferred to disposal or incineration. Contact the proper local authorities.

Contaminated packaging
Since emptied containers retain product residue, follow label warnings even after container is emptied. Dispose of as unused product.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)
Not regulated under DOT.

IMDG (Transport by sea)
Not regulated under IMDG.

IATA (Country variations may apply)
Not regulated under IATA.

Environmental hazards
Marine pollutant: No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No further relevant information is available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

None known.

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is NOT classified as hazardous under OSHA.

Toxic Substances Control Act (TSCA) - All components are listed on the TSCA inventory or are exempted.

CERCLA RQ (lbs) Ingredients (> 0.1%):
None of the components are listed.

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311, 312 and 313:
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) (> 0.1%):
None of the components are listed.

Section 311/312 (40 CFR 370) (> 0.1%):
Not applicable

Section 313 Toxic Release Inventory (40 CFR 372) (> 0.1%):
None of the components are listed.

STATE REGULATIONS:

This SDS contains specific health and safety data that is applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.
California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986: None of the components are listed**.**

Massachusetts Right to Know:
None of the components are listed on the Massachusetts Right to Know list.

New Jersey Right to Know:
None of the components are listed on the New Jersey Right to Know list.

Pennsylvania Right to Know:
None of the components are listed on the Pennsylvania Right to Know list.

SECTION 16: Other Information

Revision Date: June 6, 2023

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume 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 which exist.

Trade name: YELLOW 77 Wire Pulling Lubricant

SECTION 1: Identification

Product identifier used on the label:
Product Name: **YELLOW 77 Wire Pulling Lubricant**

Other means of identification:
Product Code Number: 31-358, 31-351, 31-355, 31-365

Recommended use of the chemical and restrictions on use:
Recommended use: Wire Pulling Lubricant
Recommended restrictions: Uses other than those described above.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:
Not classified as hazardous under OSHA HSC 2012

GHS Signal word: **None Required**

GHS Hazard statement(s): None required

GHS Hazard symbol(s): None required

GHS Precautionary statement(s): None required

Hazard(s) not otherwise Classified (HNOC): None known

Percentage of ingredient(s) of unknown acute toxicity:
Not applicable

SECTION 3: Composition/information on ingredients

None of chemical raw materials contained in this formulation are considered hazardous under the OSHA Hazard Communication Standard and therefore do not need reporting in this section.

SECTION 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:

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Seek medical advice.

Skin contact: Wash with water and soap and rinse thoroughly. Seek medical advice if irritation or pain develops.

Eye contact: In case of contact with eyes, flush with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician if symptoms develop.

Ingestion: Do NOT induce vomiting. If swallowed, wash mouth out with water provided the person is conscious. NEVER GIVE LIQUIDS TO AN UNCONCIOUS PERSON. Call a physician if symptoms develop.

Most important symptoms/effects, acute and delayed:
None known

Indication of immediate medical attention and special treatment needed:
If any symptoms are observed, contact a physician and give them this SDS sheet. Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:
Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.
Unsuitable extinguishing media: None known

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
None expected.
Hazardous combustion products may include the following substances: Carbon oxides

Special protective equipment and precautions for fire-fighters:
Use water spray or fog for cooling exposed containers. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate all non-emergency personnel from area. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
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 the spilled material. Minimize contact with skin or eyes. Provide adequate ventilation. Wear appropriate protective equipment, as conditions warrant (see Section 8).
See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions:
Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways.

Methods and material for containment and cleaning up:
Collect spillage and transfer to a lidded container for disposal or recovery. Dispose of via a licensed waste disposal contractor. See Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: Handling and storage

Precautions for safe handling:
Wear recommended personal protective equipment (See Section 8). Provide adequate ventilation in process areas. Avoid contact with eyes, skin and clothing. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for safe storage, including any incompatibles:
Keep only in original container. Store in a dry, well-ventilated place. Keep container closed when not in use. Make sure containers are properly labeled. Store away from incompatible materials.
Incompatible materials: Oxidizing agents.

SECTION 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.
None known.

Appropriate engineering controls:
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.
Provide eyewash station. Eye wash fountain and emergency showers are recommended. Concentrations should be monitored hazardous substances in the workplace in accordance with recognized test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

Individual protection measures, such as personal protective equipment:

Eye/face protection: None required but the use of safety glasses is recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).

Skin and Hand protection: None required but use of chemical resistant (rubber, nitrile) gloves is recommended. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection: None required. Use supplied-air respiratory protection in enclosed spaces, if needed.

General hygiene considerations: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):	
Physical state:	Paste.
Color:	Yellow
Odor:	Slight odor.
Odor threshold:	Not determined.
pH:	6.5 - 8
Melting point/freezing point:	Not determined.
Initial boiling point and boiling range:	212 ºF (100 ºC)
Flash point:	None.
Evaporation rate:	Not determined
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit – lower %):	Not determined
Flammability limit – upper (%):	Not determined
Explosive limit – lower (%):	Not determined
Explosive limit – upper (%):	Not determined
Vapor pressure:	Not determined
Vapor density:	Not determined
Relative density:	0.97 – 0.99
Solubility (ies):	Not determined.
Partition coefficient (n-octanol/water):	Not determined.
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	810000 @ 1rpm 158F 87500cps @ 1 rpm 77F

SECTION 10: Stability and reactivity

Reactivity:	Not reactive under recommended storage and handling conditions.
Chemical stability:	Stable under recommended storage and handling conditions.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	None known.
Incompatible materials:	Oxidizing agents
Hazardous decomposition Products:	None expected, although in a fire, Carbon oxides will be formed.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Expected to be a route of exposure
Ingestion:	Expected to be a route of exposure
Skin:	Expected to be a route of exposure
Eyes:	Expected to be a route of exposure

Target Organs: Eyes, Skin, Gastrointestinal system

Symptoms related to the physical, chemical, and toxicological characteristics:
None expected.

Delayed and immediate effects and chronic effects from short or long-term exposure:
None known.

Numerical measures of toxicity (such as acute toxicity estimates): None known.

Acute Toxicity:	Does not meet the criteria for classification
Skin corrosion/irritation:	Does not meet the criteria for classification
Serious eye damage/eye irritation:	Does not meet the criteria for classification
Respiratory sensitization:	Does not meet the criteria for classification
Skin sensitization:	Does not meet the criteria for classification
Germ cell mutagenicity:	Does not meet the criteria for classification
Carcinogenicity:	Does not meet the criteria for classification.
Reproductive toxicity:	Does not meet the criteria for classification
Specific target organ toxicity-Single exposure:	Does not meet the criteria for classification
Specific target organ toxicity-Repeat exposure:	Does not meet the criteria for classification,
Aspiration hazard:	Does not meet the criteria for classification

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: None listed.

SECTION 12: Ecological information

Ecotoxicity (aquatic and terrestrial, where available):
Not expected to be toxic to the aquatic environment.

Persistence and Degradability:
No information available

Bioaccumulative Potential:
No information available.

Mobility in Soil:
No information available.

Other adverse effects (such as hazardous to the ozone layer):
No information 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.

Product
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification Dispose via a licensed waste disposal contractor. Observe all federal, state/provincial and municipal regulations.

Contaminated packaging
Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be properly labeled to supplier or everywhere there is a recovery program.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)
Not regulated under DOT.

IMDG (Transport by sea)
Not regulated under IMDG.

IATA (Country variations may apply)
Not regulated under IATA.

Environmental hazards
Marine pollutant: No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.
None known

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not classified as hazardous under OSHA.
Toxic Substances Control Act (TSCA) - All substances in this product are listed, as required or are exempt from the TSCA inventory.

CERCLA RQ (lbs) Ingredients (> 0.1%):
None listed**.**

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311, 312 and 313:
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) (> 0.1%):
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 311/312 (40 CFR 370) (> 0.1%):
Not applicable.

Section 313 Toxic Release Inventory (40 CFR 372) (> 0.1%):
None listed**.**

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.
California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986: None listed**.**

Massachusetts Right to Know:
No components are listed on the Massachusetts Right to Know list

New Jersey Right to Know:
No components are listed on the New Jersey Right to Know list

Pennsylvania Right to Know:
No components are listed on the Pennsylvania Right to Know list

SECTION 16: Other Information

Revision Date: April 9, 2023

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume 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 which exist.