Safety Data Sheets

All Locations

Treatment Plant

10/16/2020

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Binder: Treatment Plant - All Locations

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Revision Number: 006.0

Issue date: 01/19/2018

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **LOCTITE 277 HIGH STRENGTH THREADLOCKER**
Product type: Anaerobic Sealant
Restriction of Use: None identified
Company address:
Henkel Corporation
Henkel Way One
Rocky Hill, Connecticut 06067

IDH number: 88449
Item number: 27741
Region: United States
Contact information:
Telephone: +1 (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

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

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

PICTOGRAM(S)

Precautionary Statements

Prevention: Do not breathe vapors, mist, or spray. Wash affected area thoroughly after handling. Wear protective gloves, eye protection, and face protection.
Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if you feel unwell. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.
Storage: Not prescribed
Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

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

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Cumene hydroperoxide	80-15-9	1 - 5
Saccharin	81-07-2	1 - 5
Cumene	98-82-8	0.1 - 1

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

4. FIRST AID MEASURES

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

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

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

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

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

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

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

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

6. ACCIDENTAL RELEASE MEASURES

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

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

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

7. HANDLING AND STORAGE

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

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Saccharin	None	None	None	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

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

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

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Red
Odor: Characteristic
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg (27 °C (80.6 °F))
Boiling point/range: > 149 °C (> 300.2 °F)
Melting point/ range: Not available.
Specific gravity: 1.1
Vapor density: Not available.
Flash point: > 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Flammability: Not applicable
Evaporation rate: Not available.
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available.
VOC content: 0.71 %; 7.13 g/l (California SCAQMD Method 316B) (Estimated)
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

Hazardous decomposition products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours. Phenolics.

Incompatible materials: Strong acids and oxidizing agents. Copper. Rust. Iron. Oxygen scavengers. Strong alkalis. Reducing agents. Other polymerization initiators.

Reactivity: Not available.

Conditions to avoid: Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects/Symptoms

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

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Cumene hydroperoxide	Inhalation LC50 (Mouse, 4 h) = 200 mg/l	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Saccharin	Oral LD50 (Mouse) = 17 g/kg	No Target Organs
Cumene	Oral LD50 (Rat) = 2.91 g/kg Oral LD50 (Rat) = 1,400 mg/kg Inhalation LC50 (Rat, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Cumene hydroperoxide	No	No	No
Saccharin	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

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

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

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

U.S. Department of Transportation Ground (49 CFR)

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

International Air Transportation (ICAO/IATA)

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

Water Transportation (IMO/IMDG)

Proper shipping name: RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Additional information: IMDG-Code: Segregation group 1- Acids

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis.
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9). Saccharin (CAS# 81-07-2).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

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

16. OTHER INFORMATION

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

Prepared by: Product Safety and Regulatory Affairs

Issue date: 01/19/2018

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There was a problem getting the SDS for -

Product Name: 457 LACQUER THINNER
CAS Number:
Manufacturer: SUNNYSIDE CORPORATION
SDS Date: 3/21/2012

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

Material Safety Data Sheet (MSDS)

Issue/Revision Date: 16 February 2009

Section 1. Product and Company Information

Chemical Name: Acetic acid, 5% by volume
Synonym(s): None
Tradename(s): Distilled white vinegar, Full Disclosure Extraction Solution #2
Catalog No.: 550-021, also component of 550-001 and 550-002

Company: SKC Inc.
Address: 863 Valley View Road
Eighty Four, PA 15330 U.S.A.
Phone: 724-941-9701
Fax: 724-941-1369
Toll-free (U.S.): 800-752-8472
Email: skctech@skcinc.com
Web: www.skcinc.com

Section 2. Composition/Information on Ingredient(s)

Chemical Name	Formula	CAS #	OSHA PEL	ACGIH® TLV®
Acetic acid, 5% by volume	CH_3COOH	8028-52-2	None	None

Section 3. Hazards Identification

LD50 LC50 Mixture: None specified by manufacturer

Route of Entry Indicators
- **Inhalation:** Yes
- **Skin Contact:** Yes
- **Ingestion:** Yes

Carcinogenicity Indicators
- **NTP:** No
- **IARC:** No
- **OSHA:** No

Effects of Exposure
- **Inhalation:** Prolonged inhalation of vapors can cause irritation to respiratory tract.
- **Eyes:** Will cause eye irritation (smarting and reddening of the eye)

Explanation of Carcinogenicity: Not relevant

Signs and Symptoms of Overexposure: See Effects of Exposure.

Medical Conditions Aggravated by Exposure: None specified by manufacturer

Section 4. First Aid Measures

Inhalation
Remove to fresh air. Support breathing (give oxygen/artificial respiration).

Skin
Flush with copious amounts of water. Call physician.

Eye
Flush immediately and thoroughly with water for at least 15 to 20 minutes (timed by a clock). Call a physician.

Ingestion
Large amounts of water should be consumed to dilute. Do not induce vomiting. Do not give emetics or baking soda. Call a physician.

Section 5. Fire Fighting Measures

Flash Point: N/A
Auto-ignition Temperature: N/A
Flammability: N/A

Extinguishing Media: Media suitable for surrounding fire
Firefighting Procedures: Use NIOSH/MSHA-approved SCBA and full protective equipment.
Unusual Fire Explosion Hazard: None specified by manufacturer

Section 6. Accidental Release Measures

Spill Release Procedures: If spilled, water may be used to dilute.
Neutralizing Agent: None specified by manufacturer

Section 7. Handling and Storage

Handling and Storage Precautions: None specified by manufacturer
Other Precautions: None specified by manufacturer

Section 8. Exposure Controls/Personal Protective Equipment (PPE)

Respiratory Protection: NIOSH/MSHA-approved respirator appropriate for exposure of concern
Ventilation: None specified by manufacturer
Protective Gloves: None specified by manufacturer
Eye Protection: None specified by manufacturer
Other Protective Equipment: None specified by manufacturer
Work Hygienic Practices: None specified by manufacturer
Supplemental Safety and Health: PH: 2.2 @ 100 grain

Section 9. Physical/Chemical Properties

Appearance: Clear liquid
Odor: Vinegar

Chemical Properties

Property	Value
B.P. Text	244 F (118 C)
Vapor Pressure	11 mm
Vapor Density	2.1
Specific Gravity	1.01
PH	2.2 @ 100 grain
Evaporation Rate/Ref	Not Known
Solubility in Water	Complete

Note: *No further properties were reported by chemical supplier.*

Section 10. Stability and Reactivity

Stability Indicator: Yes
Stability Condition to Avoid: None specified by manufacturer
Materials to Avoid: None specified by manufacturer
Hazardous Decomposition Products: None specified by manufacturer
Hazardous Polymerization Indicator: No
Conditions to Avoid Polymerization: Not relevant

Section 11. Toxicological Information

No data available from chemical supplier

Section 12. Ecological Information

No data available from chemical supplier

Section 13. Disposal Considerations

Disposal must be in accordance with federal, state, and local regulations.

Section 14. Transport Information

No data available from chemical supplier

Section 15. Regulatory Information

No data available from chemical supplier

Section 16. Other Information

Disclaimer
For approved uses only

The above information is believed to be correct, but does not purport to be all-inclusive and shall be used only as a guide. SKC Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

There was a problem getting the SDS for -

Product Name: Ammonia Salicylate Reagent
CAS Number:
Manufacturer: Hach Company
SDS Date: 7/30/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

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There was a problem getting the SDS for -

Product Name: Ammonium Hydroxide, 19.0 - 30.0%
CAS Number:
Manufacturer: ARGO CHEMICAL, INC.
SDS Date: 8/14/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Vibra-TITE Anti-Seize
CAS Number:
Manufacturer: ND Industries
SDS Date: 12/4/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

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There was a problem getting the SDS for -

Product Name: Vibra-TITE Anti-Seize
CAS Number:
Manufacturer: ND Industries
SDS Date: 2/28/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

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There was a problem getting the SDS for -

Product Name: TEXACO ANTI-FREEZE/COOLANT
CAS Number:
Manufacturer: Chevron Products Company - A Division of Chevron U.S. A. Inc.
SDS Date: 9/21/2007

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

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There was a problem getting the SDS for -

Product Name: AquataPoxy A-6 Thick - KIT
CAS Number:
Manufacturer: RLS
SDS Date: 10/10/2007

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

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There was a problem getting the SDS for -

Product Name: Armor Plate 360 MP (Multi-Purpose) Resin A and Resin B- KIT
CAS Number:
Manufacturer: Armor Plate Inc
SDS Date: 1/1/2008

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: BLACKJACK
CAS Number:
Manufacturer: Gardner-Gibson Corporation
SDS Date: 9/21/2007

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

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There was a problem getting the SDS for -

Product Name: AQUA MAG Blended Phosphate
CAS Number:
Manufacturer: Carus Corporation
SDS Date: 5/18/2017

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

1. Identification

Product identifier **BUFFER SOLUTION, pH 10.00**

Other means of identification

Product code 682

Recommended use professional, scientific and technical activities: other professional, scientific and technical activities

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	GFS Chemicals, Inc.	
Address	800 Kaderly Drive Columbus, OH 43228 United States	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Reproductive toxicity Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May damage fertility or the unborn child.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up. Keep container tightly closed.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
WATER		7732-18-5	90 - 100*
SODIUM TETRABORATE, DECAHYDRATE	BORAX SODIUM BORATE	1303-96-4	< 1*
SODIUM HYDROXIDE	CAUSTIC SODA LYE	1310-73-2	< 0.1*
THYMOL	5-Methyl-2-(1-methylethyl)phenol 2-ISOPROPYL-5-METHYLPHENOL	89-83-8	< 0.1

*Designates that a 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	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	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	This product is not flammable. Use extinguishing agent suitable for type of surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dilute with water. Small quantities may be flushed to drains with plenty of water. 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	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. 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

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
SODIUM HYDROXIDE (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
SODIUM HYDROXIDE (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
SODIUM HYDROXIDE (CAS 1310-73-2)	Ceiling	2 mg/m3
SODIUM TETRABORATE, DECAHYDRATE (CAS 1303-96-4)	TWA	1 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

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

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Use of an impervious apron is recommended.

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 Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Clear.

Physical state Liquid.

Form Liquid.

Color Colorless.

Odor Odorless.

Odor threshold Not available.

pH 10

Melting point/freezing point < 32 °F (< 0 °C)

Initial boiling point and boiling range > 212 °F (> 100 °C)

Flash point Not available.

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 Not available.

Relative density	Not available.
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.01 g/cm3 estimated
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	99 % estimated
Specific gravity	1.01 estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None known. Contact with incompatible materials.
Incompatible materials	None known.
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	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
BUFFER SOLUTION, pH 10.00		
Acute		
Dermal		
LD50	Rabbit	99999 mg/kg
Oral		
LD50	Rat	99999 mg/kg

Components	Species	Test Results
SODIUM HYDROXIDE (CAS 1310-73-2)		
Acute		
Other		
LD50	Mouse	40 mg/kg
SODIUM TETRABORATE, DECAHYDRATE (CAS 1303-96-4)		
Acute		
Dermal		
LD50	Rabbit	> 1055 mg/kg
Inhalation		
LC50	Rat	> 0.002 mg/l, 4 Hours

Components	Species	Test Results
Oral		
LD50	Rat	2660 mg/kg
Other		
LD50	Mouse	2711 mg/kg
		1320 mg/kg

THYMOL (CAS 89-83-8)

Acute		
Oral		
LD50	Guinea pig	880 mg/kg
	Mouse	1800 mg/kg
	Rat	980 mg/kg
Other		
LD50	Mouse	100 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation May irritate eyes.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization None known.

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 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity 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.

Product		Species	Test Results
BUFFER SOLUTION, pH 10.00			
Aquatic			
Crustacea	EC50	Daphnia	49414.2852 mg/l, 48 hours estimated
Fish	LC50	Fish	18629.9805 mg/l, 96 hours estimated

Components		Species	Test Results
SODIUM HYDROXIDE (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
SODIUM TETRABORATE, DECAHYDRATE (CAS 1303-96-4)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	104 mg/l, 96 hours

Components	Species	Test Results
THYMOL (CAS 89-83-8)		
Aquatic		
Fish	LC50 Fathead minnow (Pimephales promelas)	3.2 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability None known.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

THYMOL	3.3

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. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

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.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

SODIUM HYDROXIDE (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - Yes
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)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations 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.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

SODIUM HYDROXIDE (CAS 1310-73-2)
SODIUM TETRABORATE, DECAHYDRATE (CAS 1303-96-4)

International Inventories

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

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date May-27-2015

Revision date November-20-2017

Version # 02

Disclaimer GFS Chemicals, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

There was a problem getting the SDS for -

Product Name: BUFFER SOLUTION, pH 4.00
CAS Number:
Manufacturer: GFS Chemicals, Inc.
SDS Date: 9/15/2017

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

1. Identification

Product identifier **BUFFER SOLUTION, pH 7.00**

Other means of identification

Product code 681

Recommended use professional, scientific and technical activities: other professional, scientific and technical activities

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell, OH 43065 United States	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental 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 Keep container tightly closed.

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
WATER		7732-18-5	>99
POTASSIUM PHOSPHATE, MONOBASIC	POTASSIUM DIHYDROGEN PHOSPHATE MONOPOTASSIUM ORTHOPHOSPHATE	7778-77-0	< 1*
SODIUM PHOSPHATE, DIBASIC	SODIUM HYDROGEN PHOSPHATE DISODIUM HYDROGEN PHOSPHATE	7558-79-4	< 1*
Other components below reportable levels			< 0.1

*Designates that a 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	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	Direct contact with eyes may cause temporary irritation.
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	Use extinguishing agent suitable for type of surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

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	This product is miscible in water. 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. Flush contaminated area with plenty of water.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	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). Keep containers tightly closed.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Odorless.
Odor threshold	Not available.
pH	7.00
Melting point/freezing point	32 °F (0 °C) estimated
Initial boiling point and boiling range	212 °F (100 °C) estimated
Flash point	Not available.
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	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.00 g/cm3
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	> 99 % estimated
Specific gravity	1.00

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None known. Contact with incompatible materials.
Incompatible materials	None known.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
BUFFER SOLUTION, pH 7.00		
Acute		
Inhalation		
LC50	Mouse	11000 mg/l
	Rat	17568 mg/l
Oral		
LD50	Guinea pig	99999 mg/kg
	Mouse	99999 mg/kg
	Rat	99999 mg/kg
Other		
LD50	Mouse	40000 mg/kg

Components	Species	Test Results
POTASSIUM PHOSPHATE, MONOBASIC (CAS 7778-77-0)		
Acute		
Oral		
LD50	Mouse	1700 mg/kg
SODIUM PHOSPHATE, DIBASIC (CAS 7558-79-4)		
Acute		
Oral		
LD50	Rat	17000 mg/kg
		17 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation May irritate eyes.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization None known.

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 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Not expected to be harmful to aquatic organisms.

Product		Species	Test Results
BUFFER SOLUTION, pH 7.00			
Aquatic			
Fish	LC50	Fish	37000 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability None known.

Bioaccumulative potential

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.

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.

15. Regulatory information

US federal regulations 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.

CERCLA Hazardous Substance List (40 CFR 302.4)

SODIUM PHOSPHATE, DIBASIC (CAS 7558-79-4) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

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 California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

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

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date March-27-2015

Revision date August-09-2017

Version # 02

Disclaimer GFS Chemicals, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

SAFETY DATA SHEET

1. Identification

Product identifier **CARUS™ 8100 Water Treatment Chemical**

Other means of identification

SDS number -

Recommended use CARUS™ 8100 water treatment chemical is an effective corrosion inhibitor and sequesterant for use in potable and industrial water systems.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name CARUS CORPORATION

Address 315 Fifth Street,
Peru, IL 61354, USA

Telephone 815 223-1500 - All other non-emergency inquiries about the product should be directed to the company

E-mail salesmkt@caruscorporation.com

Website www.caruscorporation.com

Contact person Dr. Chithambarathanu Pillai

Emergency Telephone For Hazardous Materials [or Dangerous Goods] Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at
CHEMTREC®, USA: 001 (800) 424-9300
CHEMTREC®, Mexico (Toll-Free - must be dialed from within country): 01-800-681-9531
CHEMTREC®, Other countries: 001 (703) 527-3887

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) Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Diphosphoric acid, disodium salt	7758-16-9	1-3

Composition comments 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	Direct contact with eyes may cause temporary irritation.
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. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.

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 in original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Avoid inhalation and contact with skin and eyes. Wear appropriate personal protective equipment (See Section 8). Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapors, use 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	Colorless solution.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	None.
Odor threshold	Not available.
pH	1% solution = 6.0±0.5
Melting point/freezing point	< 32 °F (< 0 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
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	Not available.
Relative density	1.39±0.03 at 25°C
Solubility(ies)	
Solubility (water)	Completely soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May cause discomfort if swallowed.
Inhalation	In high concentrations, vapors may be irritating to the respiratory system.
Skin contact	Prolonged or repeated skin contact may cause irritation.
Eye contact	May cause eye irritation on direct contact.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity May cause discomfort if swallowed.

Components	Species	Test Results
CAS # 7758-16-9		
Acute		
Other		
LD50	Mouse	480 mg/kg

Skin corrosion/irritation Prolonged contact may cause dryness of the skin.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization No data available.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity No data available.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure No data available.

Aspiration hazard Not classified.

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
CAS # 7758-16-9			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	840 mg/l, 96 hours

Persistence and degradability The product is not expected to be readily biodegradable.

Bioaccumulative potential No data available for this product.

Mobility in soil Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

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.

Contaminated packaging 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 This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations 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)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not 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)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

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

Not listed.

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

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

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

Country(s) or region	Inventory name	On inventory (yes/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, including date of preparation or last revision

Issue date 25-July-2014

Revision date -

Version # 01

NFPA ratings

References HSDB® - Hazardous Substances Data Bank

Disclaimer The information contained herein is accurate to the best of our knowledge. However, data, safety standards and government regulations are subject to change and, therefore, holders and users should satisfy themselves that they are aware of all current data and regulations relevant to their particular use of product. CARUS CORPORATION DISCLAIMS ALL LIABILITY FOR RELIANCE ON THE COMPLETENESS OR ACCURACY OR THE INFORMATION INCLUDED HEREIN. CARUS CORPORATION MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTIABILITY OR FITNESS FOR PARTICULAR USE OR PURPOSE OF THE PRODUCT DESCRIBED HEREIN. All conditions relating to storage, handling, and use of the product are beyond the control of Carus Corporation, and shall be the sole responsibility of the holder or user of the product.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CB-80 EXTRA INSECTICIDE - ALL SIZES - EPA REGISTRATION # 9444-175

Manufactured by: Waterbury Companies, Inc.
P.O. Box 640
Independence, LA 70443

24-Hour Emergency Contact:
800-424-9300 or 703-527-3887
(CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components greater than 1.0% (0.1% if carcinogen or suspected carcinogen)

Component	CAS#	OSHA PEL	ACGIH TLV	Other Limits	% by wt.
1,1-Difluoroethane	75-37-6	N.E.	N.E.	AEL (Dupont) 1000ppm	55-65
C12-C15 Isoparaffinic Hydrocarbon	64742-47-8	N.E.	N.E.	152 ppm (Exxon)	<5
Isopropanol	67-63-0	400 ppm	400 ppm	500 ppm ACGIH STEL	25-35
Piperonyl Butoxide	51-03-6	N.E.	N.E.	N.E.	4
Pyrethrins*	8003-34-7	5 mg/m3	5 mg/m3 TWA	5 mg/m3 OSHA TWA	0

** This item is NOT a carcinogen, but has been listed to aid in the identification of all pesticide active ingredients in the product. Actual percentages for these active ingredients have been listed vs. percent ranges.*

3. HAZARDS IDENTIFICATION

Warning! Flammable!

Contents under pressure, do not expose to fire or extreme heat.

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read label. Store in a cool dry area away from heat or open flames. Exposure to temperatures above 130 deg. F. may cause bursting. Do not spray on plastic, painted or varnished surfaces or directly into electronic equipment such as radios, TV's, computers, etc.

Potential Health Effects:

Routes of Entry: Inhalation: Yes Ingestion: Yes Skin: Yes

Health Hazards: Health studies have shown many petroleum hydrocarbons pose potential human risks which may vary from person to person. Inhalation of high concentrations of Ethane, 1-1-Difluoro- vapors is harmful and may cause heart irregularities, unconsciousness, or death. Intentional misuse or deliberate inhalation may cause death without warning. Overexposure to Isopropanol (or its components) has apparently been found to cause the following effects in laboratory animals: Liver abnormalities, kidney damage, and central nervous system effects. Dermatitis.

Signs/symptoms of overexposure: Dizziness, headaches, drowsiness, incoordination, eye irritation, dermatitis, skin disorders, nausea, throat irritation, loss of consciousness, and other nervous system disorders. Prolonged skin contact may cause mild to moderate local redness and swelling.

Medical conditions aggravated by exposure: Skin contact may aggravate an existing dermatitis. Persons with a pre-existing disease of the central nervous, cardiovascular, or respiratory system may have increased susceptibility to the toxicity of excessive exposures.

NFPA Hazard Ratings **Fire:** 4 **Health:** 1 **Reactivity:** 1

NFPA 704 Ratings are subject to interpretation and are only intended for general identification of the level of the specific hazard. All information must be considered for proper safe handling of the material.

4. FIRST AID MEASURES

IF SWALLOWED: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. IF ON SKIN OR CLOTHING: Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after first five minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information, call (985) 878-6751, Monday through Friday, 8:00 am to 4:30 pm CST. After 4:30 pm call poison control center. For product information call (203) 597-1812, Monday - Friday 8:00am to 5:00 pm EST. NOTE TO PHYSICIAN: Catecholamine drugs, such as epinephrine, should be used with caution due to possible disturbances of cardiac rhythm. Contains petroleum distillate- vomiting may cause aspiration pneumonia hazard.

5. FIRE FIGHTING MEASURES

Extinguishing Media: CO_2, dry chemical, or foam

Fire Fighting Procedures: Self contained air supply suggested. Keep containers cool to avoid bursting.

Unusual Fire and Explosion Hazards: Exposure to temperatures above 130 deg.F may cause bursting.

6. ACCIDENTAL RELEASE MEASURES

If container is ruptured or begins to leak, place in a well-ventilated area free of sparks and ignition sources. Pesticide that cannot be used according to label instructions must be disposed of according to all applicable Local, State and Federal procedures.

7. HANDLING AND STORAGE

Read label. Do not apply directly to food. In commercial food handling facilities, cover or remove any food. In food processing plants, thoroughly wash all equipment, benches, shelving, etc. where exposed food will be handled. Rinse with potable water. In the home, all food processing surfaces and utensils should be covered during treatment or thoroughly washed before use. In medical care facilities, remove all patients. After spraying, ventilate area for 2 hours before returning patients.

NFPA 30B Aerosol Classification: Level 1 Aerosol

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Gloves: Not required - avoid contact with skin.

Eye Protection: Not required - avoid contact with eyes.

Respiratory Protection: Recommended in confined space.

Ventilation: *Local:* As required to keep airborne concentrations below acceptable limits.
Mechanical: Not required.

Other protective equipment: Safety glasses recommended to avoid possible contact with eyes.

Protective Work/Hygiene Practices: Follow label instructions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity (H2O=1): 0.9 *Flashpoint:* Non Flammable per flame projection test. *LEL:* N/A
Vapor Pressure (mmHg): 4,239 *Boiling Point:* N/A *Melting Point:* N/A *UEL:* N/A
Solubility: Partially soluble. *Appearance/Odor:* Dry fog with characteristic pyrethrin odor.

10. STABILITY AND REACTIVITY

Conditions to Avoid: Open flames and very hot surfaces can cause thermal decomposition.

Incompatible Materials: Strong oxidizers, and alkaline materials, and powdered earth metals - Al, Zn, Be, etc.

Hazardous Decomposition By-products: Carbon monoxide, carbon dioxide, hydrofluoric acid, and carbonyl fluoride.

Hazardous Polymerization Conditions: None known.

11. TOXICOLOGICAL INFORMATION

This product contains no chemicals that are listed on the NTP, IARC, or OSHA carcinogen lists. Any further information on the toxicology of the material can be obtained by contacting the manufacturer.

12. ECOLOGICAL INFORMATION

Please call the manufacturer for questions concerning the ecological effects of this product and it's constituents.

13. DISPOSAL CONSIDERATIONS

Empty the can by using the product according to the label. DO NOT PUNCTURE OR INCINERATE! "Empty" cans may contain residue. Avoid exposure to heat, flame, sparks, and other sources of ignition. IF EMPTY: Place in trash or offer for recycling if available. IF PARTLY FILLED: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions.

14. TRANSPORT INFORMATION

	Status	*Shipping Name*	*Class*	*ID Number*	*Pack Grp*
DOT (USA):	Regulated	Consumer Commodity (per 49CFR173.306)	ORM-D	N/A	N/A
IATA (Air):	Regulated	Consumer Commodity	9	ID8000	N/A
IMDG (Vessel):	Regulated	Aerosols	2	UN1950	N/A

National Motor Freight Classification and LTL Class: 102120-Class 60

15. REGULATORY INFORMATION

This product is authorized for use in plants operating under USDA Inspection and Grading Programs as a CATEGORY F1 Substance

SARA Title III Section 312: When completing Tier II reports, the following information should be used.

Note: See state and local regulations for specifics on reporting requirements for your facility.

This product should be described as: PURE: N MIXTURE: Y SOLID: N LIQUID: Y GAS: Y

Physical Hazards: FIRE: Y PRESSURE: Y REACTIVITY: N *Health Hazards:* IMMEDIATE: Y DELAYED: N

SARA Title III Section 313: Toxic chemical components subject to the reporting requirements of EPCRA and 40CFR372

Chemical	*CAS/Category*	*Percent*
Piperonyl Butoxide	51-03-6	4.00

16. OTHER INFORMATION

Product Sales Information: 800-845-3495

MSDS Information: 985-878-6751

Revision Notes: Review of MSDS

N/A = Not Applicable *N.E. = Not Established* WATCO PART #: 38LAB026 MSDS Prepared by SW

This Information is provided in good faith, but no warranty, expressed or implied, is made. The manufacturer believes that it is accurate and to the best of its knowledge, and relates only to the specific material designated herein.

There was a problem getting the SDS for -

Product Name: Chlorine
CAS Number: 7782-50-5
Manufacturer: Chemtrade Electrochem Inc.
SDS Date: 3/30/2017

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

canexus

SAFETY DATA SHEET

Responsible Care®
Our commitment to sustainability.

Chlorine

Section 1. Identification

GHS product identifier : Chlorine

Chemical name : Chlorine

Other means of identification : Not available.

Product type : Liquid.

SDS Number : 0007

Identified uses

Pulp bleaching, water treatment, manufacture of plastics, organic and inorganic chlorides, refrigerants and pharmaceuticals.

Supplier's details : Canexus Corporation
100 Amherst Ave
North Vancouver, British Columbia V7H 1S4
CA
Phone: 1-(604) 929-3441
Toll Free: 1-800-699-6924
Web Site: www.canexus.ca

Emergency telephone number (with hours of operation) : CANUTEC: +1-613-996-6666 or *666 (cellular)
2-C-0808
CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
CCN 15610

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 : OXIDIZING GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas
ACUTE TOXICITY (inhalation) - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : H270 - May cause or intensify fire; oxidizer.
H280 - Contains gas under pressure; may explode if heated.
H330 - Fatal if inhaled.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P284 - Wear respiratory protection.
P220 - Keep away from clothing, incompatible materials and combustible materials.
P244 - Keep reduction valves free from grease and oil.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P260 - Do not breathe vapor.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

Response : P391 - Collect spillage.
P370 + P376 - In case of fire: Stop leak if safe to do so.
P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.
P301 + P330 - if swallowed rinse mouth
P331 - Do not induce vomiting. Seek medical advice.

Storage : P405 - Store locked up.
P410 - Protect from sunlight.
P403 - Store in a well-ventilated place.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC) : None known.

Health hazards not otherwise classified (HHNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : Chlorine

Other means of identification : Not available.

CAS number/other identifiers

CAS number : 7782-50-5

Product code : 0007

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Chlorine	>99	7782-50-5

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

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

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 lukewarm water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 30 minutes. Get medical attention.

Inhalation : Get medical attention immediately. Call a poison center or physician. 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. 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 lukewarm water. Continue to rinse for at least 30 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. 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 : Fatal if inhaled. May cause respiratory irritation. May cause lung edema. Symptoms can be delayed.

Skin contact : Causes skin irritation.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
unconsciousness
shortness of breath
headache
nausea or vomiting
may cause lung damage
Fatal if inhaled.
Irritation threshold: approximately 0.5 ppm
Immediately dangerous to life or health: 10 ppm

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Not the normal route of exposure, causes digestive tract burns.

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. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

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 : Direct water spray. Reacts with water. No water should be sprayed onto a leaking cylinder as spraying of water onto it promotes corrosion at the point of leakage as well as increasing the evaporation rate of chlorine.

Specific hazards arising from the chemical : Oxidizing material. This material increases the risk of fire and may aid combustion. Contact with combustible material may cause fire. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Contact with reactive metals e.g. aluminum, zinc and tin may result in the generation of flammable hydrogen. Water used for fire extinquishing, which has been in contact with the product, maybe corrosive. Water spray on active leak may promote accelerated corrosion of container and accelerate leakage. Risk of fire and explosion when in contact with combustible substances, ammonia and finely divided metals.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
halogenated compounds

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Evacuate area, In case of fire or explosion do not breathe fumes. Cylinders can burst violently when heated, due to excess pressure build up.

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. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to: boots, gloves, hard hat, splash-proof goggles, full face shield and impervious clothing (i.e. chemically impermeable suit).

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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Ventilate enclosed areas to prevent formation of toxic, flammable or oxygen deficient atmospheres. Many gases are heavier than air and will spread along ground and collect in low or confined areas (basements, sewers, tanks).

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". For response to chlorine gas it is recommended to use as a minimum level "B" protection that is compatible to chlorine. For liquid spills it is recommended to utilize as a minimum enhanced level "B" (Enhanced Level "B" is the addition of a splash hood)/ Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Responders can reference Chlorine Institute pamphlet #65 on PPE.

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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. Neutralize spilled material and collect spillage.

Methods and materials for containment and cleaning up

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

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves free from grease and oil. Empty containers retain product residue and can be hazardous. Do not reuse container. Use only chlorine-compatible lubricants. Use in a sealed system and/or a well-ventilated area. Observe good hygiene practices.

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

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Separate from reducing agents and combustible 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. Contents under pressure. Store at temperatures not exceeding 51°C/123.8°F

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

Ingredient name	Exposure limits
Chlorine	ACGIH TLV (United States, 6/2013). STEL: 2.9 mg/m³ 15 minutes. STEL: 1 ppm 15 minutes. TWA: 1.5 mg/m³ 8 hours. TWA: 0.5 ppm 8 hours. NIOSH REL (United States, 4/2013). CEIL: 1.45 mg/m³ 15 minutes. CEIL: 0.5 ppm 15 minutes. OSHA PEL (United States, 2/2013). CEIL: 3 mg/m³ CEIL: 1 ppm

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Chlorine	US ACGIH 6/2013	0.5	1.5	-	1	2.9	-	-	-	-	
	AB 4/2009	0.5	1.5	-	1	2.9	-	-	-	-	[3]
	BC 7/2013	0.5	-	-	1	-	-	-	-	-	
	ON 1/2013	0.5	1.5	-	1	2.9	-	-	-	-	
	QC 12/2012	0.5	1.5	-	1	2.9	-	-	-	-	

[3]Skin sensitization

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. Eyewash facilities and emergency shower must be available when handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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 goggles/face shield are recommended.

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. Wear appropriate chemical resistant clothing.

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. Wear appropriate thermal protective clothing when necessary.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Compressed gas.]

Color : Amber liquid or greenish-yellow gas.

Odor : Pungent.

Odor threshold : <1 ppm

pH : Reacts with water to product acidic solutions.

Melting point : -101°C (-149.8°F)

Boiling point : -34°C(-29.2°F)

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits : Not applicable.

Vapor pressure : 638.4 kPa (4788.4 mm Hg) [room temperature]

Vapor density : 2.5 [Air = 1]

Relative density : 2.5

Solubility : Not available.

Solubility in water : 7.41 g/l

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

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): 0.0134 mPa·s (0.0134 cP)

Volatility : Not available.

VOC (w/w) : 0 % (w/w)

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients. Contact with combustible material may cause fire.

Chemical stability : This product is stable under normal conditions.

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

Conditions to avoid : Keep away from heat, sparks and open flame. Heat may cause the cylinders to explode.

Incompatible materials : Reacts violently with many organic compounds, ammonia, hydrogen and finely divided metals causing fire and explosion hazard. Attacks many metals in presence of water. Attacks plastic, rubber and coatings. Chlorine is corrosive to most metals in the presence of moisture (>150 ppm water) or at high temperature. Combines with water to produce hydrochloric and hypochlorous acid. Chlorine reacts with carbon monoxide to produce toxic phosgene, and sulphur dioxide to produce sulfuryl chloride.

Hazardous decomposition products : Hydrogen Chloride, Hydrochloric Acids, Hypochlorous Acid.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Chlorine	LC50 Inhalation Gas.	Rat	293 ppm	1 hours

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Carcinogenicity

Section 11. Toxicological information

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Chlorine	-	-	-	A4	-	None.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Chlorine	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Fatal if inhaled. May cause respiratory irritation. May cause lung edema. Symptoms can be delayed.

Skin contact : Causes skin irritation.

Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
unconsciousness
shortness of breath
headache
nausea or vomiting
may cause lung damage
Fatal if inhaled.
Irritation threshold: approximately 0.5 ppm
Immediately dangerous to life or health: 10 ppm

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Not the normal route of exposure, causes digestive tract burns.

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

Short term exposure

Potential immediate effects : Coughing, shortness of breath, headache, nausea or vomitting.

Potential delayed effects : Symptoms of Pulmonary edema may be delayed.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Shortness of breath, coughing

Potential delayed effects : May cause damage to organs (lungs) through prolonged or repeated exposure. Repeated exposures at low levels may cause pulmonary impairment. May also increase the likelihood of respiratory disorders.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Chlorine	Acute EC50 5.1 ppm Marine water	Algae - Macrocystis pyrifera - Young	4 days
	Acute EC50 930000 µg/L Fresh water	Aquatic plants - Lemna minor	4 days
	Acute LC50 2.03 µg/L Fresh water	Crustaceans - Asellus racovitzai	2 days
	Acute LC50 30 µg/L Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 14 µg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

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

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

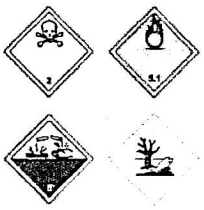
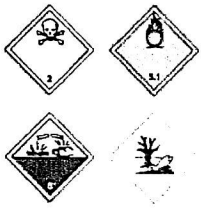
Section 13. Disposal considerations

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

Section 13. Disposal considerations

out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Follow label warnings even after cylinder is emptied.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	UN1017	UN1017	UN1017	UN1017
UN proper shipping name	CHLORINE. Marine pollutant (Chlorine) RQ	CHLORINE. Marine pollutant (Chlorine)	CHLORINE. Marine pollutant (Chlorine)	CHLORINE
Transport hazard class(es)	2.3 (5.1, 8) 	2.3 (5.1, 8) 	2.3 (5.1, 8) 	2.3 (5.1, 8) 
Packing group	-	-	-	-
Environmental hazards	Yes.	Yes.	Yes.	No.
Additional information	Inhalation hazard zone B The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes. Reportable quantity 10 lbs / 4.54 kg [0.47974 gal / 1.816 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 **Passenger aircraft** Quantity limitation: Forbidden. **Cargo aircraft** Quantity limitation: Forbidden. Special provisions 2, B9, B14, T50, TP19	The marine pollutant mark is not required when transported by road or rail. Special provisions 102	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The environmentally hazardous substance mark may appear if required by other transportation regulations. Passenger and Cargo AircraftQuantity limitation: Forbidden Cargo Aircraft OnlyQuantity limitation: Forbidden

AERG : 124

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 14. Transport information

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CAIR**: Chlorine
United States inventory (TSCA 8b): This material is listed or exempted.
Clean Water Act (CWA) 311: Chlorine
Clean Air Act (CAA) 112 regulated toxic substances: Chlorine

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Chlorine	>99	Yes.	100	-	10	-

SARA 304 RQ : 10 lbs / 4.5 kg [0.48 gal / 1.8 L]

SARA 311/312

Classification : Sudden release of pressure
Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Chlorine	>99	No.	Yes.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Chlorine	7782-50-5	>99
Supplier notification	Chlorine	7782-50-5	>99

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

Section 15. Regulatory information

Massachusetts : This material is listed.
New York : This material is listed.
New Jersey : This material is listed.
Pennsylvania : This material is listed.

California Prop. 65

No products were found.

This product has been certified to NSF/ANSI 60 (certificate number 07871-) for a Maximum Use Level (MUL) of 30 mg/L.

Canada

Canadian lists

Canadian NPRI : This material is listed.
CEPA Toxic substances : This material is not listed.
Canada inventory : This material is listed or exempted.

International lists

National inventory

Australia : This material is listed or exempted.
China : This material is listed or exempted.
Europe : This material is listed or exempted.
Japan : Not determined.
Malaysia : This material is listed or exempted.
New Zealand : This material is listed or exempted.
Philippines : This material is listed or exempted.
Republic of Korea : This material is listed or exempted.
Taiwan : Not determined.

Section 16. Other information

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

Health : 4 * **Flammability :** 0 **Physical hazards :** 1

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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

Health : 4 **Flammability :** 0 **Instability :** 1 **Special :** OX

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Section 16. Other information

History

Date of issue mm/dd/yyyy : 05/01/2015

Version : 1

Prepared by : KMK Regulatory Services Inc.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

M30816 - ANSI - EN

CHLORINE (LIQUEFIED GAS UNDER PRESSURE) (PESTICIDE)

SDS No.: M30816 **SDS Revision Date:** 03-Apr-2018

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151
24 Hour Emergency Telephone Number:	1-800-733-3665 or 1-972-404-3228 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Product Identifier:	**CHLORINE, LIQUID (PESTICIDE)**
Synonyms:	Chlorine; Chlorine - liquefied gas; Chlorine gas; Chlorine (Liquid or Gas)
Product Use:	water chlorination, water treatment chemicals, chemical synthesis, This material is a registered pesticide: EPA Registration Number 935-8
Uses Advised Against:	None identified; This is a pesticide product; do not use it in a pesticide application that is not included on its label
Note:	This product can be sold into Canada for drinking water and wastewater treatment uses.

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

****

EMERGENCY OVERVIEW:

Color: Green to yellow gas, amber liquid
Physical State: Gas
Appearance: Dissolved Gas
Odor: Irritating, Pungent

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: FATAL IF INHALED. CORROSIVE. CAUSES SEVERE SKIN BURNS AND SERIOUS EYE DAMAGE. CONTACT WITH LIQUID MAY CAUSE FROSTBITE TO EXPOSED TISSUE. ACUTE EXPOSURES CAN CAUSE DAMAGE TO RESPIRATORY SYSTEM. ACUTE EXPOSURE MAY CAUSE DELAYED PULMONARY EDEMA. CAUSES DAMAGE TO RESPIRATORY SYSTEM THROUGH PROLONGED, REPEATED EXPOSURE.

PHYSICAL HAZARDS: CONTAINS GAS UNDER PRESSURE, MAY EXPLODE IF HEATED. OXIDIZER. Hazardous gas under pressure. May ignite or explode on contact with combustible materials. May react explosively with organic materials. Corrosive to most metals in the presence of moisture.

ECOLOGICAL HAZARDS: VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS. This material is toxic to fish and aquatic organisms.

PRECAUTIONARY STATEMENTS: Do not breathe vapor or mist. Use respiratory protection as required. Do not get in eyes, on skin, or on clothing. Wear protective gloves, protective clothing, eye, and face protection. Wash thoroughly after handling. Store away from organic and combustible materials. Store in well-ventilated place. Keep container tightly closed.

ADDITIONAL HAZARD INFORMATION: Toxicity may be delayed, and may not be readily visible. Significant exposures must be referred for medical attention immediately. There is no specific antidote.

****

HAZARD CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	Gas Under Pressure - Liquefied Oxidizing Gas
GHS: CONTACT HAZARD - SKIN:	Category 1A - Causes severe skin burns and eye damage
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
GHS: ACUTE TOXICITY - INHALATION:	Category 2 - Fatal if inhaled
GHS: TARGET ORGAN TOXICITY (SINGLE	Category 1 - Causes damage to: Respiratory and Nervous

CHLORINE (LIQUEFIED GAS UNDER PRESSURE) (PESTICIDE)

SDS No.: M30816 **SDS Revision Date:** 03-Apr-2018

EXPOSURE):	System
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 1 - Causes damage to respiratory system through prolonged or repeated exposure
HAZARDOUS TO AQUATIC ENVIRONMENT - ACUTE HAZARD:	Category 1 - Very toxic to aquatic life
HAZARDOUS TO AQUATIC ENVIRONMENT - CHRONIC HAZARD:	Category 1 - Very toxic to aquatic life with long lasting effects

UNKNOWN ACUTE TOXICITY: This product was tested as a whole. This information only pertains to untested mixtures.

GHS SYMBOL: Gas cylinder, Oxidizer, Skull and Crossbones, Corrosive, Health hazards

GHS SIGNAL WORD: **DANGER**

GHS HAZARD STATEMENTS:

GHS - Physical Hazard Statement(s)
• Contains gas under pressure; may explode if heated
• May cause or intensify fire; oxidizer

GHS - Health Hazard Statement(s)
• Fatal if inhaled
• Causes severe skin burns and eye damage
• Causes serious eye damage
• Causes damage to organs (Respiratory and Nervous Systems)
• Causes damage to respiratory system through prolonged or repeated exposure by inhalation

GHS - Precautionary Statement(s) - Prevention
• Do not breathe gas or vapors
• Wear protective gloves/protective clothing/eye protection/face protection
• In case of inadequate ventilation, wear respiratory protection
• Wash face, hands and any exposed skin thoroughly after handling
• Use only outdoors or in a well-ventilated area
• Do not eat, drink or smoke when using this product
• Keep away from clothing and other combustible materials
• Keep reduction valves free from grease and oil

GHS - Precautionary Statement(s) - Response
• IF INHALED: Remove person to fresh air and keep comfortable for breathing
• Immediately call a POISON CENTER or doctor/physician
• Specific treatment is urgent (see Section 4 of SDS or first aid information on this label)
• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
• IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse skin with water/shower

• Wash contaminated clothing before reuse
• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
• IF exposed: Call a POISON CENTER or doctor/physician
• Get medical advice/attention if you feel unwell
• In case of fire: Stop leak if safe to do so

GHS - Precautionary Statement(s) - Storage
• Store in a secure manner
• Protect from sunlight
• Store in a well-ventilated place. Keep container tightly closed

GHS - Precautionary Statement(s) - Disposal
• Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Hazards Not Otherwise Classified (HNOC) - GHS
Direct contact with liquid may cause frostbite to exposed tissue (eyes, skin, etc.)

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent [%]	CAS Number
Chlorine	99.5 - 100	7782-50-5

SECTION 4. FIRST AID MEASURES

INHALATION: If inhalation of vapor or gas occurs and adverse effects result, remove to uncontaminated area. Evaluate ABC's (is Airway constricted, is Breathing occurring, and is blood Circulating) and treat symptomatically. Exposed individuals may benefit from humidified air and or humidified oxygen. GET MEDICAL ATTENTION IMMEDIATELY. Significant acute exposures may result in delayed pulmonary edema. There is no specific antidote, treat symptomatically.

SKIN CONTACT: Immediately flush contaminated areas with water. Exposure to liquid may cause frostbite burns. Remove contaminated clothing, jewelry and shoes. Do not attempt to remove frozen clothing from frostbitten areas. Wash contaminated areas with large amounts of water. Thoroughly clean and dry contaminated clothing and shoes before reuse. GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT: Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present, then continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: Not a likely route of exposure. Contact with liquid may cause frostbite. If swallowed, GET MEDICAL ATTENTION IMMEDIATELY.

Most Important Symptoms/Effects (Acute and Delayed):

Acute Symptoms/Effects:

Inhalation (Breathing): Respiratory System Effects: Inhalation exposure may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. Severe and permanent scarring may occur. The pulmonary edema may develop several hours after a severe acute exposure.

Skin: Skin Corrosion. Skin exposure to gas or liquid may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.

Eye: Serious Eye Damage: Acute eye exposure to 3-6 ppm in air causes sensations of stinging and burning in some individuals, with associated eyelid spasm, redness, and watering. Exposure to eyes may cause irritation and burns to the eyelids, conjunctivitis, corneal edema, and corneal burn. Contact with liquid could cause frostbite and severe injury.

Ingestion (Swallowing): No known effects. Ingestion is not a likely route of exposure.

Delayed Symptoms/Effects:

- Repeated exposures in workers have been associated with decreases in pulmonary functions, decreases in diffusing capacity, reactive airways, and hyper-responsiveness to methacoline challenge
- Prolonged frequently repeated skin contact may cause allergic reactions in some individuals.

Medical Conditions Aggravated by Exposure: Pulmonary diseases such as hyperactive airways, restrictive and obstructive pulmonary diseases such as COPD, bronchitis, emphysema, interstitial pulmonary disease. Skin disorders that compromise the integrity of the skin. Eye disorders that decrease tear production or have reduced integrity.

Protection of First-Aiders: Stay out of areas where there is liquid or gaseous chlorine. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. Remove contaminated clothing and wash before reuse. Remove affected individuals from exposure. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: Symptomatic individuals without hypoxia may benefit from humidified air. Delayed pulmonary edema may occur in the context of severe and symptomatic airway exposure. There is no specific antidote. Treat symptoms with supportive care. Follow normal parameters for airway, breathing, and circulation. Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: Chlorine is not combustible, but it enhances the combustion of other substances. Most combustibles will burn in this material producing irritating, corrosive, and/or toxic gases. In water, chlorine is a strong acid, corrosive, and an oxidizer. Run-off from fire control may cause pollution. If the situation allows, control and properly dispose of run-off (effluent).

Explosive properties: May ignite or explode on contact with combustible materials. May react explosively with organic materials. Pressurized containers may explode when exposed to high temperatures.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire

Fire Fighting: Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Avoid inhalation of material or combustion by-products. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Do not direct water at the source of the leak or at

safety devices; icing may occur. Flame impingement on steel chlorine container can result in over pressurization or iron/chlorine fire causing rupture of the container. Do not get water inside containers. Move containers from the fire area if it is possible to do so without risk to personnel. Damaged cylinders should handled only by specialists trained and properly protected by PPE as described in Section 8. For large fires and fires involving tanks or tank cars, fight the fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at the source of the leak, because chlorine and water react to form acids and the leak will get worse. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tanks. Always stay away from tanks engulfed in fire, withdraw from the area and let the fire burn.

Component	Immediately Dangerous to Life/ Health (IDLH)
Chlorine 7782-50-5	10 ppm IDLH

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not applicable

Upper Flammability Level (air): Not applicable

Flash point: Not flammable

Auto-ignition Temperature: Not determined

GHS: PHYSICAL HAZARDS:
- Gas Under Pressure - Liquefied
- Oxidizing Gas

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Evacuate unprotected personnel upwind or crosswind for at least 100 feet (800 feet for large spills) out of danger area. Isolate area. Keep unnecessary and unprotected personnel from entering the area. Vapors tend to accumulate in low areas. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling and Storage, for additional precautionary measures.

Environmental Precautions:
Keep out of water supplies and sewers. See Section 12 for additional ecological information. Call supplier, CHLOREP team, or CHEMTREC when help is needed. Releases should be reported, if required, to appropriate agencies.

Methods and Materials for Containment and Cleaning Up:
Remove sources of ignition. Stop leak if possible without personal risk. If a chlorine container is leaking, try to position it so that gas rather than liquid leaks. Apply emergency kit device if possible. For other than minor leaks, immediately implement predetermined emergency plan. Do not apply water directly to a leak. Reacts with water to form corrosive, acidic solution (hydrochloric acid). Call supplier, CHLOREP team, or CHEMTREC when help is needed.

SECTION 7. HANDLING AND STORAGE

General: Do not attempt to store, handle or use without complete review of The Chlorine Institute Chlorine Manual (Phone: (703) 894-4140).

Precautions for Safe Handling:
Use only approved materials of construction and lubricants. Chlorine should only be used in sealed systems. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Liquefied gas under pressure. Piping and equipment must be thoroughly cleaned of organics and moisture before use. Corrosive to most metals in the presence of moisture. Liquid lines must have suitable expansion chambers between block valves due to the high coefficient of expansion.

Safe Storage Conditions:
Store and handle in accordance with all current regulations and standards. Keep container tightly closed. Store in a well-ventilated area. Protect from sunlight. Do not apply heat. Keep away from heat, sparks and open flames. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet). Avoid contact with water or moisture. Reacts with water to form a corrosive, acidic solution. The vapor is heavier than air. Most vapors that are heavier than air will spread along ground and collect in low or confined areas (drains, basements, tanks). Store away from basements, pits or other confined spaces. Make daily inspections for leaks. Protect from physical damage.

Incompatibilities/ Materials to Avoid:
ammonia, elemental metals, metal hydrides, carbides, nitrides, oxides, phosphides, sulfides, easily oxidized materials, organic materials, (e.g., petrochemicals, oils, greases), unstable and reactive compounds

GHS: PHYSICAL HAZARDS:
- Gas Under Pressure - Liquefied
- Oxidizing Gas

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

REGULATORY EXPOSURE LIMIT(S):
As listed below.

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PELCeiling
Chlorine 7782-50-5	-----	-----	1 ppm 3 mg/m^3

• OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit
• OSHA Ceiling values indicate the exposure limit which at no time shall be exceed. Instantaneous monitoring is the preferred method to determine compliance with OSHA Ceiling values. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day [29CFR1910.1000(a)(1)

NON-REGULATORY EXPOSURE LIMIT(S):

As listed below.

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	Skin Absorption - ACGIH	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Chlorine	0.1 ppm	0.4 ppm	-----	-----	0.5 ppm 1.5 mg/m^3	1 ppm 3 mg/m^3	-----

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

ENGINEERING CONTROLS: Do not use in poorly ventilated or confined spaces. Use closed systems when possible. Provide local exhaust ventilation where vapor or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. Wear chemical safety goggles with a face shield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear appropriate chemical resistant clothing. When responding to accidental release of unknown concentrations, wear one-piece, total encapsulating suit of Butyl coated nylon or equivalent.

Hand Protection: Wear chemical resistant, insulated gloves such as Perfect Fit NL-56(TM) or Best 6781R(TM). Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types:
Perfect Fit NL-56(TM), Best 6781R(TM), Best Nitri Solve 727(TM), Tychem 10000 (TM)

Respiratory Protection: Where vapor concentration exceeds or is likely to exceed applicable exposure limits, a NIOSH approved respirator is required. When an air purifying respirator is not adequate for spills and/or emergencies of unknown concentrations, an approved self-contained breathing apparatus operated in the pressure demand mode is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Component	Immediately Dangerous to Life/ Health (IDLH)
Chlorine 7782-50-5	10 ppm IDLH

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Gas
Appearance: Dissolved Gas

Color:	Green to yellow gas, amber liquid
Odor:	Irritating, Pungent
Odor Threshold [ppm]:	0.31 ppm (approximate).
Molecular Weight:	70.91
Molecular Formula:	Cl2
Boiling Point/Range:	-29.27 °F (-34.04 °C)
Freezing Point/Range:	-150 °F (-101 °C).
Melting Point/Range:	Not applicable
Vapor Pressure:	5830 mmHg @ 25 °C
Vapor Density (air=1):	2.4
Relative Density/Specific Gravity (water=1):	1.4 @ 15.6 °C
Density:	11.7 lbs/gal @ 15.6 °C
Water Solubility:	0.7% @ 20 C
pH:	Not applicable
Volatility:	100%
Evaporation Rate (ether=1):	No data available
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not flammable
Flammability (solid, gas):	No data available
Lower Flammability Level (air):	Not applicable
Upper Flammability Level (air):	Not applicable
Auto-ignition Temperature:	Not determined
Viscosity:	No data available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and pressures.

Reactivity: Oxidizer.

Possibility of Hazardous Reactions: Dry material is highly reactive with titanium and tin. Reacts with most metals at high temperatures or in the presence of moisture. Avoid contact with water. Reacts with water to form corrosive, acidic solution (hydrochloric acid). May react explosively with organic materials.

Conditions to Avoid:
• (e.g., static discharge, shock, or vibration) -
• No information available

Incompatibilities/ Materials to Avoid: ammonia; elemental metals; metal hydrides; carbides; nitrides; oxides; phosphides; sulfides; easily oxidized materials; organic materials; (e.g., petrochemicals, oils, greases); unstable and reactive compounds

Hazardous Decomposition Products: None known

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

Component	LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
Chlorine 7782-50-5	No information available	No information available	293 ppm (1 hr - Rat)

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POTENTIAL HEALTH EFFECTS:

Eye contact: Causes serious eye damage. Liquid exposure may cause frostbite.

Skin contact: Causes skin burns. Liquid exposure may cause frostbite.

Inhalation: May cause irritation (possibly severe), chemical burns, and pulmonary edema. Significant exposures may be fatal.

Ingestion: Not a likely route of exposure. Ingestion of product may cause irritation and burns to the contacted tissue.

SIGNS AND SYMPTOMS OF EXPOSURE:

Listed below.

Inhalation (Breathing): Respiratory System Effects: Inhalation exposure may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. Severe and permanent scarring may occur. The pulmonary edema may develop several hours after a severe acute exposure.
Skin: Skin Corrosion. Skin exposure to gas or liquid may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.
Eye: Serious Eye Damage: Acute eye exposure to 3-6 ppm in air causes sensations of stinging and burning in some individuals, with associated eyelid spasm, redness, and watering. Exposure to eyes may cause irritation and burns to the eyelids, conjunctivitis, corneal edema, and corneal burn. Contact with liquid could cause frostbite and severe injury.
Ingestion (Swallowing): No known effects. Ingestion is not a likely route of exposure.

ACUTE TOXICITY:
• This material is corrosive to the skin, eyes, and respiratory tract. Breathing this material is harmful and can causedeath. Harmful effects include burns and permanent damage to the airways, including the nose, throat, and lungs.
• The extent of injury following chlorine exposure depends upon concentration and duration of exposure as well aswater content of the tissue involved.
• Estimated effects are as follows:
- 0.2 - 0.4 ppm odor detection (some tolerance develops)

- 1 - 3 ppm mild mucous membrane irritation (can be tolerated ~ 1 hour)
- 5 - 15 ppm moderate irritation of upper respiratory tract
- 30 ppm immediate chest pain, vomiting, dyspnea, cough
- 40 - 60 ppm toxic pneumonitis and pulmonary edema
- 430 ppm lethal over 30 minutes
- 1000 ppm fatal within a few minutes

• Its action in the respiratory tract is due to its strong oxidizing capability; it forms both hypochlorous acid andhypochloric acid on contact with moist mucous membranes. Symptoms of pulmonary congestion and edema maydevelop after a latency period of several hours following severe acute exposure to chlorine

CHRONIC TOXICITY:
Prolonged frequently repeated skin contact may cause allergic reactions in some individuals. Repeat exposures in workers have been associated with decreases in pulmonary functions, decreases in diffusing capacity, reactive airways, and hyper-responsiveness to mehtaholine challenge. Long term overexposure may produce upper airway changes leading to an increased prevalence of colds, shortness of breath, and reactive airway dysfunction syndrome.

ADDITIONAL DATA: Odor does not provide an adequate warning of exposure. In workers exposed to chlorine for a 2 to 5 year period, all had some degree of olfactory impairment. Sensory irritation tolerance developed in rats when they were pretreated with 1 ppm chlorine.

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GHS HEALTH HAZARDS:
Listed below.

GHS: ACUTE TOXICITY - INHALATION: Category 2 - Fatal if inhaled.

GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage

GHS: CONTACT HAZARD - SKIN: Category 1 - Causes severe skin burns and eye damage.

Skin Absorbent / Dermal Route: Yes.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):
Category 1 - Causes damage to: Respiratory and Nervous System

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure):
Category 1 - Respiratory System (Lungs)

MUTAGENIC DATA:
Not classified as a mutagen per GHS criteria. This material has tested positive in one or more in vitro mutagenicity studies.

OTHER HAZARDS:
Direct contact with liquid may cause frostbite to exposed tissue (eyes, skin, etc.).

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Aquatic Toxicity:
This material is highly toxic to fish and aquatic organisms

Fish Toxicity:
LC50 Fathead minnow: 0.07 to 0.15 (96 hour)
LC50 Bluegill: 0.44 mg/l (96 hour)

Invertebrate Toxicity:
LC50 Daphnia: 30 to 150 ug/L (48 hour)

FATE AND TRANSPORT:

BIODEGRADATION: This material is an element and not subject to biodegradation.

PERSISTENCE: The atmospheric half-life and lifetime of this material due to photolysis is estimated at 10 and 14 minutes, respectively. The half-life of free residual material in fresh water has been estimated at 1.3 to 5 hours.

BIOCONCENTRATION: This material is not expected to bioconcentrate in organisms.

ADDITIONAL ECOLOGICAL INFORMATION: This material has exhibited toxicity to terrestrial organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:
Use or process if possible. Chlorine may be absorbed into an alkaline solution such as caustic soda, soda ash or hydrated lime. Dispose in accordance with all applicable regulations.

Container Management:
Return empty chlorine tankcars and cargo tanks containing residual gas and/or liquid to supplier in compliance with applicable DOT regulations. See product label for container disposal information.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

UN NUMBER:	UN1017
PROPER SHIPPING NAME:	Chlorine
HAZARD CLASS/ DIVISION:	2.3 (5.1, 8)
LABELING REQUIREMENTS:	2.3, 5.1, 8
MARINE POLLUTANT:	Chlorine

RQ (lbs.): RQ 10 Lbs. (Chlorine)

ADDITIONAL INFORMATION: Toxic-Inhalation Hazard Zone B.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

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

UN NUMBER: UN1017
SHIPPING NAME: Chlorine
CLASS OR DIVISION: 2.3, 5.1, 8
LABELING REQUIREMENTS: 2.3, 5.1, 8
OTHER INFORMATION: Emergency Response Assistance Plan (ERAP) may be required

MARITIME TRANSPORT (IMO / IMDG) Regulated

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

UN NUMBER: UN1017
PROPER SHIPPING NAME: Chlorine
LABELING REQUIREMENTS: 2.3, 5.1, 8, Environmental hazard
MARINE POLLUTANT: Chlorine

AIR TRANSPORT (ICAO / IATA) Regulated

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	U.S. DOT Hazardous Substances/ RQs	CERCLA Hazardous Substances / RQs	CERCLA Section 302 EHS EPCRA RQs	Section 302 Threshold Planning Quantity (TPQs)
Chlorine 7782-50-5	10 lbs(RQ)	10 lb(final RQ)	10 lb(EPCRA RQ)	100 lb TPQ

SARA EHS Chemical (40 CFR 355.30)
If a release is reportable under EPCRA, notify the state emergency response commission and local emergency planning committee. If the TPQ is met, facilities are subject to reporting requirements under EPCRA Sections 311 and 312.

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):
Acute Health Hazard, Fire Hazard, Sudden Release of Pressure, Chronic Health Hazard, Extremely Hazardous

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):
Physical Hazard - Gas Under Pressure
Physical Hazard - Oxidizer (liquid, solid or gas)
Health Hazard - Acute Toxin (any route of exposure)
Health Hazard - Skin Corrosion or Irritation
Health Hazard - Serious eye damage or eye irritation
Health Hazard - Specific Target Organ Toxicity (STOT) Single Exposure (SE)
Health Hazard - Specific Target Organ Toxicity (STOT) Repeat Exposure (RE)

EPCRA SECTION 313 (40 CFR 372.65):
The following chemicals are listed in 40 CFR 372.65 and may be subject to Community Right-to Know Reporting requirements

Component	SARA 313 - Emission Reporting	SARA 313 PBT
Chlorine	1.0% (de minimis concentration)	Not Listed

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):
This product is regulated under the U.S. Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) as follows:

Component	DHS - Security Issues	DHS-Sabotage Screening Threshold Qnty.	DHS-Sabotage Min. Conc.	DHS-Theft Screening Threshold Qnty.	DHS-Theft Min. Conc.	DHS-Release Screening Threshold Qnty.	DHS-Release Min. Conc.	CWC Toxic Chemicals:
Chlorine 7782-50-5	Release - Toxic; Theft - Weapons of Mass Effect	Not Listed	Not Listed	500 lb STQ	9.77 % Minimum Concentration	2500 lb STQ	1.0%Minimum Concentration	

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):
CHLORINE: 1500 LBS TQ

Component	EPA RMP Toxic or Flammable TPQ	PSM - Highly Hazardous Substances	Flash Point
Chlorine	Toxic (2500 lb threshold quantity)	1500 lb TQ	

FIFRA REGULATIONS: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Reg. No. 935-8 (Chlorine Liquified Gas)

FIFRA LABELING REQUIREMENTS: - This chemical is a pesticide product registered by the United States Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
- FIFRA Signal Word - DANGER - POISON
- FIFRA Symbol - Skull and Crossbones
- Fatal if inhaled
- Liquid causes severe burns
- Fatal if inhaled or absorbed through skin
- Corrosive
- Causes irreversible eye damage and skin burns
- Prolonged frequently repeated skin contact may cause allergic reactions in some individuals
- This product is toxic to fish and aquatic organisms
- Chlorine is a non-flammable gas, liquefied, under pressure

CHLORINE (LIQUEFIED GAS UNDER PRESSURE) (PESTICIDE)

- Corrosive to most metals in the presence of moisture

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Component	Clean Water Act - Priority Pollutants	CAA - ODS CLASS 1 AND CLASS 2	CAA - Volatile Organic Compounds (VOCs) in SOCMI	CAA - HON Rule - Organic HAPs	CAA - Hazard Air Pollutants	CAA - Urban HAPs List (Integrated Urban Strategy)	SNAP - Substitutes for ODS	EPA RMP Toxic or Flammable TPQ
Chlorine 7782-50-5 (99.5 - 100)	Not Listed	Not Listed	Not Listed	Not Listed	Present	Not Listed	Not Listed	Toxic (2500 lb threshold quantity)

NATIONAL INVENTORY STATUS

Component	TSCA Inventory	TSCA 12(b)	TSCA - Section 4	TSCA - Section 5	TSCA - Section 6	TSCA - Section 8	TSCA - 8(a) PAIR	TSCA - 8(d) IUR	TSCA - 8(a) CAIR
7782-50-5	Listed	Not Listed	Not listed	Not Listed	Not listed	Not listed	Not listed	Not listed	Not listed

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA): All components are listed or exempt.

TSCA 12(b): This product is not subject to export notification.

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

Component	DSL	NDSL
Chlorine 7782-50-5	Listed	Not Listed

STATE REGULATIONS

Component	California Proposition 65 Cancer WARNING:	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List
Chlorine 7782-50-5	Not Listed	Not Listed	Not Listed	Listed	0367	Not Listed

Component	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List	Rhode Island Right to Know Hazardous Substance List
Chlorine 7782-50-5	Listed	Listed	Not Listed	Present	Listed

CANADIAN REGULATIONS

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

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - 2010 Greenhouse Gases (GHG) Subject to Mandatory Reporting	Canadian Chemical Inventory:	NDSL:
Chlorine	Not listed	Part 1, Group 1 Substance	Not Listed	Listed	Not Listed
WHMIS - Classifications of Substances:					

• A - Compressed Gas
• C - Oxidizing Material
• D1A - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Very toxic material
• E - Corrosive material

WHMIS Hazard Class:
• A Compressed gases
• C Oxidizing materials
• D1A Very toxic materials
• E Corrosive material

SECTION 16. OTHER INFORMATION

Prepared by: Occidental Chemical Corporation - HES&S Product Stewardship Department

Rev. Date: 03-Apr-2018

Reason for Revision:
• Exposure Level has changed. SEE SECTION 8
• Added Department of Homeland Security Anti-Terrorism Information: SEE SECTION 15
• Added LOLI tables such as EPA'S Clean Water / Air Act, TSCA status, DHS, PSM, EPCRA, CERCLA, Federal Canadian: SEE SECTION 15
• Added SARA Hazard Categories Aligned with GHS (2018): SEE SECTION 15

IMPORTANT:
The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Occidental Chemical Corporation assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any federal, state, local or foreign laws.

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees.

End of Safety Data Sheet

SAFETY DATA SHEET

Christy's® Red Hot Blue Glue® PVC Plastic Pipe Cement

Date Revised: **MAY 2016**
Supersedes: **MAR 2015**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Christy's® Red Hot Blue Glue®** SYNONYMS:

PRODUCT USE: Solvent Cement for PVC Plastic Pipe

SUPPLIER and MANUFACTURER: T Christy Enterprises, Inc.
655 East Ball Road, Anaheim, CA 92805-5910
Tel. 1-714-507-3300 (North America)
Tel. 1-714-507-3300 (International)

EMERGENCY: Transportation/Medical issues: Tel. 800.535.5053 INFOTRAC

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid/Aerosol/Gas:	Category 2
Skin Corrosion/Irritation:	Category 3	Chronic Toxicity:	None Known		
Carcinogenicity	Category 2				
Eye:	Category 2B				

Signal Word: **DANGER**

GHS LABEL

WHMIS CLASSIFICATION: CONTROLLED PRODUCT
CLASS B, DIVISION 2 CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements (See Section 15 for all advisory and required precautions)
H225 Highly flammable liquid and vapor	P201 Obtain special instructions before use.
H302 Harmful if swallowed	P202 Do not handle until all safety precautions have been read and understood
H319 Causes serious eye irritation	P210 Keep away from heat, hot surfaces, open flames and other ignition sources. No smoking
H332 Harmful if inhaled	P261 Avoid breathing fumes/gas/vapours
H335 May cause respiratory irritation	P264 Wash hands thoroughly after handling.
H336 May cause drowsiness or dizziness	P270 Do not eat, drink or smoke when using this product.
H351 Suspected of causing cancer	P271 Use only outdoors or in a well-ventilated area.
	P280 Wear protective gloves/ protective/ clothing/ eye protection/ face protection
	P330 Rinse Mouth
	P304 + P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P301+P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
	P308+P313 IF exposed or concerned: Get medical adivce/attention
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
	P405 Store locked up
	P501 Dispose of contents/container in accordance with local regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Polyvinyl Chloride Resin (PVC)	NON/HAZ			
Tetrahydrofuran (THF)** (Stabilized)	109-99-9	203-726-8	05-2116297729-22-0000	45 -70
Methyl Ethyl Ketone (MEK)*	78-93-3	201-159-0	05-2116297728-24-0000	5 - 15
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	10 - 30

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
*This chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Carbon monoxide, carbon dioxide, hydrogen chloride and smoke
Combustion Products: Carbon monoxide, carbon dioxide, hydrogen chloride and smoke
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	1	1	3-Serious
			4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable metal container
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat; drink or smoke while handling.
Storage: Store in ventilated room or shade below 27°C (80°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL:
Tetrahydrofuran (THF) #,##	50 ppm skin	100 ppm	200 ppm	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	300 ppm
Cyclohexanone	20 ppm skin		50 ppm	

Mfg. Recommended Allowable Exposure Limit (AEL): 25 ppm
Mfg. Recommended STEL: 75 ppm

Engineering Controls: If ventilated cabinet, enclosure or fume hood is necessary, average airflow should be at least 100 FPM (50.8 cm/sec).
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Polyethylene or PVA coated rubber gloves should be used for frequent immersion. Use of latex/nitrile surgical gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue, Medium syrupy liquid		
Odor:	Ethereal	**Odor Threshold:**	N/D
P.H.	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163°F) Based on first freezing component: THF	**Boiling Range:**	67°C (151°F)
Boiling Point:	67°C (151°F) Based on first boiling component: Tetrahydrofuran (TH	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-14°C (7°F) T.C.C. based on THF	**Flammability:**	Category 2
Specific Gravity	@23°C ± 2° (73°F ± 3.6°) Typical 0.944 ± 0.01	**Flammability Limits:**	**LEL:** 2%
Solubility:	Solvent portion completely soluble in water. Resin portion separates out.		**UEL:** 11.8%
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	143 mm Hg @ 20°C (68°F): THF
Auto-ignition Temperature:	321°C (609.8°F): THF	**Vapor Density:**	2.49 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content :	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 600 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off carbon monoxide (CO), carbon dioxide (CO2), hydrogen chloride (HCl) and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: None known to humans

Carinogenicity:

Tetrahydrofuran (109-99-9)

ACGIH: A3- Confirmed Animal Carcinogen with Unknow Relevance to Humans

Cyclohexanone (108-94-1)

ACGIH: A3- Confirmed Animal Carcinogen with Unknow Relevance to Humans

Toxicity:	LD_{50}	LC_{50}
Tetrahydrofuran (THF)	Oral: 2880 mg/kg (rat)	Inhalation 3 hrs. 21,000 PPM (rat)
Methyl Ethyl Ketone (MEK)_	Oral: 3.98 g/kg (rat), Dermal: 8-10 mg/kg (rabbit)	Inhalation 4 hrs. 4,000 PPM (rat)
Cyclohexanone	Oral: 1900 mg/kg (rat), Dermal: 1.0 g/kg (rabbit)	Inhalation LCLO, 4 hrs, 2,000 PPM (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotyxicity	Sensitization to Product	Synergistic Products
May cause embryofetal toxicity	Not Applicable	Not Available	Not Applicable	Not Applicable	Not Available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Category IV

Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place. Typically at a rate of ≤ 600 Grams/Liter. Minimal other adverse effects include possible ground water contamination from release to soil, sewers, drains or water course.

Degradability: Biodegradable

BioAccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert. Can be disposed of by controlled incineration. May be allowed to dry and disposed of as trash. Excessive quantities should not be permitted to enter drains, sewers or water courses. Empty containers should be air dried before disposing.

SECTION 14 - TRANSPORT INFORMATION

DOT, IATA, ADR, IMO/IMDG SHIPPING INFORMATION

Proper Shipping Name:	Adhesives	DOT/IMDG	EXCEPTION: Case quantities of cement in containers of less than one liter may be shipped as LIMITED QUANTITY when properly labeled and marked.
Hazard Class:	3		
Secondary Risk	None	ICAO/IATA	May be shipped by air as CONSUMER COMMODITY, ID 8000 when properly packaged, labeled and marked.
Identification Number:	UN 1133		
Packing Group:	II	**TDG INFORMATION**	
Label Required:	Flammable Liquid	TDG CLASS:	FLAMMABLE LIQUID 3
		SHIPPING NAME:	ADHESIVES (TETRAHYDROFURAN)
Marine Pollutant:	NO	UN NUMBER:	1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant

Symbols: F, Xi

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

Risk Phrases:

R-11 Highly Flammable
R-20 Harmful by inhalation
R-21 Harmful in contact with skin.
R-22 Harmful if swallowed.
R-36/37/38 Irritating to eyes, respiratory system and skin.
R67 Vapours may cause drowsiness and dizziness

Safety Phrases:

S-2 Keep out of reach of children.
S-7 Keep container tightly closed when not in use.
S-9 Keep container in a well-ventilated place.
S-15/16 Keep away from heat and sources of ignition. No smoking.
S-23 Do not breathe vapor.
S-24/25 Avoid contact with skin and eyes.
S-29 Do not empty into drains.
S-37 Wear suitable gloves.
S-45 If seeking medical advice show physician label or SDS.
S-46 Use only in well ventilated areas.

SECTION 16 - OTHER INFORMATION

Specification Information:

Department issuing data sheet: Environmental Health & Safety

e-mail address: <EHSinfo@tchristy.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Training necessary: Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: MAY 2016/ Updated Information

Intended Use of Product: Adhesive for bonding/cementing PVC plastic pipe and fittings

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

There was a PDF conversion failure for -

Product Name: Christy's Clear Primer
CAS Number:
Manufacturer: T. CHRISTY ENTERPRISES INC
SDS Date: 5/1/2016

To complete your binder, try printing the SDS manually from

https://jjkeller.quickbase.com/up/bpqzfauue/a/r460407/e27

and add to your binder. We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. In order to correct it, download the file using the link. Delete the existing file in your chemical record. Unsecure the document and add to your chemical manually

SAFETY DATA SHEET

Christy's® Pro-Lube

Date Revised: **AUG 2015**
Supersedes: **JUN 2014**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Christy's® Pro-Lube** SYNONYMS:

PRODUCT USE: Water Dispersible Pipe Joint Lubricant

SUPPLIER and MANUFACTURER: T Christy Enterprises, Inc. SUPPLIER :
655 East Ball Road, Anaheim, CA 92805-5910
Tel. 1-714-507-3300 (North America)
Tel. 1-714-507-3300 (International)

EMERGENCY: Transportation/Medical issues: Tel. 800.535.5053 INFOTRAC

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Product is considered non-hazardous.

Health		Environmental		Physical	
Acute Toxicity:	N/A	Acute Toxicity:	N/A	Flammable Liquid/Aerosol/Gas:	N/A
Skin Corrosion/Irritation:	3	Chronic Toxicity:	N/A		
Skin Sensitization:	N/A				
Eye:	2B				

GHS LABEL: **WHMIS CLASSIFICATION:** CONTROLLED PRODUCT

Signal Word: **Warning** **Not Applicable**

Hazard Statements	Precautionary Statements (See Section 15 for all advisory and required precautions)
H316 Causes mild skin irritation	P264 Wash skin thoroughly after handling.
H320 Causes eye irritation	P305+P351+P338 IF IN EYES. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P332+P313 If skin irritation occurs. Get medical advice/ attention.
	P337+P313 If eye irritation persists. Get medical advice/ attention.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

The product contains no substances which at their given concentration, are considered to be hazardous to health.

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Mixed sodium and potassium salts of tall oil (soap)	**68606-06-4**	**271-723-9**		**15-25%**

Where range is displayed, the exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes. If symptoms persist, call a physician
Skin contact: Wash with soap and water. If irritation persists, call a physician
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting.
Inhalation: Move to fresh air. If symptoms persist, call a physician
Symptoms: Direct contact with eyes may cause temporary irritation. Prolonged or repeated skin contact may cause irritation.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Water, water fog, alcohol resistant foam, CO2, or dry chemical are all suitable
Unsuitable Extinguishing Media: Use of water spray may be inefficient.
Exposure Hazards: N/A
Combustion Products: None
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	HMIS	NFPA	
Health	1	1	0-Minimal
Flammability	0	0	1-Slight
Reactivity	0	0	2-Moderate
			3-Serious
			4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with the skin and the eyes. Evacuate personnel away and upwind of spill. Use Personal protective equipment.
Environmental Precautions: Prevent further leakage if safe to do so. Prevent product from entering drains. See Section 12 for additional information.
Containment: For large spills, dike far ahead of spill for later disposal
Methods for Cleaning up: Soak up with inert absorbent material. Place the bulk of any spilled material into drums, then rinse any remaining material to sewage treatment facility, in accordance with any applicable regulations.

SECTION 7 - HANDLING AND STORAGE

Handling Requirements: Wear personal protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly.
Storage Requirements: Keep containers tightly closed in a dry, cool and well ventilated area. Keep out of reach of children.
Incompatible Materials: Strong oxidizing agents. Strong bases.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

Engineering Controls: Eyewash Stations, Showers, Ventilation Systems.
Personal Protective Equipment (PPE):
Respiratory Protection: No special protective equipment required.
Eye Protection Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices.
Skin Protection: Lightweight protective clothing. Chemical resistant gloves, if needed, to avoid prolonged skin contact.
General Hygiene Always observe good personal hygiene measures, such as washing after handling and before eating, drinking, and smoking. Do not eat, drink or smoke when using this product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	off-white paste		
Odor:	bland odor	**Odor Threshold:**	N/A
P.H.	(@5% solution) = ~9.0		
Melting/Freezing Point:	<0º/ <32ºF	**% Volatile:**	N/A
Boiling Point:	>104ºC/ >220°F	**Evaporation Rate:**	N/A
Flash Point:	>104°C (>220°F)	**Flammability:**	N/A
Specific Gravity	(H2O=1, AT 4ºC): 1.2	**Flammability Limits:**	**LEL:** N/A
Solubility:	Completely water dispersible		**UEL:** N/A
Partition Coefficient n-octanol/water:	Not Available	**Vapor Density:**	N/A (Air = 1)
Auto-ignition Temperature:	N/A	**Other Data: Viscosity:**	viscous paste
Density:	N/A	**VOC Content**	<5%

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable at room temperature in closed containers under normal storage and handling conditions		
Incompatible Materials:	Strong oxidizing agents		
Conditions to avoid:	Avoid contact with strong oxidizing agents	**Hazardous Reaction:**	None under normal processing
Hazardous Decomposition Products:	Carbon oxides	**Reactivity:**	Not reactive under normal conditions

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye and Skin Contact, Ingestion

Carcinogenicity: None

Acute symptoms and effects:

Eye Contact: Causes eye irritation

Skin Contact: May cause mild skin irritation. Prolonged or repeated contact may dry skin.

Ingestion: Do not taste or swallow

Numerical Measures of Toxicity - Product

The Following values are calculated based on chapter 3.1 on the GHS document

LD50 Oral 22665 mg/kg; Acute toxicity estimate mg/kg mg/L

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotyxicity	Sensitization to Product	Synergistic Products
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Not fully investigated

Mobility: Not Determined

Degradability: No information available

Other Adverse Effects: Not Determined

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, State, and local Regulations

SECTION 14 - TRANSPORT INFORMATION

Not hazardous under DOT, IATA or IMDG regulations

SECTION 15 - REGULATORY INFORMATION

EPA Regulations:

OSHA	None	**California Proposition 65**	None
TSCA	All ingredients appear on inventory		
CERCLA	Not subject to the reporting requirements of CERCLA		
SARA	Acute Health Hazard		
Clean Water Act	None Known		
International Regulations	None		
Canadian Environmental Protection Act (CEPA)	None		

SECTION 16 - OTHER INFORMATION

Specification Information:

Department issuing data sheet: Environmental Health & Safety

e-mail address: <EHSinfo@tchristy.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Training necessary: Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: AUGUST 2015 / New GHS Standard Format

Intended Use of Product: Water Dispersible Pipe Joint Lubricant

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

There was a problem getting the SDS for -

Product Name: CLARIFLOC A-210P POLYMER
CAS Number:
Manufacturer: POLYDYNE INC.
SDS Date: 1/30/2008

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: CLARIFLOC C-308O POLYMER
CAS Number:
Manufacturer: POLYDYNE INC.
SDS Date: 1/7/2011

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

1. Identification

Product identifier **Dykem® Metal Marking Texpen®/Dalo® (All Colors)**

Other means of identification

Part Number Black (16030, 16033, 26033), Blue (16013, 26013), Green (16043, 26043), Orange (16103, 26103), Red (16020, 16023, 26023), White (16080, 16083, 16084, 16088, 26083, 26084), Yellow (16060, 16063, 16064, 16068, 26063, 26064)

Synonyms Texpen - Fine, Medium and Broad * Dalo - Medium and Broad * FORMULA CODE(S): * J3070 (Black), J2143 (Blue) * Y916 (Green), A451M (Orange) * J3076 (Red), J1694 (White) * A419M (Yellow)

Recommended use Solvent based marker

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ITW Pro Brands

Address 805 E. Old 56 Highway
Olathe, KS 66061

Country (U.S.A.)
Tel: +1 800-443-9536

In Case of Emergency 1-800-535-5053 (Infotrac)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, repeated exposure	Category 1 (central nervous system)
	Aspiration hazard	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement Flammable liquid and vapor. May cause genetic defects. May cause cancer. Causes damage to organs (central nervous system) through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

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. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or concerned: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Aromatic Solvent		64742-95-6	10 - 20
Kaolin		1332-58-7	10 - 20
Titanium Dioxide		13463-67-7	10 - 20
Hydrocarbon resin		68131-77-1	5 - 15
1,2,4-Trimethylbenzene		95-63-6	5 - 10
Resin		9003-55-8	5 - 10
Carbon Black		1333-86-4	1 - 5
Chlorinated Paraffin		63449-39-8	1 - 5
Mineral Spirits Regular Stoddard Solvent		8052-41-3	1 - 5
Silica, amorphous		7631-86-9	1 - 3
Aluminum Hydroxide		21645-51-2	0.1 - 1
Cumene		98-82-8	0.1 - 1
Light Mineral Spirits		64742-88-7	0.1 - 1
Xylene		1330-20-7	0.1 - 1

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. Narcosis. Behavioral changes. Decrease in motor functions. Direct contact with eyes may cause temporary irritation. 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 under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	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.
General fire hazards	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. Do not breathe mist or 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.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. 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

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. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

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 a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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

Components	Type	Value	Form
Carbon Black (CAS 1333-86-4)	PEL	3.5 mg/m3	
Cumene (CAS 98-82-8)	PEL	245 mg/m3 50 ppm	
Mineral Spirits Regular Stoddard Solvent (CAS 8052-41-3)	PEL	2900 mg/m3 500 ppm	
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.
Xylene (CAS 1330-20-7)	PEL	435 mg/m3 100 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon Black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	TWA	50 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Mineral Spirits Regular Stoddard Solvent (CAS 8052-41-3)	TWA	100 ppm	
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3	
		25 ppm	
Carbon Black (CAS 1333-86-4)	TWA	0.1 mg/m3	
Cumene (CAS 98-82-8)	TWA	245 mg/m3	
		50 ppm	
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Mineral Spirits Regular Stoddard Solvent (CAS 8052-41-3)	Ceiling	1800 mg/m3	
	TWA	350 mg/m3	
Silica, amorphous (CAS 7631-86-9)	TWA	6 mg/m3	
Xylene (CAS 1330-20-7)	STEL	655 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

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

Exposure guidelines

US - California OELs: Skin designation

Cumene (CAS 98-82-8) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cumene (CAS 98-82-8) Skin designation applies.

US - Tennessee OELs: Skin designation

Cumene (CAS 98-82-8) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Cumene (CAS 98-82-8) Can be absorbed through the skin.

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

Cumene (CAS 98-82-8) 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.

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. Use of an impervious apron is recommended.

Respiratory protection	Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Various.
Odor	Aromatic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	318 - 338 °F (158.89 - 170 °C)
Flash point	108.0 °F (42.2 °C) Tag Closed Cup
Evaporation rate	< 1 (BuAc = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.9 %
Flammability limit - upper (%)	12.3 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	> 1 (air = 1)
Relative density	> 1 @70°F
Solubility(ies)	
Solubility (water)	Slightly soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	J2143 Blue: 30.78%, 399 g/L, A451M Orange: 28.97%, 352 g/L; J1694 White: 21.49%, 321 g/L J3070 Black: 30.97%, 382 g/L; Y916 Green: 30.9%, 375 g/L; J3076 Red: 35.58%, 430 g/L; A419M Yellow: 28.73%, 351 g/L;

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Narcosis. Behavioral changes. Decrease in motor functions.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg
Oral		
LD50	Rat	3280 mg/kg
Aluminum Hydroxide (CAS 21645-51-2)		
Acute		
Oral		
LD50	Rat	> 2000 mg/kg
Aromatic Solvent (CAS 64742-95-6)		
Acute		
Dermal		
LD50	Rabbit	> 1900 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 4.96 mg/l, 4 Hours
Oral		
LD50	Rat	4820 mg/kg
CALCIUM ROSINATE (CAS 9007-13-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 1000 mg/kg
Cumene (CAS 98-82-8)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg, 24 Hours
Light Mineral Spirits (CAS 64742-88-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
Inhalation		
Vapor		
LC50	Rat	> 4.5 mg/l, 4 Hours
Silica, amorphous (CAS 7631-86-9)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 3300 mg/kg
Titanium Dioxide (CAS 13463-67-7)		
Acute		
Inhalation		
LC50	Rat	> 2.28 mg/l, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	3523 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 May cause genetic defects.

Carcinogenicity May cause cancer.

ACGIH Carcinogens

Carbon Black (CAS 1333-86-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Kaolin (CAS 1332-58-7)	A4 Not classifiable as a human carcinogen.
Titanium Dioxide (CAS 13463-67-7)	A4 Not classifiable as a human carcinogen.
Xylene (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon Black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Resin (CAS 9003-55-8)	3 Not classifiable as to carcinogenicity to humans.
Silica, amorphous (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
Titanium Dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Cumene (CAS 98-82-8)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Causes damage to organs (central nervous system) through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Further information Symptoms may be delayed.

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
1,2,4-Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
Chlorinated Paraffin (CAS 63449-39-8)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 0.1 mg/l, 96 hours
Cumene (CAS 98-82-8)			
Aquatic			
Crustacea	EC50	Brine shrimp (Artemia sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.7 mg/l, 96 hours
Titanium Dioxide (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Cumene	3.66
Mineral Spirits Regular Stoddard Solvent	3.16 - 7.15
Xylene	3.12 - 3.2

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging 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
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
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
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

Chlorinated Paraffin (CAS 63449-39-8)	Short-Chain Chlorinated Paraffins (SCCPs) and Other Chlorinated Paraffins Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)

Cumene (CAS 98-82-8)	Listed.
Xylene (CAS 1330-20-7)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

Classified hazard categories	Flammable (gases, aerosols, liquids, or solids) Germ cell mutagenicity Carcinogenicity Specific target organ toxicity (single or repeated exposure) Aspiration hazard

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2,4-TRIMETHYLBENZENE	95-63-6	5 - 10

Other federal regulations

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

Cumene (CAS 98-82-8)
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.

US state regulations

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

1,2,4-Trimethylbenzene (CAS 95-63-6)
CALCIUM ROSINATE (CAS 9007-13-0)
Carbon Black (CAS 1333-86-4)
Cumene (CAS 98-82-8)
Kaolin (CAS 1332-58-7)
Mineral Spirits Regular Stoddard Solvent (CAS 8052-41-3)
Titanium Dioxide (CAS 13463-67-7)
Xylene (CAS 1330-20-7)

California Proposition 65

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

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cumene (CAS 98-82-8)	Listed: April 6, 2010

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2,4-Trimethylbenzene (CAS 95-63-6)
Aromatic Solvent (CAS 64742-95-6)
Carbon Black (CAS 1333-86-4)
Chlorinated Paraffin (CAS 63449-39-8)
Cumene (CAS 98-82-8)
Mineral Spirits Regular Stoddard Solvent (CAS 8052-41-3)
Titanium Dioxide (CAS 13463-67-7)
Xylene (CAS 1330-20-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

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

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date 04-16-2018

Version # 01

Disclaimer ITW Pro Brands cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information Product and Company Identification: Alternate Trade Names
Hazard(s) identification: Response
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Regulatory information: California Proposition 65

There was a problem getting the SDS for -

Product Name: DPD Compound for Free and Total Chlorine Analyzers
CAS Number:
Manufacturer: Hach Company
SDS Date: 6/13/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: DPD Free Chlorine Reagent
CAS Number:
Manufacturer: Hach Company
SDS Date: 1/10/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Chevron Drive Train Fluid - MP
CAS Number:
Manufacturer: Chevron Products Company a division of Chevron U.S.A. Inc.
SDS Date: 8/27/2014

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: DURACELL ALKALINE BATTERIES
CAS Number:
Manufacturer: Duracell, a division of P & G
SDS Date: 5/19/2010

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Rust-Oleum Professional High Performance Enamel Aerosol
CAS Number:
Manufacturer: Rust-Oleum Corporation
SDS Date: 2/23/2009

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

•TRUSTED QUALITY SINCE 1921• RUST-OLEUM®

SAFETY DATA SHEET

Surface Primers

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

1.1 Product identifier

Product name : Surface Primers

Product description : Aerosol. Paint.

Product type : Aerosol.

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

Identified uses
Industrial use Professional use Consumer use

Uses advised against	Reason
None identified.	-

1.3 Details of the supplier of the safety data sheet

Rust-Oleum Corporation
Portobello Industrial Estate
Birtley
County Durham
United Kingdom
DH3 2RE
Telephone no.: +44 (0) 191 4106611
Fax no.: +44 (0) 191 4920125

e-mail address of person responsible for this SDS : rpmeurohas@ro-m.com

1.4 Emergency telephone number

Supplier

Telephone number : +44 (0) 207 858 1228

Hours of operation : 24 / 7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aerosol 1, H222, H229
Eye Irrit. 2, H319
STOT SE 3, H336
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable aerosol.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.
Pressurized container: may burst if heated.

Precautionary statements

General : P102 - Keep out of reach of children.
P103 - Read label before use.
P101 - If medical advice is needed: Have product container or label at hand.

Prevention : P261 - Avoid breathing vapour or spray.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves and eye protection:
- gloves neoprene or nitrile rubber safety glasses with side-shields.
P273 - Avoid release to the environment.
P211 - Do not spray on an open flame or other ignition source.
P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P251 - Do not pierce or burn, even after use.

Response : P305 - IF IN EYES:
P351 - Rinse cautiously with water for several minutes.
P338 - Remove contact lenses, if present and easy to do. Continue rinsing.
P337 - If eye irritation persists:
P313 - Get medical attention.

Storage : P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : acetone

Supplemental label elements : Repeated exposure may cause skin dryness or cracking.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable.

SECTION 2: Hazards identification

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mixture

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
liquefied petroleum gas	EC: 270-704-2 CAS: 68476-85-7 Index: 649-202-00-6	≥25 - <50	Flam. Gas 1, H220	[2]
acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≥25 - <50	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥5 - <10	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
hydrocarbons, aromatic, C9	REACH #: 01-2119455851-35 EC: 918-668-5 Index: 649-356-00-4	≥5 - <10	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
xylene (mixture of isomeres)	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7	≥3 - <5	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304	[1] [2]
trizinc bis (orthophosphate)	REACH #: 02-2119485044-40 EC: 231-944-3 CAS: 7779-90-0 Index: 030-011-00-6	≥0.3 - <1	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
zinc oxide	REACH #: 01-2119463881-32 EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≥0.1 - <0.3	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
			See Section 16 for the full text of the H statements declared above.	

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

SECTION 3: Composition/information on ingredients

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

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.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.
Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.
If splashed in the eyes, the liquid may cause irritation and reversible damage.
Ingestion may cause nausea, diarrhea and vomiting.
This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

4.3 Indication of any immediate medical attention and special treatment needed

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

Specific treatments : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO_2, powders, water spray.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

Additional information : Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Container explosion may occur under fire conditions or when heated. Bursting aerosol containers may be propelled from a fire at high speed.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

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

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material 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 the 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

: Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.
In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.
Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
Keep away from heat, sparks and flame. No sparking tools should be used.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Put on appropriate personal protective equipment (see Section 8).
Never use pressure to empty. Container is not a pressure vessel.
Always keep in containers made from the same material as the original one.
Comply with the health and safety at work laws.
Do not allow to enter drains or watercourses.
Information on fire and explosion protection
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.
Notes on joint storage
Keep away from: oxidising agents, strong alkalis, strong acids.
Additional information on storage conditions
Observe label precautions. Do not store above the following temperature: 35°C (95°F). Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Seveso Directive - Reporting thresholds (in tonnes)

Named substances

Name	Notification and MAPP threshold	Safety report threshold
LPG	50	200

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P3a: Flammable aerosols containing flammable gases or flammable liquids	150	500

7.3 Specific end use(s)

Recommendations : Not available.

SECTION 7: Handling and storage

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
liquefied petroleum gas	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** STEL: 2180 mg/m³ 15 minutes. STEL: 1250 ppm 15 minutes. TWA: 1750 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
acetone	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** STEL: 3620 mg/m³ 15 minutes. STEL: 1500 ppm 15 minutes. TWA: 500 ppm 8 hours. TWA: 1210 mg/m³ 8 hours.
n-butyl acetate	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** STEL: 966 mg/m³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 724 mg/m³ 8 hours. TWA: 150 ppm 8 hours.
xylene (mixture of isomeres)	**EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.** STEL: 441 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 220 mg/m³ 8 hours. TWA: 50 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
n-butyl acetate	DNEL	Long term Dermal	7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral, Dermal	3.4 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	960 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	960 mg/m³	Workers	Local
	DNEL	Long term Inhalation	480 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	480 mg/m³	Workers	Local

SECTION 8: Exposure controls/personal protection

	DNEL	Short term Inhalation	859.7 mg/m³	Consumers	Systemic
	DNEL	Short term Inhalation	859.7 mg/m³	Consumers	Local
	DNEL	Long term Inhalation	102.34 mg/m³	Consumers	Systemic
	DNEL	Long term Inhalation	102.34 mg/m³	Consumers	Local
trizinc bis(orthophosphate)	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	2.5 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	0.83 mg/kg bw/day	Consumers	Systemic
zinc oxide	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	2.5 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	0.83 mg/kg bw/day	Consumers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
n-butyl acetate	Fresh water	0.18 mg/l	-
	Marine	0.018 mg/l	-
	Fresh water sediment	0.981 mg/kg	-
	Marine water sediment	0.0981 mg/kg	-
	Soil	0.0903 mg/kg	-
	Sewage Treatment Plant	35.6 mg/l	-
trizinc bis(orthophosphate)	Fresh water	48.1 µg/l	-
	Marine	14.2 µg/l	-
	Fresh water sediment	550.2 mg/kg	-
	Marine water sediment	263.9 mg/kg	-
	Soil	249.4 mg/kg	-
	Sewage Treatment Plant	121.4 µg/l	-
zinc oxide	Fresh water	25.6 µg/l	-
	Marine	7.6 µg/l	-
	Sewage Treatment Plant	64.7 µg/l	-
	Fresh water sediment	146 mg/kg dwt	-
	Marine water sediment	70.3 mg/kg dwt	-
	Soil	44.3 mg/kg dwt	-

8.2 Exposure controls

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

Individual protection measures

SECTION 8: Exposure controls/personal protection

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. Recommended: safety glasses with side-shields (EN 166)

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: > 8 hours (breakthrough time): neoprene (0.65mm) - nitrile rubber (0.5mm).

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

EN 374-3 : 2003

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods. Recommended: disposable overall (EN 1149-1) .

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

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour (Type A) and particulate filter. (EN 140)

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Liquid. [Aerosol.]
Colour	:	Various
Odour	:	Solvent-like [Slight]
Odour threshold	:	Not available.
pH	:	Not available.
Melting point/freezing point	:	Not available.
Initial boiling point and boiling range	:	Not available.
Flash point	:	Closed cup: -70°C
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. Slightly flammable in the presence of the following materials or conditions: shocks and mechanical impacts. In use, may form flammable/explosive vapour-air mixture. Vapour may travel a considerable distance to source of ignition and flash back.
Upper/lower flammability or explosive limits	:	Not available.
Vapour pressure	:	400 kPa [room temperature]
Vapour density	:	>1 [Air = 1]
Relative density	:	0.75 to 0.8
Solubility(ies)	:	Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Not available.
Explosive properties	:	Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Container explosion may occur under fire conditions or when heated. Bursting aerosol containers may be propelled from a fire at high speed.
Oxidising properties	:	Not available.

9.2 Other information

Aerosol product

Type of aerosol	:	Spray
Heat of combustion	:	10.61 kJ/g

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.

SECTION 10: Stability and reactivity

10.4 Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

10.5 Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO2 and smoke can be generated.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.
Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.
If splashed in the eyes, the liquid may cause irritation and reversible damage.
Ingestion may cause nausea, diarrhea and vomiting.
This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LD50 Oral	Rat	5800 mg/kg	-
n-butyl acetate	LC50 Inhalation Vapour	Rat	>21 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	9700 mg/m³	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	14000 mg/kg	-
hydrocarbons, aromatic, C9	LD50 Oral	Mouse	8400 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
xylene (mixture of isomeres)	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
trizinc bis(orthophosphate)	LC50 Inhalation Dusts and mists	Rat	>5.7 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-
zinc oxide	LC50 Inhalation Dusts and mists	Mouse	2500 mg/m³	4 hours
	LC50 Inhalation Dusts and mists	Rat	>5700 mg/m³	4 hours
	LD50 Oral	Rat	>15 g/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
n-butyl acetate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Primary dermal irritation index (PDII)	Rabbit	0	-	-
	Eyes - Cornea opacity	Rabbit	1	-	-
hydrocarbons, aromatic, C9	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
xylene (mixture of isomeres)	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Causes serious eye irritation.

Respiratory : May cause drowsiness or dizziness.

Sensitisation

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
hydrocarbons, aromatic, C9	OECD 471	Subject: Bacteria	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
hydrocarbons, aromatic, C9	-	-	Negative	Mammal - species unspecified	Unreported	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

SECTION 11: Toxicological information

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
acetone	Category 3	Not applicable.	Narcotic effects
n-butyl acetate	Category 3	Not applicable.	Narcotic effects
hydrocarbons, aromatic, C9	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
xylene (mixture of isomeres)	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene (mixture of isomeres)	Category 2	Not determined	Not determined

Aspiration hazard

Product/ingredient name	Result
hydrocarbons, aromatic, C9	ASPIRATION HAZARD - Category 1
xylene (mixture of isomeres)	ASPIRATION HAZARD - Category 1

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
acetone	Acute LC50 8.64 to 8098 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 7.88 to 7280 mg/l Fresh water	Fish - Pimephales promelas	96 hours
n-butyl acetate	Acute EC10 956 mg/l	Bacteria - Pseudomonas putida	18 hours
	Acute EC50 648 mg/l	Algae - Desmodesmus subspicatus	72 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 18 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 62 mg/l	Fish - Danio rerio	96 hours
trizinc bis(orthophosphate)	Acute EC50 5.7 mg/l	Daphnia spec. - ceriodaphnia dubia	48 hours
	Acute IC50 1.87 mg/l	Algae - selenastrum capricornutum	72 hours

Conclusion/Summary : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	-	90 % - Readily - 28 days	-	-
xylene (mixture of isomeres)	-	90 % - Readily - 5 days	-	-

Conclusion/Summary : This product has not been tested for biodegradation. Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetone	-	-	Readily
n-butyl acetate	-	-	Readily
hydrocarbons, aromatic, C9	-	-	Readily
xylene (mixture of isomeres)	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
acetone	-0.27 to 0.58	-	low
n-butyl acetate	2,3	10	low
hydrocarbons, aromatic, C9	3.7 to 4.5	-	high
xylene (mixture of isomeres)	3,16	-	low

12.4 Mobility in soil

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

Mobility : Volatile. This product is likely to volatilise rapidly into the air because of its high vapour pressure.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

P: Not available. B: Not available. T: Not available.

vPvB : Not applicable.

vP: Not available. vB: Not available.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : Yes.

Disposal considerations : Do not allow to enter drains or watercourses.
Dispose of according to all federal, state and local applicable regulations.
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information, contact your local waste authority.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
20 01 27*	paint, inks, adhesives and resins containing dangerous substances

Packaging

SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1950	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS Flammable [Limited quantity]	AEROSOLS, flammable [Limited quantity]	AEROSOLS, Flammable [Limited quantity]	AEROSOLS, Flammable [Limited quantity]
14.3 Transport hazard class(es)	2	2	2.1	2.1 
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	**Limited quantity:** LQ2 **Remarks:** (≤ 1L:) Limited Quantity - ADR/IMDG 3.4 ADR Tunnel code: (D)	-	**Emergency schedules (EmS):** F-D + S-U **Remarks:** Limited Quantity - ADR/IMDG 3.4	**Passenger and Cargo Aircraft** Quantity limitation: 75 kg Packaging instructions: 203 **Cargo Aircraft Only** Quantity limitation: 150 kg Packaging instructions: 203 **Limited Quantities - Passenger Aircraft** Quantity limitation: 30 kg Packaging instructions: Y 203

14.6 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

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC for Ready-for-Use Mixture : Not applicable.

Europe inventory : All components are listed or exempted.

Integrated pollution prevention and control list (IPPC) - Air : Listed

Aerosol dispensers :

3

Extremely flammable

Seveso Directive

This product is controlled under the Seveso Directive.

Named substances

Name
LPG

Danger criteria

Category
P3a: Flammable aerosols containing flammable gases or flammable liquids

National regulations

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

References : EH40/2005 Workplace exposure limits
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

SECTION 15: Regulatory information

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

CN code : 3208 10 90

International lists

National inventory

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Japan	: Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
United States	: Not determined.

15.2 Chemical Safety Assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Key literature references and sources for data : - Manufacturer's Material Safety Data Sheet.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aerosol 1, H222, H229	Expert judgment
Eye Irrit. 2, H319	Expert judgment
STOT SE 3, H336	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of H-phrases referred to in sections 2 and 3

SECTION 16: Other information

Full text of abbreviated H statements :

H220	Extremely flammable gas.
H222, H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312 (dermal)	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332 (inhalation)	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] :

Acute Tox. 4, H312	ACUTE TOXICITY (dermal) - Category 4
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aerosol 1, H222, H229	AEROSOLS - Category 1
Aquatic Acute 1, H400	ACUTE AQUATIC HAZARD - Category 1
Aquatic Chronic 1, H410	LONG-TERM AQUATIC HAZARD - Category 1
Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Gas 1, H220	FLAMMABLE GASES - Category 1
Flam. Liq. 2, H225	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
STOT SE 3, H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Date of printing : 12/01/2017

Date of issue/ Date of revision : 9/01/2017

Date of previous issue : No previous validation

Version : 3

Notice to reader

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.

There was a problem getting the SDS for -

Product Name: Ferric Sulfate 50%
CAS Number: 10028-22-5
Manufacturer: General Chemical, LLC
SDS Date: 11/30/2012

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Free Chlorine Buffer for CL-17 Analyzer
CAS Number:
Manufacturer: Hach Company
SDS Date: 4/17/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Free Chlorine Indicator Solution for CL-17 Analyzer
CAS Number:
Manufacturer: Hach Company
SDS Date: 4/17/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

Safety Data Sheet
6438-9-34
3-23-15

Section 1 - Product and Company Identification

Material Name	-	**Black Jack Elastic Crack Filler**
Chemical Category	-	Mixture
Product Code	-	6438-9-34
Product Description	-	Asphalt driveway crack filler
Product Use	-	Filler and sealant for asphalt pavements.
Synonyms	-	Low VOC Water Based Asphalt Crack Sealer
Manufacturer	-	Gardner-Gibson 4161 E. 7th Avenue Tampa, FL 33605 United States
Telephone		
Technical	-	813-248-2101 - Customer Service: 8 AM - 5 PM M-F Eastern Standard Time
Emergency	-	800-424-9300 - CHEMTREC
Emergency	-	703-527-3887 - CHEMTREC (Outside US)
Last Revision Date	-	03-23-2015

Section 2 - Hazards Identification

Signal Word: WARNING!

Hazards and Precautions

Contains Petroleum Based Products. Use only with adequate ventilation. Avoid prolonged breathing of vapor or spray mist as may cause headache, nausea, and respiratory tract irritation. Keep product closed and properly stored when not in use. Avoid contact with skin. Use protective gloves, safety glasses, and protective clothing when using this product. Do not use in drinking water or food systems. Do not reuse empty container. Make sure container is sealed and secured in an upright position during transportation. Do not eat or drink while using this product and wash hand thoroughly after use.

Prevention	Do not breathe dust, fume, gas, mist, vapours and/or spray. Do not handle until all safety precautions have been read and understood.
Response	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Physical Form	-	Liquid
Color	-	Black
Odor	-	Mild Hydrocarbon.
Flash Point	-	460°F(238°C)
OSHA HCS2012	-	Specific Target Organ Toxicity Repeated Exposure - Category 2, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A (asphalt fume high temperatures),
WHMIS	-	Class D - Poisonous and Infectious Materials - Division 2 - Subdivision A

- 

GHS - Specific Target Organ Toxicity Repeated Exposure - Category 2, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

Route Of Entry - Inhalation, Skin, Eye

Potential Health Effects

Inhalation

Acute (Immediate) - May cause irritation.

Chronic (Delayed) - No data available

Skin

Acute (Immediate) - May cause irritation.

Chronic (Delayed) - Repeated and prolonged exposure may cause dermatitis.

Eye

Acute (Immediate) - May cause burning and redness or swelling of the eyes. May cause irritation.

Chronic (Delayed) - Repeated and prolonged exposure may cause irritation.

Ingestion

Acute (Immediate) - May be harmful or fatal if swallowed.

Chronic (Delayed) - No data available

Carcinogenic Effects - See Section 11 - Toxicological Information.

Carcinogenic Effects			
	CAS	IARC	NTP
Asphalt	8052-42-4	Group 2B-Possible Carcinogen	Under Consideration

Other Information - This product is an encapsulated mixture which reduces the likelihood of exposure to hazardous particulates. Airborne exposures to hazardous dusts or mists may be generated by spraying, sanding or grinding. During spraying or sanding the product, wear suitable respiratory equipment to protect against inhalation of mist and dust.

Section 3 - Composition/Information on Ingredients

Hazardous Components						
Chemical Name	**CAS**	**%(wt)**	**UN;EINECS**	**LD50/LC50**	**EU R & S Phrases**	**Other**
Asphalt	8052-42-4	15% TO 25%	NA1999, 232-490-9	Ingestion/Oral-Rat LD50 · >5000 mg/kgInhalation-Rat LC50 · >94.4 mg/m³	NDA	NDA
Kaolin	1332-58-7	10% TO 20%			NDA	NDA
Bentonite	1302-78-9	1% TO 5%	215-108-5		NDA	NDA
Non-Hazardous Components						
Chemical Name	**CAS**	**%(wt)**	**UN;EINECS**	**LD50/LC50**	**EU R & S Phrases**	**Other**
Water	7732-18-5	40% TO 50%	231-791-2	Ingestion/Oral-Rat LD50 · >90 mL/kg	NDA	NDA
Latex Polymer	N/A	0.1% TO 5%			NDA	NDA

This product is an encapsulated mixture which reduces the likelihood of exposure to hazardous particulates. Airborne exposures to hazardous dusts or mists may be generated by spraying, sanding or grinding.

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

Inhalation	- Remove to fresh air if you feel unwell. Call a physician or poison control center. If not breathing, give artificial respiration.
Skin	- Wash the contaminated area of body with soap and fresh water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Eye	- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. If eye irritation persists: Get medical advice/attention.
Ingestion	- Call a physician or poison control center immediately. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting.

Section 5 - Fire Fighting Measures

Extinguishing Media	- SMALL FIRES: Dry chemical, CO2, water spray or regular foam.
Unsuitable Extinguishing Media	- No data available
Firefighting Procedures	- Keep unauthorized personnel away. Stay upwind of the fire to reduce exposure. Fire fighters should wear complete protective clothing including self-contained breathing apparatus.
Unusual Fire and Explosion Hazards	- Some of these materials may burn, but will not readily ignite. May release irritating or toxic gases, fumes, or vapors.
Hazardous Combustion Products	- Carbon monoxide, carbon dioxide, hydrocarbons.
Protection of Firefighters	- Wear positive pressure self-contained breathing apparatus (SCBA).
Flash Point	- 460°F(238°C)

Section 6 - Accidental Release Measures

Personal Precautions	- Do not manage damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas when dealing with spills.
Emergency Procedures	- Stop leak if you can do so without risk. Isolate the area and contain the spilled material. Persons not wearing the appropriate PPE should be removed from the area until the spill is cleaned up.
Environmental Precautions	- Avoid run off to waterways and sewers.
Containment/Clean-up Measures	- Use appropriate Personal Protective Equipment (PPE). Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container.
Prohibited Materials	- Avoid contact with strong oxidizing agents and acids.

Section 7 - Handling and Storage

Handling	- Keep containers tightly closed when not in use. Use only with adequate ventilation.
Storage	- Keep only in the original container/package in a cool well-ventilated place. Keep away from fire. Keep container closed when not in use.
Special Packaging Materials	- No data available
Incompatible Materials or Ignition Sources	- Avoid contact with strong oxidizing agents and acids.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment Pictograms -

Respiratory - When used with adequate ventilation, a respirator is not normally required. If required, use a NIOSH-approved air purifying respirator with organic vapor cartridge or supplied air respirator. This product is an encapsulated mixture which reduces the likelihood of exposure to hazardous particulates. Airborne exposures to hazardous dusts or mists may be generated by spraying, sanding or grinding.

Eye/Face - Wear ANSI approved safety glasses with side shields or safety goggles.

Hands - Wear chemical protective gloves made of Nitrile or Neoprene.

Skin/Body - Wear clothing that covers the skin to prevent skin exposure.

General Industrial Hygiene Considerations - Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke during work. Wash hands before eating.

Engineering Measures/Controls - Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Exposure Limits/Guidelines					
	Result	ACGIH	Canada Ontario	OSHA	United States - California
Kaolin (1332-58-7)	TWAs	2 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)	2 mg/m3 TWAEV (containing no asbestos and less than 1% crystalline silica, respirable)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	2 mg/m3 PEL (respirable dust, containing no asbestos fibers, < 1% crystalline silica)
Asphalt (8052-42-4)	TWAs	0.5 mg/m3 TWA (as benzene soluble aerosol, fume, inhalable fraction)	0.5 mg/m3 TWAEV (fume, inhalable, as benzene-soluble aerosol)	Not established	5 mg/m3 PEL (fume)

Exposure Control Notations

ACGIH

- Kaolin (1332-58-7):Carcinogens:A4 - Not Classifiable as a Human Carcinogen

- Asphalt (8052-42-4):Carcinogens:A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free)

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

Physical Form - Liquid

Appearance/Description - Thick black semi-liquid.

Color: Black		**Odor**: Mild Hydrocarbon.	
Taste: NDA		**Odor Threshold**: NDA	
Boiling Point:	212 F(100 C)	**Vapor Pressure:**	NDA
Melting Point:	NDA	**Vapor Density:**	> 1 Air=1
Specific Gravity/Relative Density:	= 1.16 Water=1	**Evaporation Rate:**	< 1 Water = 1
Density:	= 9.73 lbs/gal	**VOC (Wt.):**	NDA
Bulk Density:	NDA	**VOC (Vol.):**	< 5 g/L
pH:	9 to 10	**Volatiles (Wt.):**	NDA
Water Solubility:	NDA	**Volatiles (Vol.):**	NDA
Solvent Solubility:	NDA	**Flash Point:**	460°F(238°C)
Viscosity:	NDA	**Flash Point Test Type:**	Closed Cup

Section 10 - Stability and Reactivity

Stability - Stable under normal temperatures and pressures.

Hazardous Polymerization - Hazardous polymerization not indicated.

Conditions to Avoid - Avoid contact with strong oxidizing agents and acids.

Incompatible Materials - Strong oxidizers and acids.

Hazardous Decomposition Products - Carbon monoxide, carbon dioxide and hydrocarbons.

Section 11 - Toxicological Information

Component Name	Concentration	CAS	Data
Asphalt	15% TO 25%	8052-42-4	Acute Toxicity: ; orl-rat LD50:>5000 mg/kg; ihl-rat LC50:>94.4 mg/m3; ihl-hmn TDLo:10 mg/m3/5.5Y-I Tumorigen/Carcinogen: ; skn-mus TDLo:905 gm/kg/2Y-I
Kaolin	10% TO 20%	1332-58-7	Acute Toxicity: ; orl-rat TDLo:370 gm/kg/37D-I
Bentonite	1% TO 5%	1302-78-9	Acute Toxicity: ; orl-rat TDLo:700 mg/kg/7D-I

Other Component Information - IARC has concluded that the following chemicals in this product are carcinogenic to humans (Group 1): silica, quartz. ACGIH has designated the following chemicals in this product as suspected human carcinogens (A2): silica, quartz. NTP has listed the following chemicals in this product as known human carcinogens: silica, quartz. Risk of cancer depends on duration and level of exposure to this product as a dust or aerosol mist. Airborne exposure is not expected with this product. The materials are encapsulated and would only be release if the dry material was sanded. Exposure could increase if the product is sprayed.

Other Information - This product contains petroleum asphalt. Petroleum asphalt is not listed as a carcinogen by OSHA or NTP. The National Institute of Occupational Safety and Health (NIOSH), has concluded that at higher temperatures roofing asphalt fumes are a potential occupational carcinogen. If this product is heated or comes in contact with heated material, avoid breathing fumes. This product may contain small amounts of polycyclic aromatic hydrocarbons (PAH's) which are recognized carcinogens in humans and experimental animals. Mouse skin painting studies of roofing asphalt vapor concentrate have shown evidence of tumor formation associated with localized skin irritation in recent studies. Inhalation studies of high airborne concentrations of asphalt/bitumen fumes in rats and mice produced bronchitis, pneumonitis, and lung changes such as fibrosis and cell damage.

Section 12 - Ecological Information

Ecological Fate - No data available.

Persistence/Degradability - No data available.

Bioaccumulation Potential - No data available.

Mobility in Soil - No data available.

Section 13 - Disposal Considerations

Product - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: Not Restricted

TDG - Canada - Transport of Dangerous Goods

Shipping Name: Not Restricted

IMO/IMDG –International Maritime Transport
Shipping Name: Not Restricted

Section 15 - Regulatory Information

SARA Hazard Classifications - Acute, Chronic

Risk & Safety Phrases - California PROP 65: Asphalt and Asphalt Fumes may contain detectable amounts of chemicals known to the State of California to cause cancer or reproductive harm. .

State Right To Know				
Component	**CAS**	**MA**	**MN**	**NJ**
Water	7732-18-5	No	No	No
Latex Polymer	NDA	No	No	No
Asphalt	8052-42-4	Yes	Yes	Yes
Kaolin	1332-58-7	Yes	Yes	Yes
Bentonite	1302-78-9	No	No	No

Inventory			
Component	**CAS**	**EU EINECS**	**TSCA**
Water	7732-18-5	Yes	Yes
Latex Polymer	NDA	Yes	Yes
Asphalt	8052-42-4	Yes	Yes
Kaolin	1332-58-7	Yes	Yes
Bentonite	1302-78-9	Yes	Yes

Canada - WHMIS - Classifications of Substances

▪ Kaolin	1332-58-7	10% TO 20%	D2A
▪ Asphalt	8052-42-4	15% TO 25%	Not Listed
▪ Bentonite	1302-78-9	1% TO 5%	D2A
▪ Water	7732-18-5	40% TO 50%	Uncontrolled product according to WHMIS classification criteria

U.S. - California - Proposition 65 - Carcinogens List

▪ Kaolin	1332-58-7	10% TO 20%	Not Listed
▪ Asphalt	8052-42-4	15% TO 25%	Not Listed
▪ Bentonite	1302-78-9	1% TO 5%	Not Listed
▪ Water	7732-18-5	40% TO 50%	Not Listed

Section 16 - Other Information

Last Revision Date - 03/23/2015

Prepared By - Gardner-Gibson Inc.

Disclaimer/Statement of Liability - This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to verify the suitability and completeness of such information for particular use. Gardner-Gibson does not accept liability for any loss or damage that may occur from the use of this information.

NFPA

HIGH PERFORMANCE THREAD SEALANT w/PTFE
Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Number: 80-136,80-137 High Performance Thread Sealant with PTFE

Manufacturer / Supplier: Kimball Midwest
4800 Roberts Road
Columbus, Oh 43228

Phone: 800-233-1294
Web: kimballmidwest.com

Emergency Phone Number: 1-800-424-9300
Product Use: thread sealant and other uses.
Restriction on Use: None known

SDS Date of Preparation: Sept 1, 2015

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification (Hazcom 2012):
Not Hazardous

Label Elements:
Not hazardous in accordance with the OSHA Hazard Communication Standard (29CFR 1910.1200).

Hazard Phrases:
None

Precautionary Phrases:
None

Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	%
Kaolin clay	1332-58-7	35-45
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	15-30
Calcium carbonate	471-34-1	10-15
Titanium Dioxide (bound in sealant)	13463-67-7	5-10
PTFE	9002-84-0	10-20

The specific identity and/or exact percentage of composition has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

Eye: Flush eyes with water, holding the eyelids apart. Get medical attention if irritation develops or persists.

Skin: Wash thoroughly with plenty of water. Get medical attention if irritation persists.

Inhalation: Remove to fresh air and keep comfortable for breathing. If irritation occurs, get medical attention.

Ingestion: If large amounts ingested, seek medical attention.

Most Important symptoms and effects, both acute and delayed: None known.

Indication of any immediate medical attention and special treatment needed: Immediate medical attention generally not required.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable and Unsuitable Extinguishing Media: Use extinguishing media suitable for the surrounding environment.

Special Hazards Arising from the Chemical: Hazardous decomposition products may yield oxides of carbon and calcium, and fumes of fluorides.

Special Equipment and Precautions for Fire-Fighters: Wear NIOSH approved positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment. Use caution: slip hazard.

Environmental Hazards: Report spills and releases as required to appropriate authorities.

Methods and Material for Containment and Cleaning Up: Because of its viscous nature, this product is not expected to leak or spill. Collect liquid spill with an inert absorbent material and place into a suitable container for disposal. Clean area thoroughly with mineral spirits.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged skin contact Do not transfer to unlabeled containers.

Conditions for Safe Storage, Including any Incompatibilities: Store away from extreme heat and open flames. Store away from concentrated oxygen.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
Kaolin clay	2 mg/m3 TWA ACGIH TLV (respirable) 15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 TWA OSHA PEL (respirable fraction)
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m3 TWA ACHIH TLV (inhalable) 5 mg/m3 TWA OSHA PEL
Calcium carbonate	15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 TWA OSHA PEL (respirable fraction)
Titanium Dioxide	10 mg/m3 TWA ACGIH TLV (respirable) 15 mg/m3 TWA OSHA PEL (total dust)
PTFE	15mg/m3 TWA OSHA PEL (as respirable dust)

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the exposure limits. If the product is used at high temperatures, local exhaust ventilation may be required.

Individual Protection Measures:
Respiratory Protection: In operations where the occupational exposure limits are exceeded, a NIOSH approved respirator with organic vapor/particulate cartridges or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin Protection: Impervious gloves such as rubber or nitrile recommended where needed to avoid prolonged skin contact .

Eye Protection: Safety glasses or goggles recommended where needed to avoid eye contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White granular paste	**Vapor Density (air = 1):** Not available
Odor: Mild petroleum like odor	**Specific Gravity:** 1.5
Odor Threshold: Not established	**Water Solubility:** Not soluble
pH: Neutral	**Octanol/Water Partition Coefficient:** Not available
Melting Point/Freezing Point: Not available	**Autoignition Temperature:** Not available
Boiling Point: >650ºF	**Decomposition Temperature:** Not available
Flash Point: >350ºF	**Viscosity:** Not available
Evaporation Rate: Not available	**Explosion Properties:** None
Flammable Limits: **LEL**: Not established **UEL:** Not established	**Oxidizing Properties:** Not oxidizing
Vapor Pressure: Not established	**Aerosol Fire Protection Level:** Not applicable
VOC Content: <0.1%	**Flammability (solid, gas):** Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not reactive under normal conditions of use.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: None known

Conditions to Avoid: Temperatures exceeding 550ºF

Incompatible Materials: Avoid concentrated oxygen

Hazardous Decomposition Products: Hazardous decomposition products may yield oxides of carbon and calcium, and fumes of fluorides.

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause mild irritation.

Skin: Prolonged contact may cause irritation and drying of the skin.

Inhalation: No adverse effects expected at ambient temperatures. Inhalation of vapors and fumes from thermal decomposition may cause respiratory irritation.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea.

Chronic Hazards: Prolonged inhalation of thermal decomposition products may result in lung damage.

Carcinogen Status: Titanium dioxide is listed by IARC as a group 2B carcinogen (possible human carcinogen). Titanium dioxide is only known to cause cancer by inhalation. The titanium dioxide is bound in the product matrix so inhalation exposure does not occur during use. None of the other components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH, or the EU CLP.

Acute Toxicity Values:
Distillates (petroleum), hydrotreated heavy naphthenic: Oral rat LD50 > 5000 mg/kg, inhalation rat LC50: 2.18 mg/L, dermal rabbit LD50 > 2000 mg/kg
Calcium Carbonate: Oral rat LD50 > 2000 mg/kg, inhalation rat LC50 > 3 mg/L, dermal rat LD50 > 2000 mg/kg
Titanium dioxide: Oral mouse LD50 > 5000 mg/kg, inhalation rat LC50 > 6.82 mg/L

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
Distillates (petroleum), hydrotreated heavy naphthenic: Pimephales promelas LL50 > 100 mg/L/96hr.
Calcium Carbonate: Oncorhynchus mykiss LC50 > 100 mg/L/96hr

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: None known

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, regional and national regulations.

SECTION 14: TRANSPORT INFORMATION

DOT
Proper Shipping Name: Not regulated
DOT Technical Name: None
DOT Hazard Class: None
UN Number: None
DOT Labels Required (49CFR172.101): None

IMDG
Shipping Description: Not regulated
ID Number: None
Hazard Class: None
Packing Group: None
Labels Required: None
Marking Required: None
Placards Required: None

ICAO/IATA
Shipping Description: Not regulated
ID Number: None
Hazard Class: None
Packing Group: None

SECTION 15: REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

CERCLA Hazardous Substances (Section 103)/RQ: This product is not subject to reporting requirements under CERCLA. However, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Not Hazardous

SARA 313: This product contains the following chemicals regulated under SARA Title III, section 313: None

EPA TSCA Inventory: All of the components of this product are listed on the TSCA inventory.

CALIFORNIA PROPOSITION 65: This product is not known to contain listed chemicals.

SECTION 16: OTHER INFORMATION

Revision Summary: New format to comply with OSHA Hazcom 2012

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

There was a problem getting the SDS for -

Product Name: GOJO NATURAL* ORANGE Smooth Hand Cleaner
CAS Number:
Manufacturer: GOJO Industries, Inc.
SDS Date: 2/20/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Clarity Hydraulic Oil AW 32, 46, 68, 100

Product Use: Hydraulic Oil
Product Number(s): 230340, 230341, 230342, 255702, 274310, 278022, 278023, 278024
Synonyms: Clarity Hydraulic Oil AW 100 ISOCLEAN Certified; Clarity Hydraulic Oil AW 32 ISOCLEAN Certified; Clarity Hydraulic Oil AW 46 ISOCLEAN Certified; Clarity Hydraulic Oil AW 68 ISOCLEAN Certified

Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However,

because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty

container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Density: 0.8666 kg/l - 0.8694 kg/l @ 15°C (59°F)
Viscosity: 43.70 mm2/s - 110 mm2/s @ 40°C (104°F)
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO

5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Hydraulic oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 01 - Product Code(s) information was modified.
SECTION 04 - Immediate Health Effects - Skin information was modified.

Revision Date: June 14, 2017

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit

GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

There was a problem getting the SDS for -

Product Name: KRYLON SHORT CUTS SPRAY PAINT, GLOSS WHITE
CAS Number:
Manufacturer: Krylon Products Group
SDS Date: 11/3/2017

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

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There was a problem getting the SDS for -

Product Name: STRUST LSPR 6PK 25PER BONUS LEAKSEAL CLR
CAS Number:
Manufacturer: Rust-Oleum Corporation
SDS Date: 2/11/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Jasco Premium Paint and Epoxy Remover
CAS Number:
Manufacturer: W. M. Barr
SDS Date: 4/17/2015

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

CITGO Lithoplex® MP Grease No. 2

Section 1. Identification

GHS product identifier : CITGO Lithoplex® MP Grease No. 2

Synonyms : Lubricating grease;
CITGO® Material Code: 665340001

Material uses : Lubricating grease

Code : 655340001

MSDS # : 655340001

Supplier's details : CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210
sdsvend@citgo.com

Emergency telephone number (with hours of operation) : Technical Contact: (800) 248-4684
Medical Emergency: (832) 486-4700
CHEMTREC Emergency: (800) 424-9300
(United States Only)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : Warning

Hazard statements : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : Injection of petroleum hydrocarbons requires immediate medical attention.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Lubricating grease;
CITGO® Material Code: 665340001

CAS number/other identifiers

CAS number : Not applicable.

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy naphthenic	≥10 - ≤23	64742-52-5
Distillates (petroleum), hydrotreated heavy paraffinic	≥10 - ≤25	64742-54-7
Residual oils (petroleum), solvent-dewaxed	≥10 - ≤25	64742-62-7
Lithium, 12-hydroxyoctadecanoate sebacate complexes	≤10	68815-49-6
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	≤1.1	68649-42-3

* = Various ** = Mixture *** = Proprietary

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

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

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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

Notes to physician : In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal.

Specific treatments : Treat symptomatically and supportively.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

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

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

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. 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 : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

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

Section 7. Handling and storage

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

Bulk Storage Conditions: Do not apply heat or flame to stockpiled material. Rotate stock to reduce the potential for hot spots. Do not store with oxidizers. Minimize dust creation by keeping material moist and/or covered.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy naphthenic	**ACGIH TLV (United States, 3/2016).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist
Distillates (petroleum), hydrotreated heavy paraffinic	**ACGIH TLV (United States, 3/2016).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist
Residual oils (petroleum), solvent-dewaxed	**ACGIH TLV (United States, 6/2013).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 4/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
Lithium, 12-hydroxyoctadecanoate sebacate complexes	**ACGIH TLV (United States).** TWA: 10 mg/m³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, 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.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of 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 inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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

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

Respiratory protection : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Tacky]

Color : Dark gray.

Odor : Petroleum.

pH : Not available.

Boiling point : Not available.

Flash point : Open cup: >150°C (>302°F) [Estimated]

Evaporation rate : <1 (n-butyl acetate. = 1)

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : <0.013 kPa (<0.1 mm Hg) [room temperature]

Vapor density : >10 [Air = 1]

Relative density : 0.95

Density lbs/gal : Estimated 7.92 lbs/gal

Density gm/cm^3 : Not available.

Gravity, °API : Estimated 17 @ 60 F

Solubility : Insoluble in the following materials: cold water.

Flow time (ISO 2431) : Not available.

NLGI Grade : 2

Section 10. Stability and reactivity

Reactivity : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

Chemical stability : The product is stable.

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

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Section 10. Stability and reactivity

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Oral	Rat	>5000 mg/kg	-
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	2890 mg/kg	-

Conclusion/Summary : **Distillates (petroleum), hydrotreated heavy naphthenic**: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.
Distillates (petroleum), hydrotreated heavy paraffinic: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts: INHALATION (LC50), Acute: > 1310 mg/L (Rat screen level)(4 hours).
DRAIZE EYE, Acute: Moderate to severe eye irritant. (Rabbit).
DRAIZE DERMAL, Acute: Mild to moderate skin irritant. (Rabbit).
BUEHLER DERMAL, Acute: Non-sensitizing. (Guinea Pig).
28-Day DERMAL, Sub-Chronic: Severe skin irritant. (Rabbit). Reported reduced food consumption resulting in weight loss and testicular atrophy.

Irritation/Corrosion

Not available.

Skin : No additional information.

Eyes : No additional information.

Respiratory : No additional information.

Sensitization

Not available.

Skin : No additional information.

Respiratory : No additional information.

Mutagenicity

Not available.

Conclusion/Summary : No additional information.

Carcinogenicity

Section 11. Toxicological information

Not available.

Conclusion/Summary : No additional information.

Reproductive toxicity

Not available.

Conclusion/Summary : No additional information.

Teratogenicity

Not available.

Conclusion/Summary : No additional information.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Not available.

Conclusion/Summary : Not available.

Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy naphthenic	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Distillates (petroleum), hydrotreated heavy naphthenic	>6	-	high

Mobility in soil

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-

Section 14. Transport information

Packing group	-	-	-
Environmental hazards	No.	No.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

Clean Water Act (CWA) 307: Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

SARA 302/304

Composition/information on ingredients

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Classification
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	≤1.1	ACUTE TOXICITY (dermal) - Category 4 EYE IRRITATION - Category 2A

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	<2
Supplier notification	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	<2

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 : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: ZINC compounds

Pennsylvania : The following components are listed: ZINC COMPOUNDS

California Prop. 65 Clear and Reasonable Warnings (2018)

⚠ **WARNING**: This product can expose you to carbon black respirable, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Section 15. Regulatory information

Ingredient name	%	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
carbon black respirable	<0.1	Yes.	No.	-	-

International regulations

Inventory list

United States : All components are listed or exempted.

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : Not determined.

Thailand : Not determined.

Turkey : Not determined.

Viet Nam : Not determined.

Section 16. Other information

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

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of printing : 6/28/2018

Date of issue/Date of revision : 4/23/2018

Date of previous issue : No previous validation

Version : 1

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical Name: MAGIC GLIDE
Application: Silicone Lubricant Fast and Effective
Product Number: 1034
UN-Number: N/A
Manufacturer Information: Sunrise Environmental Scientific
Remit: PO Box 10207 Reno, NV 89510
Physical: 1175 Industrial Way Sparks, NV 89431
Phone Number: 775-359-8494 or 800-648-1153
Web: SUNRISENV.COM
Emergency Phone No.
Chemtrec: 1-800-424-9300
Pages: 3

2. HAZARDS IDENTIFICATION

Emergency Overview:
Signal Word: DANGER
Keep out of reach of children.
Potential Acute Health Effects:
Hazardous in case of eye contact (irritant) and inhalation. Toxic if ingested. Hazardous in case of skin contact (irritant and sensitizer).
Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (sensitizer). The substance may be toxic. The prolonged exposure to the product can produce target organ (kidneys, liver, skin and central nervous system (CNS)) damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient:	CAS #	Component WT%	PEL	TLV	IDLH
Aliphatic Hydrocarbon	64742-47-8	25%≤75%	N/A	N/A	N/A
Hydrocarbon Propellant	68-476-86-8	3%≤15%	N/A	600 ppm	N/A

Comments: None

4. FIRST AID MEASURES

Inhalation: If affected by vapors, move to a well ventilated area immediately. If breathing is difficult seek medical attention.
Skin Contact: Flush with water, immediately remove all contaminated clothing.
Ingestion: Do not induce vomiting and get medical attention.
Eye Contact: Immediately flush with plenty of water for at least 15 minutes. After initial flushing, remove any contact lenses and continue for at least 15 minutes and seek medical attention.
Additional Information: Signs of exposure are dizziness, nausea, possible dermatitis and headache.

5. FIRE FIGHTING MEASURES

Flash Point: 70°F COC
Upper Flammable Limit (UEL): N/A
Lower Flammable Limit (LEL): 0.9%
Flammable Limits: Petroleum Distillate
Auto Ignition: N/A
Rate of Burning: N/D
General Fire Hazards: Use extreme caution.
Hazardous Combustion Product: May produce irritating fumes in fire.
Extinguishing Media: Foam, Co2 and/or dry chemicals.
Fire Fighting Equipment/Instructions: Use SCBA equipment.
NFPA Rating: (Flammability 3) (Health 1) (Reactivity 0)

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Eliminate all the ignition sources such as electrical, static, frictional sparks and pilot. Isolate the area.
Environmental Precautions: Isolate the spilled area. Prevent additional further leakage or spillage, if safe to do so.
Method for Cleanup & Containment: Wear appropriate protective equipment and clothing during the clean-up. Use non-combustible material like vermiculite, sand, clay or other absorbent material to absorb the spilled liquid.
Additional Information: Follow local and federal regulations with regard to chemical spills.

7. HANDLING AND STORAGE

Handling Procedure: Avoid breathing mist or vapors. Avoid prolonged contact with skin. Avoid contact with eye. Wear suitable PPE.
Wash hands thoroughly after handling the product.
Storage Procedures: Keep in a well-ventilated place to maintain TLV, away from open flame, heat, reactive chemicals and/or other sources of ignitions.
Avoid storing above 120°F & under 32°F. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational Exposure Limits:
ACGIH Components: Use ventilation adequate to maintain TLV.
OSHA Components: Regulated
Engineering Measures: Use fan in confined area. Use local exhaust ventilation.
Personal Protective Equipment (PPE): Utilize suitable protective clothing, and other appropriate PPEs to protect eyes and hands.
Hygiene Recommendations: Use caution appropriate to terpenes. Use protective equipments (apron and boots are optional).
Consider the effect of exposure potentials, handling practices, chemical concentration and ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless
Physical State: Liquid
Vapor Pressure: 15mm Hg
Boiling Point: 244°F
Solubility (H20): Insoluble in water
Freezing Point: N/D
Odor: Petroleum odor
pH: N/D
Evaporation rate: N/D
Density: N/D
Vapor Density: 3.8
Melting Point: N/A
Specific Gravity: 0.78
VOC: 11.0%

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions.
Conditions to Avoid: N/A
Incompatibility: Oxidizing agents.
Hazardous Decomposition: Carbon Monoxide
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Chronic Toxicity Data: May affect central nervous system on over exposure, effects includes fatigue, headache, dizziness, nausea, numbness, eye and skin irritation. Harmful if swallowed.
OSHA Regulated: No
Carcinogenicity: No component in this product is a carcinogenic.
IARC Monographs: No
NTP: No
Chronic Toxicity: Not established.

12. ECOLOGICAL INFORMATION

Ecotoxicity: N/D

Persistence and Degradability: N/D

Bioaccumulative potential: N/D

Mobility in Soil: N/D

Other Adverse effects: N/D

13. DISPOSAL CONSIDERATIONS

Disposal Instructions: Follow local and federal disposal regulations. As a non-hazardous liquid waste, it should be solidified with stabilizing absorbent material befor disposal. Do not incinerate aerosol can.

14. TRANSPORTATION INFORMATION

US DOT Information: ORM-D CONSUMER COMMODITY CLASS 55

Marine Pollutant: N/D

Shipping Name: Magic Glide

Required Label: N/A

15. REGULATORY INFORMATION

Classification: Irritant, Flammable

Hazard Symbol: Exclamation Point, Gas Cylinder, Flame

US Federal Regulations

OSHA'S Hazard Communication Rule, 29 CFR 1910.1200-Is a combustible liquid, moderate skin irritant, moderate eye irritant and a skin sensitizer.

SARA Title III-This product does not contain any chemicals component with known CAS number that exceed the threshold reporting level establish by SARA Title III, section 313.

State Regulations

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.

16. OTHER INFORMATION

SDS History

Date Prepared: 04/02/2014

Revision Date: 02/23/2015

Contact Information: Sunrise Environmental Scientific
Remit: PO Box 10207 Reno, NV 89510
Physical: 1175 Industrial Way Sparks, NV 89431
Phone Number: 775-359-8494 or 800-648-1153
Web: SUNRISENV.COM

MARVEL OIL CO., INC.
2250 W. Pinehurst Blvd., STE 150
Addison, IL 60101

SAFETY DATA SHEET

1. Product and Company Identification

1.1 Product Identifier

Product Name:	Marvel Mystery Oil
Product Code (SKU):	MM12R (50094), MM13R (50095), MM13RC (50096) MM14R (50097), MM018 (50092) - See section 15 for discontinued SKU's

1.2 Relevant Identified Uses Of The Substance

Product Use:	Engine Oil Additive – Fuel additive (EPA Registered)

1.3 Details of the Supplier of the SDS

Company Name:	Marvel Oil Company, Inc.
Street Address:	2250 W. Pinehurst Blvd., Suite 150
City, State, Zip Code:	Addison, IL 60101

1.4 Emergency Telephone Numbers

Phone Number:	1(630)455-3700
Fax Number:	1(630)455-3868
Transportation:	1(800)424-9300 (CHEMTREC)
Medical Assistance:	Call your local Poison Control Center

2. Hazard Identification:

2.1 Classification of the Substance or Mixture

Hazard Classification:	Flammable liquid 3 Skin irritation 2 Reproductive Toxicity 2 Aspiration toxicity 1

2.2 Label Elements

Pictogram:

Signal Word: Danger

Hazard Statement: Flammable liquid and vapor. Causes skin irritation. Suspected of damaging fertility of the un-born child. May be fatal if swallowed and enters airways.

Precautionary Statement: Keep away from heat, sparks, open flames or hot surfaces. Do not smoke. Keep containers tightly closed. Ground all containers and receiving equipment. Use explosion proof electrical, ventilation, and lighting equipment. Use only non-

sparking tools. Take precautionary measures against static discharge. Wear protective gloves, clothing, eye glasses and face shield. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. If exposed, get medical attention. If on skin or hair, remove immediately all contaminated clothing and launder before re-use. Wash skin with soap and water. If skin irritation occurs, get medical attention. If swallowed, immediately call a poison control center or doctor. Do NOT induce vomiting. Store in a well ventilated place. Dispose of contents and container in accordance with all local, state, national and international regulations.

2.3 Other Hazards

Description of additional HNOC: None

3. Information on Ingredients:

3.1 Substance not applicable

3.2 Mixture

Component	CAS Number	Concentration (wt%)
Petroleum Distillates (Hydrotreated Heavy Naphthenic)	64742-52-5	60-100%
Petroleum Distillates (Stoddard Solvent)	8052-41-3	10-30%
Tricresyl Phosphate	1330-78-5	0.1-1.0%
Ortho Dichlorobenzene	95-50-1	0.1-1.0%
Para Dichlorobenzene	106-46-7	<0.1%

4. First Aid Measures:

4.1 Description of First Aid Measures

Inhalation: Remove to fresh air and promote deep breathing. Get medical attention if effects persist or you feel un-well.
Skin: In case of skin contact, wash thoroughly with soap and water. Remove contaminated clothing and footwear. Launder clothing before re-use. Call a physician if irritation develops or persists.
Eyes: In case of eye contact, immediately flush eyes with plenty of water. Remove contact lenses if worn. If irritation persists, get medical attention
Ingestion: If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a poison control center or physician.

4.2 Most important symptoms and effects – acute and chronic

Inhalation: May cause respiratory tract irritation. Vapors may cause drowsiness or dizziness.
Skin: Cause skin irritation. Symptoms may include redness, edema, drying, defatting, and cracking of skin.
Eyes: May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tearing, with redness and swelling.
Ingestion: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea, and vomiting.

4.3 Indication of any immediate medical attention and special treatment

Symptoms may not appear immediately. Seek medical attention if effects develop or persist and you feel un-well.

5. Fire Fighting Measures:

5.1 Extinguishing media

Carbon dioxide, dry chemical, and alcohol foam

5.2 Special hazards arising from the substance or mixture

CO_2, CO, and hydrocarbons

5.3 Advice for Fire Fighters

Keep up wind of fire. Wear full firefighting turn out gear (full bunker gear) and respiratory protection (SCBA). Cool closed containers exposed to fire with water. See Section 8 for personal protection.

6. Accidental Release Measures:

6.1 Personal precautions, protective equipment, and emergency procedures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate all source of ignition.

6.2 Methods and materials for containment and clean up

For containment: Contain and absorb spill with inert material. Place in suitable container for disposal. Do not flush to sewer or allow to enter waterways. See section 8 for PPE.

For clean up: Take up material and place in a suitable container. Vapors may be heavier than air and may travel along the ground to a distant source of ignition. Provide adequate ventilation.

7. Handling and Storage

7.1 Precautions for safe handling

Keep away from source of ignition. Do not smoke. Take precaution to eliminate static discharge. Avoid contact with skin and eyes. Avoid breathing vapor or mist. Do not swallow. Do not eat or drink while handling. Wash hands with soap and water after handling. Use only non-sparking tools.

7.2 Conditions for safe storage including incompatibilities

Keep out of reach of children. Store in a well ventilated place. Do not store above 49°C (120°F).

7.3 Specific end uses

Shelf Life: Shelf life is considered to be 7 – 10 years when properly stored.

8. Exposure Control/Personal Protection:

8.1 Control parameters

Exposure Limits 8 hr TWA:	(OSHA PEL)	(ACGIH TWA)
Petroleum Distillates (Hydrotreated Heavy Naphthenic)	not applicable	not applicable
Petroleum Distillates (Stoddard Solvent)	500 ppm	100 ppm
Tricresyl Phosphate	not applicable	not applicable
Ortho Dichlorobenzene	50 ppm	25 ppm
Para Dichlorobenzene	75 ppm	10 ppm

8.2 Exposure controls

Use adequate ventilation to keep exposure below recommended limits. Ensure that eye wash station and safety shower are close to work station.

Hand Protection Equipment: Wear chemical resistant gloves to prevent skin contact.
Eye Protection Equipment: Wear safety glasses or splash goggles to prevent eye contact.
Skin and Body Protection: Wear suitable protective clothing.
Respiration/Ventilation Protection Requirements: Provide good ventilation.
Ingestion Protection Requirements: Do not eat, drink or smoke while handling. Wash hands with soap and water after handling. Launder all clothing and foot wear before re-use.

9. Physical And Chemical Properties:

9.1 Information of basic chemical and physical properties

Physical Form:	thin liquid
Color:	clear red
Odor:	oil of wintergreen - minty
Odor Threshold:	not available
pH:	not applicable – oil based product
Melting Point/Freeze Point:	-51^0C (-60^0F)
Initial Boiling Point:	not available
Flash Point (Seta Closed Cup):	53^0C (128^0F)
Flammability Limits:	**Explosive Limits:** **Upper:** not available **Lower:** not available
Evaporation Rate:	not available
Flammability Solid/Gas:	not applicable
Vapor Pressure:	not available
Vapor Density:	not available
Specific Gravity:	0.876
Solubility in Water:	insoluble
Auto Ignition Temperature:	not available
Partition coefficient (n/octonol/water):	not available
Viscosity (Kinematic @ 100^0C):	2.0 – 3.0 cSt

9. 2 Other information

% NVM by Weight:	75.0%
% VOC Content (California):	24.31%

10. Stability and Reactivity:

10.1 Reactivity
Does not react under normal conditions

10.2 Chemical stability
Stable

10.3 Possibility of hazardous reactions
Does not react under normal conditions

10.4 Conditions to avoid
Heat and incompatible materials

10.5 Incompatible materials
Strong oxidizers such as bleach and peroxides

10.6 Hazardous decomposition products
CO_2, CO and hydrocarbons

11. Toxicological Information:

11.1 Information on Toxicological effects

Marvel Mystery Oil

LD50 – Oral Rat	>2000 mg/Kg
LD50 – Dermal Rabbit	>2000 mg/Kg
LC50 – Inhalation Rat	>20 mg/L (4 hr)

Petroleum Distillates Hydrotreated Heavy Naphthenic (64742-52-5)

LD50 – Oral Rat	>5000 mg/Kg
LD50 – Dermal Rabbit	>5000 mg/Kg
LC50 – Inhalation Rat	>5 mg/L (4 hr)

Tricresyl Phosphate (1330-78-5)

LD50 – Oral Rat	3000 mg/Kg

o-Dichlorobenzene (95-50-1)

LD50 – Oral Rat	500 mg/Kg
LD50 – Dermal Rabbit	>10000 mg/Kg
LC50 – Inhalation Rat	8.15 mg/L (4 hr)

p-Dichlorobenzene (106-46-7)

LD50 – Oral Rat	>2000 mg/Kg
LD50 – Dermal Rabbit	>2000 mg/Kg

Skin corrosion/irritation	Cause skin irritation
Serious eye damage/irritation	Based on available data, classification data are not met
Respiratory or skin sensitization	Based on available data, classification data are not met
Germ cell mutagenicity	Based on available data, classification data are not met
Carcinogenicity	Based on available data, classification data are not met

o-Dichlorobenzene (95-50-1)	IARC Group 3 – Not Classified
p-dichlorobenzene (106-46-7)	IARC Group 2B – Possible carcinogen to humans.

	NTP 1-Evidence of Carcinogenicity 3, Reasonably anticipated to be a human Carcinogen
Reproductive toxicity	Suspected of damaging fertility of un-born child
Specific target organs – single exposure	Based on available data, classification data are not met
Specific target organs – repeated exposure	Based on available data, classification data are not met
Aspiration hazard	May be fatal if swallowed and enters air ways.
Symptoms/injuries after inhalation	May cause respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Symptoms/injuries after skin contact	Cause skin irritation. Symptoms may include redness, edema, drying, defatting, and cracking of skin.
Symptoms/injuries after eye contact	May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tearing, with redness and swelling.
Symptoms/injuries after ingestion	May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea, and vomiting.

12. Ecological Information:

12.1 Toxicity
Not recommended for release into aquatic systems without treatment

12.2 Persistence and degradability
Not established

12.3 Bioaccumulative potential
Not established

12.4 Mobility in soil
Not established

12.5 Other adverse effects
None known

13. Disposal Considerations:

13.1 Waste treatment methods

RCRA Hazardous Waste:	Regulated as a hazardous waste (D-001 Ignitable).
Waste Disposal Method:	Dispose of in accordance with local, state and federal regulations
Waste Disposal Vessel:	Metal drums are recommended.

14. Transportation Information:

14.1 UN number
1268

14.2 UN Proper shipping name
Petroleum Distillate n.o.s.

14.3 Transport Hazard class
3

14.4 Packaging group
III

14.5 Marine Pollutant
No

14.6 Transportation in Bulk
Not applicable

14.7 Special precautions
Use limited quantities

15. Regulatory Information:

15.1 US Federal Regulations

TSCA Status: All ingredients are commercially available and listed by the manufacturer under TSCA.

15.2 Foreign Regulations

Canadian Status: All materials contained in this product are listed on the Canadian Domestic Substance List (DSL). Consult Turtle Wax, Inc. regarding status of ingredients.

European Union: All materials contained in this product are listed on EINECS.

AICS: All materials are registered for AICS (Australia)

15.3 State Regulations

State Regulatory Information:

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements, contact the appropriate agency in your state.

California Prop 65:*
⚠**WARNING**: This product can expose you to chemicals including p-Dichlorobenzene (106-46-7), which is known to the state of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

CAS Number	Concentration	State Code
p-Dichlorobenzene (106-46-7)	<0.1%	Cancer

***Note:** These chemicals are considered impurities and may or may not exist in the product. They are not intentionally added to the product as ingredients.

15.4 HMIS & NFPA Classifications

HMIS Classification:	Health	2
	Flammability	2
	Reactivity	0
NFPA Classification:	Health	2
	Flammability	2
	Reactivity	0

15.5 Discontinued SKU's These all utilized the same formula:

MM003, MM007, MM08, MM010, MM011, MM012R, MM013R, MM014R, MM015, MM016, MM017, MM613, MM005

16. Other Information:

Reason For Issue	Update Section 15
Prepared By	Joseph Whitman
Preparer's Title	Senior Chemist/Regulatory Specialist
SDS Administrator	Jean Mayszak - Regulatory Compliance Manager
Approval Date	August 29, 2018
Supersedes Date	January 29, 2018
Revision Number	A-14

This information is, to the best of Turtle Wax, Inc.'s knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy oneself as to the suitableness and completeness of such information for their own particular use.

There was a problem getting the SDS for -

Product Name: Misty Slip Shot II
CAS Number:
Manufacturer: AMREP, Inc.
SDS Date: 12/5/2014

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

A CSW Industrials Company

SAFETY DATA SHEET

RECTORSEAL® NO. 7

Corrosive chemical pipe thread sealant

Section 1 – Product and Company Information

Product Name
Rectorseal® No.7

Product Codes
17432

Chemical Family
Organic

Use
Pipe thread sealant

Manufacturer's Name
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
February 19, 2018

Date of Preparation
February 19, 2018

HMIS Codes

Health	2
Flammability	3
Reactivity	0
PPI	B

Emergency Telephone No.
Chemtrec 24 Hours
(800)-424-9300 USA
(703)-527-3887 International

Technical Service Telephone No.
(800)-231-3345 or (713)-263-8001

Section 2 – Hazards Identification

EMERGENCY OVERVIEW

OSHA Hazards
Flammable liquid, Target Organ Effect, Irritant

Target Organs
Liver, Kidney/Liver, Kidney

GHS CLASSIFICATION

Physical Hazards
Flammable Liquid, Category 3

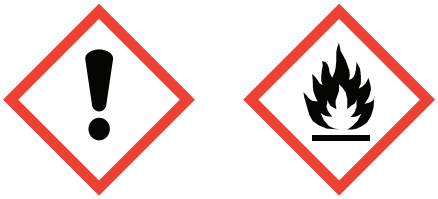
Health Hazards

Acute Toxicity:
Oral: Category 4
Dermal: Category 5
Inhalation: Category 4
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2A

Skin Sensitization: Not Classified
Respiratory Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: See Section 11
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Category 3
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

GHS Label elements, including precautionary statements



GHS02: Flammable
GHS07: Exclamation Mark
Signal Word: **Danger**

Hazard Statements:
H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H313 - May be harmful in contact with skin.
H316 - Causes mild skin irritation.
H318 - Causes serious eye damage.
H319 - Causes serious eye irritation
H335 + H336 - May cause respiratory irritation, and drowsiness or dizziness.

Precautionary Statements:
P102 - Keep out of reach of children.
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking.
P240 - Ground/Bond container and receiving equipment.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 - IF SWALLOWED: Immediately call a **POISON CENTER** or doctor/physician.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362 - Take off contaminated clothing and wash before reuse.

EUH066 - Repeated exposure may cause skin dryness or cracking
Precautionary Statements - EU No. 1272/2008

Summary Of Acute Hazards

Irritation to eyes, nose and throat; drowsiness, narcosis, tremors and other CNS effects at high concentration.

Route Of Exposure, Signs And Symptoms

INHALATION
Nasal and respiratory irritation, dizziness, narcosis, headache, nausea, CNS depression and unconsciousness.

EYE CONTACT
Watering, blurred vision, inflammation and irritation which can result in corneal injury.

SKIN CONTACT
Irritation, dermatitis.

INGESTION
Nausea, vomiting; CNS depression; irritation of gastrointestinal tract, liver and peritoneal wall; lung congestion.

SUMMARY OF CHRONIC HAZARDS
Skin irritation and dermatitis. Possible liver and kidney damage.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver or kidneys may have increased susceptibility to excessive exposures.

Section 3 – Composition/Information on Ingredients

Ingredient:	Diacetone Alcohol
Percentage By Weight:	24.7
CAS Number:	123-42-2
EC#:	204-626-7
Ingredient:	Ethyl Acetate
Percentage By Weight:	3.76
CAS Number:	141-78-6
EC#:	205-500-4
Ingredient:	Methyl Isobutyl Ketone
Percentage By Weight:	0.1
CAS Number:	108-10-1
EC#:	203-550-1

Section 4 – First Aid Measures

If inhaled:	If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.
If on skin:	Immediately flush with large amounts of water for at least 15 minutes. Get prompt medical attention.
If in eyes:	Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 – Fire Fighting Measures

Extinguishing Media
Foam, dry chemical, carbon dioxide or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

Unusual Fire And Explosion Hazards: Flammable - ambient flash point. Vapors heavier than air and may travel along the ground or to low spots at considerable distances to a source of ignition resulting in potential flashback. Burning liquid may float on water. Heat may build up pressure and rupture containers.

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Remove all sources of ignition. Use absorbent materials to prevent footing hazard and to contain. Ventilate area with natural or explosion-proof, forced air ventilation. Avoid flushing into sewers, drains, waterways, and soil. Wear protective clothing and respiratory protection during cleanup.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues; treat as if full and observe all products precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Ingredient	Units
Diacetone Alcohol	
ACGIH TLV:	50 ppm
OSHA PEL:	50 ppm
Ethyl Acetate	
ACGIH TLV:	400 ppm
OSHA PEL:	400 ppm
Methyl Isobutyl Ketone	
ACGIH TLV:	50 ppm
OSHA PEL:	100 ppm

Respiratory Protection (Specify Type): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

Ventilation – Local Exhaust: Acceptable

Special: Explosion-proof equipment.

Mechanical (General): Preferable

Other: N/A

Protective Gloves: Wear rubber gloves.

Eye Protection: Chemical splash goggles (ANSI Z-87.1 or equivalent)

Other Protective Clothing Or Equipment: Coveralls recommended.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 – Physical and Chemical Properties

Boiling point:	322°F (161°C) @ 760 mmHg
Specific gravity (H20 = 1):	1.46
Vapor pressure (mmHg):	0.3 @ 68°F (20°C)
Melting point:	N/A
Vapor Density (Air = 1):	1.1
Evaporation rate (Ethyl Acetate = 1):	0.14
Appearance/Odor:	Black paste/Mild odor
Solubility in water:	Insoluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	28% or (408 g/L)
Flash point:	77°F (25°C) SETA CC
Lower explosion limit:	N/D
Upper explosion limit:	N/D

Section 10 – Stability and Reactivity

Stability: Stable

Conditions To Avoid: Heat, sparks, open flames, and strong oxidizing. Temperatures above 500°F (260°C).

Incompatibility (Materials To Avoid): Gaseous oxygen, strong oxidizing materials, molten alkali metals.

Hazardous Decomposition Products: CO, CO_2 and fragmented hydrocarbons.

Hazardous Polymerization: Will not occur.

Section 11 – Toxicology Information

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA Lister carcinogen.

Toxicology Data

Ingredient Name

Diacetone Alcohol

Oral-Rat LD50:	4000 mg/kg
Inhalation-Human TCLo:	100 ppm

Ethyl Acetate

Oral-Rat LD50:	5620 mg/kg
Inhalation-Rat LC50:	100 ppm
Skin Rabbit LD50:	> 20 ml/kg

Methyl Isobutyl Ketone

Oral-Rat LD50:	2080 mg/kg
Skin Rabbit > 20 ml/kg:	Irritation eye rabbit

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	**Diacetone Alcohol**
Food Chain Concentration Potential	N/A
Waterfowl Toxicity	N/A
BOD	N/A
Aquatic Toxicity	N/A

Ingredient Name:	**Ethyl Acetate**
Food Chain Concentration Potential	N/A
Waterfowl Toxicity	LC50/96-Hr values for fish are > 100 mg/L
BOD	N/A
Aquatic Toxicity	N/A

Ingredient Name:	**Methyl Isobutyl Ketone**
Food Chain Concentration Potential	N/A
Waterfowl Toxicity	N/A
BOD	N/A
Aquatic Toxicity	N/A

Section 13 – Disposal Considerations

Waste Classification: RCRA Hazardous Waste, DOO1

Disposal Method: Approved incineration

Waste from this product is considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with federal, state, and local regulation regarding pollution.

Section 14 – Transportation Information

DOT:	UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, ERG#128 Quarts and less: UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, Limited Quantities or Ltd. Qty.
Ocean (IMDG):	UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, MFAG#3-07 Quarts and less: UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, Limited Quantities or Ltd. Qty.
Air (IATA):	UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, ERG#128

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	**Diacetone Alcohol**
SARA 313	N/A
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Ethyl Acetate**
SARA 313	N/A
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	U112

Regulatory Data (cont.)

Ingredient Name:	**Methyl Isobutyl Ketone**
SARA 313	N/A
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

California Proposition 65

WARNING: This product can expose you to chemicals including Methyl Isobutyl Ketone, , which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

Section 16 – Other Information

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001

SAFETY DATA SHEET

SECTION 1 IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Identifier	**HYDROCHLORIC ACID**
Other Names	Muriatic Acid, Hydrogen Chloride Solution
Manufacturer's Product Code	16409
Recommended Use	General chemical – acid

Details of Supplier/Manufacturer

Company:	Recochem Inc. ABN: 69 010 485 999
Address:	1809 Lytton Road, Lytton, Queensland 4178
Phone:	(07) 3308 5200 Fax: (07) 3308 5201
Website:	www.recochem.com.au

Emergency Telephone Numbers

Business Hours:	(07) 3308 5200
After Hours:	1300 131 001
Poisons Information:	Australia: 13 11 26 New Zealand: 0800 764 766

SECTION 2 HAZARDS IDENTIFICATION

Hazardous chemical	*according to classification by Safe Work Australia*
Dangerous goods	*according to the Australian Code for the Transport of Dangerous Goods by Road and Rail*

Signal Word	**DANGER**

GHS Classification	Pictogram	Hazard statement
Skin Corrosion/Irritation, Category 1B	 CORROSION	H314 Causes severe skin burns and eye damage
Specific Target Organ Toxicity (Single exposure), Category 3	 EXCLAMATION MARK	H335 May cause respiratory irritation

Precautionary statements:

GENERAL	
P101	If medical advice is needed, have product container or label at hand
P102	Keep out of reach of children
P103	Read label before use
PREVENTATIVE	
P260	Do not breathe dusts or mists
P261	Avoid breathing mist/vapours/spray
P264	Wash thoroughly after handling
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/eye protection/face protection
RESPONSE	
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomitting
P303 + P361 + P353	IF ON SKIN (or hair): Take off contaminated clothing and wash before reuse. Rinse skin with water/shower
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER or doctor/physician
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P363	Wash contaminated clothing before reuse
STORAGE	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed
P405	Store locked up
DISPOSAL	
P501	Dispose of contents/container in accordance with local regulations

SECTION 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients Names and Proportions

Chemical Entity	CAS Number	Proportion (%)
Hydrochloric Acid	7647-01-0	< 30

SECTION 4 FIRST AID MEASURES

Description of necessary first aid measures

Inhalation:	Remove victim from exposure if safe to do so. If rapid recovery does not occur, transport to nearest medical facility for additional treatment. Remove contaminated clothing. Seek immediate medical advice.
Skin Contact:	If spilt on large area of skin of hair, immediately drench with running water and remove contaminated clothing. Continue to wash skin and hair with plenty of water until advised to stop by the Poisons Information Centre or a doctor. For skin burns, cover with a clean, dry dressing until medical help is available.
Eye Contact:	If in eyes, hold eyes open, flood with water for at least 15 minutes or until advised by the Poisons Information Centre or a doctor.
Ingestion:	Immediately rinse mouth with water. Do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

Symptoms caused by exposure

Inhalation:	May cause respiratory irritation, including breathing difficulty, lung inflammation, sneezing and throat swelling.
Skin:	A severe irritant. May include burning sensation, redness, swelling and/or blisters.
Eye:	A severe irritant. May include pain or burning sensation, redness, swelling and/or blurred vision.
Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.

Medical attention and special treatment

Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Suitable extinguishing equipment

Not combustible, however, if material is involved in a fire use: water fog or fine water spray, foam, dry chemical powder, carbon dioxide.

Specific hazards arising from the chemical

Contact with metals may liberate hydrogen gas.

Special protective equipment and precautions for fire fighters

Wear full protective clothing and self-contained breathing apparatus. Hazchem code 2R.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Avoid contact with spilled or released material. Shut off leaks, if possible without personal risks. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Wear protective equipment to prevent skin and eye contact and inhalation of vapours. Work upwind or increase ventilation.

Environmental precautions

Use appropriate containment to avoid environmental contamination. Prevent from spreading and entering waterway using sand, earth or other appropriate barriers. Ventilate contaminated area thoroughly. If contamination of sewers or waterways has occurred advise local emergency services.

Methods and materials for containment and cleaning up

Cover with absorbent material (inert material, sand or soil). Neutralise with lime or soda ash. Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Caution - heat may be evolved on contact with water.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Non-combustible material. Avoid skin and eye contact and breathing vapour. Handle and open containers with care in a well-ventilated area. Ensure that the workplace is ventilated such that the Occupational Exposure limit is not exceeded. Wash thoroughly after handling. Do not eat, drink or smoke in contaminated areas. Before eating, drinking or smoking, remove contaminated clothing and wash hands.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated place out of direct sunlight. Store away from incompatible materials (see SECTION 10). Keep containers closed when not in use – check regularly for spills.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure control measures

From National Occupational Health & Safety Commission (NOHSC) Worksafe Australia - Hydrogen Chloride: 7.5mg/m³ (5ppm) (peak limitation) TWA

Biological monitoring

No biological limit allocated.

Engineering controls

Ensure that adequate ventilation is provided. Maintain air concentrations below recommended exposure standards. Avoid generating and inhaling mists and vapours. Keep containers closed when not in use. Always wash hands before eating, drinking or using the toilet.

Individual protection measures

Eye and face protection:	Wear safety goggles.
Skin protection:	Use solvent resistant gloves, nitrile for longer term protection or PVC and neoprene for incidental splashes.
Respiratory protection:	If work practices do not maintain airborne level below the exposure standard, use appropriate respiratory protection equipment. When using respirators, select an appropriate combination of mask and filter. Select a filter for organic gases and vapours (boiling point > 65°C). Respirators should comply with AS1716 or an equivalent approved by a state/territory authority.
Thermal hazards:	Not applicable.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colourless to yellow fuming liquid
Odour:	Hydrogen chloride gas
Odour threshold (ppm):	Data not available
pH:	< 1
Melting point/freezing point (°C):	-63 to -27
Initial boiling point and boiling range (°C):	91 - 98
Flash point (°C):	Data not available
Evaporation rate (Butyl acetate = 1):	Data not available
Flammability:	Non-combustible
Upper/lower flammability or explosive limits (%):	Data not available
Vapour pressure (mmHg @ 20°C):	11 - 115
Vapour density (air = 1):	1.26
Density (g/ml @ 20°C):	1.18
Solubility (kg/m^3):	Miscible with water
Partition coefficient: n-octanol/water:	Data not available
Auto-ignition temperature (°C):	Data not available
Decomposition temperature (°C):	Data not available
Kinematic viscosity (mm^2/s @ 25°C):	Data not available

SECTION 10 STABILITY AND REACTIVITY

Reactivity
Stable under normal conditions of use.

Chemical stability
Stable under normal conditions of use.

Possibility of hazardous reactions
Reacts exothermally with water.

Conditions to avoid
Exposure to water vapour. Will absorb moisture from the atmosphere.

Incompatible materials
Alkalis, aluminium, tin, zinc and organic materials.

Hazardous decomposition products
None.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute toxicity:	LD50 Oral (rat) = 900 mg/kg. LC50 Inhalation (rat) = 3124ppm/1h; LC50 Inhalation (mouse) = 1108ppm/1h.
Skin corrosion/irritation:	Highly corrosive to skin – may cause burns.
Serious eye damage/irritation:	Highly corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
Respiratory or skin sensitisation:	Not expected to be a sensitiser.
Germ cell mutagenicity:	Not expected to be mutagenic.
Carcinogenicity:	Not expected to be carcinogenic.
Reproductive toxicity:	Not expected to impair fertility.
Specific Target Organ Toxicity (STOT) – single exposure:	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Breathing in mists or aerosols may result in respiratory irritation.
Specific Target Organ Toxicity (STOT) – repeated exposure:	Data not available.
Aspiration hazard:	Data not available.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity
Avoid contaminating waterways. This product is highly acidic. If large spills occur a water pH drop could be responsible for an environmental effect on aquatic organisms.

Acute toxicity:

Fish –	LC50 (Mosquito fish, female) = 282 mg/L/24h
Aquatic invertebrate –	LC50 (Shore crab) = 240mg/L/48h; LC50 (Sand shrimp) = 260mg/L/48h
Algae –	Data not available
Microorganisms –	Data not available

Chronic toxicity:

Fish –	Data not available
Aquatic invertebrate –	Data not available
Algae –	Data not available
Microorganisms –	Data not available

Persistence and degradability
Data not available.

Bioaccumulative potential
Data not available.

Mobility in soil
Miscible with water.

Other adverse effects
Data not available.

SECTION 13 DISPOSAL CONSIDERATIONS

Ensure waste disposal conforms to local waste disposal regulations.

SECTION 14 TRANSPORT INFORMATION

UN number:	1789
Proper shipping name:	HYDROCHLORIC ACID
Australian Dangerous Goods class:	8
Australian Dangerous Goods packing group:	II
Hazchem code:	2R

SECTION 15 REGULATORY INFORMATION

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP), Poisons Schedule:	6
Australian Inventory of Chemical Substances (AICS):	Listed
Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76):	40

SECTION 16 OTHER INFORMATION

Date of preparation:	12/11/2015
Revision number:	6
Changes in this revision:	Update to GHS SDS standard

There was a problem getting the SDS for -

Product Name: NALCLEAR 7768
CAS Number:
Manufacturer: Nalco Company
SDS Date: 8/21/2017

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: NitriVer 3 Nitrite Reagent
CAS Number:
Manufacturer: Hach Company
SDS Date: 1/9/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

Safety Data Sheet

Product Number 705

according to OSHA Hazard Communication

29 CFR Part 1910.1200

SECTION 1. Identification

Product Name: Pure Odorless Paint Thinner

Supplied by:
Sunnyside Corporation
225 Carpenter Ave.
Wheeling Il, 60090
800-323-8611
sscontact@sunnysidecorp.com

24 Hour Emergency:
Chemtrec 1-800-424-9300

SECTION 2. Hazard(s) Identification

***** EMERGENCY OVERVIEW ***:** Flammable liquid and vapor.

GHS Classification
Asp. Tox. 1, Carc. 2, Flam. Liq. 3, STOT RE 2, STOT SE 3 NE, STOT SE 3 RTI, Skin Irrit. 2

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapor.
Aspiration Hazard, category 1	H304	May be fatal if swallowed and enters airways.
Skin Irritation, category 2	H315	Causes skin irritation.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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 thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician

P302+P352	IF ON SKIN: Wash with plenty of water
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see first aid section on this label).
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 appropriate method to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Synthetic isoparaffinic hydrocarbon	64742-48-9	75-100	GHS02-GHS07-GHS08	H226-315-335-336-351-373

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

SECTION 4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with water. Flush eyes with water for a minimum of 15 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly.

FIRST AID - SKIN CONTACT: Remove contaminated clothing. Wash skin with soap and water. Get medical attention. Wash clothing separately and clean shoes before reuse.

FIRST AID - INHALATION: Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention. To prevent aspiration, keep head below knees.

FIRST AID - INGESTION: Do not induce vomiting. Do not give liquids. Obtain emergency medical attention.

SECTION 5. Fire-Fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid and vapor. Vapors can travel to a source of ignition and flash back. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Also, do not reuse container without commercial cleaning or reconditioning.

SPECIAL FIREFIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Avoid use of solid water streams. Use water with caution. Material will float and may ignite on surface of water. Water may be ineffective in fighting the fire. Water spray to cool containers or protect personnel. Use with caution. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

SECTION 6. Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASE OR SPILLED: Wear appropriate personal protective equipment. (See Exposure Controls / Personal Protection Section.)Wear a self-contained breathing apparatus and appropriate personal protective equipment. (See Exposure Controls/Personal Protection Section)Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Do not touch or walk through spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Ventilate spill area. Stay upwind of spill. A vapor supressing foam may be used to reduce vapors. Collect spilled materials for disposal. Use only non-combustible material for clean-up. Remove from surface by skimming or with suitable

absorbents. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

SECTION 7. Handling and Storage

HANDLING: Use only in a well ventilated area. Avoid breathing vapor, fumes or mist. Avoid contact with eyes, skin, and clothing. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Always open containers slowly to allow any excess pressure to vent. Follow all MSDS/label precautions even after containers are emptied because they may retain product residues.

STORAGE: Keep away from heat, sparks, and flame. Store containers in a cool, well ventilated place. Keep container closed when not in use. Protect from direct sunlight. Static Discharge, materials can accumulate static charges which can cause an incendiary electrical discharge. Material is a static accumulator which has the potential of forming ignitable vapor-air mixtures in storage tanks.

SECTION 8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Synthetic isoparaffinic hydrocarbon	400 ppm	N.D.	400 ppm	N.D.

Personal Protection

RESPIRATORY PROTECTION: NIOSH/MSHA approved respirators may be necessary if airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Wear impervious gloves to prevent contact with the skin. Wear long sleeves when contact is likely to occur. Wear protective gear as needed - apron, suit, boots.

EYE PROTECTION: Wear safety glasses with side shields (or goggles) and a face shield.

OTHER PROTECTIVE EQUIPMENT: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

HYGENIC PRACTICES: Do not eat, drink, or smoke in areas where this material is used. Avoid breathing vapors. Remove contaminated clothing and wash before reuse. Wash thoroughly after handling. Wash hands before eating.

SECTION 9. Physical and Chemical Properties

Appearance:	Clear, colorless liquid	**Physical State:**	Liquid
Odor:	Typical	**Odor Threshold:**	N.D.
Density, g/cm3:	0.761	**pH:**	N.D.
Freeze Point, °F:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Negligible	**Explosive Limits, vol%:**	0.7 - 5.4
Boiling Range, °F:	340 - 376	**Flash Point, °F:**	120
Evaporation Rate:	0.1	**Auto-ignition Temp., °F:**	N.D.
Vapor Density:	N.D.	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

SECTION 10. Stability and Reactivity

STABILITY: No Information

CONDITIONS TO AVOID: Avoid impact, friction, heat, sparks, flame and source of ignition.

INCOMPATIBILITY: Prevent contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic gases/fumes are given off during burning or thermal decomposition. During combustion carbon monoxide may be formed. During combustion carbon dioxide may be formed.

HAZARDOUS POLYMERIZATION: No Information

SECTION 11. Toxicological Information

Information on Toxicological Effects

EFFECTS OF OVEREXPOSURE - INHALATION: Prolonged inhalation may be harmful. Vapors can cause irritation of the respiratory tract. High concentrations can cause headache, nausea, weakness, lightheadedness, and stupor (CNS depression).

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash). Personnel with pre-existing skin disorders should avoid contact with this product.

EFFECTS OF OVEREXPOSURE - EYE CONTACT: May cause eye irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Slightly toxic. Harmful or fatal if liquid is aspirated into lungs.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Overexposure may cause nervous system damage. Vapors irritating to eyes and respiratory tract. Significant exposure to this chemical may adversely affect people with chronic disease of the central nervous system.

Primary Route(s) of Entry: Eye Contact, Ingestion, Inhalation, Skin Contact

Acute Toxicity Values
The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Name according to EEC	Oral LD50, mg/kg	Dermal LD50, mg/kg	Vapor LC50, mg/L
64742-48-9	Synthetic isoparaffinic hydrocarbon	>10,000	>3,160	>20.0

SECTION 12. Ecological Information

ECOLOGICAL INFORMATION: No Information

SECTION 13. Disposal Considerations

For more guidance and information contact our Waste Services Division at (262) 658-4000.

Always dispose of any waste in accordance with all local, state, and federal regulations.

DISPOSAL METHOD: Dispose of waste in accordance with all local, state and federal regulations.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASE OR SPILLED: Wear appropriate personal protective equipment. (See Exposure Controls / Personal Protection Section.)Wear a self-contained breathing apparatus and appropriate personal protective equipment. (See Exposure Controls/Personal Protection Section)Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Do not touch or walk through spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Ventilate spill area. Stay upwind of spill. A vapor supressing foam may be used to reduce vapors. Collect spilled materials for disposal. Use only non-combustible material for clean-up. Remove from surface by skimming or with suitable absorbents. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

SECTION 14. Transport Information

DOT Proper Shipping Name:	Petroleum distillates, n.o.s. (naphtha solvent) - Combustible Liquid	**Packing Group:**	III
DOT Hazard Class:	No Information	**Hazard SubClass:**	No Information
DOT UN/NA Number:	UN1268	**Resp. Guide Page:**	128

SECTION 15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following materials are non-hazardous, but are among the top five components in this product.

No NJ Right-To-Know components exist in this product.

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product are at or greater than 3%.

No PA Right-To-Know components exist in this product.

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No Proposition 65 Carcinogens exist in this product.

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: No Information

SECTION 16. Other Information

Revision Date: 10/9/2014 **Supersedes Date:** New SDS

Datasheet produced by: EH&S - Regulatory Department

HMIS Ratings:

Health:	1	**Flammability:**	2	**Reactivity:**	0	**Personal Protection:**	X

Volatile Organic Compounds, % 100

DISCLAIMER: THE VOLATILE ORGANIC COMPOUND (VOC) CONTENT REPORTED HEREIN, IF ANY, IS BASED ON A MATERIAL VOC CALCULATION. NOTE THAT SEVERAL METHODS ARE USED FOR CALCULATING VOC CONTENT AND THAT STANDARDS/ REQUIREMENTS REGARDING VOC CONTENT VARY BY LOCATION/JURISDICTION. ACCORDINGLY, EMCO MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, REGARDING THIS MATERIAL'S COMPLIANCE WITH VOC STANDARDS/ REQUIREMENTS APPLICABLE IN LOCATIONS/JURISDICTIONS WHERE THIS MATERIAL MAY BE SOLD OR USED.

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS07

GHS08

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information on this SDS was obtained from sources which we believe to be reliable. However, the information provided is without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information and recommendations are offered for the user's consideration and examination and should be used to make an independent determination of the methods to safeguard workers and the environment. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For these reasons we do not assume responsibility and expressly disclaim any liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS may not be applicable. It is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name:	Liquid Oxygen	**Trade Name:**	Liquid Oxygen, Medipure®
Product Use:	Many.		
Chemical Name:	Oxygen	**Synonym:**	Oxygen, cryogenic liquid.
Chemical Formula:	O_2	**Chemical Family:**	Not applicable.
Telephone:	**Emergencies:** * 1-800-363-0042	**Supplier /Manufacture:**	Praxair Canada Inc. 1 City Centre Drive Suite 1200 Mississauga, ON L5B 1M2
		Phone:	905-803-1600
		Fax:	905-803-1682

**Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier or Praxair sales representative.*

2. Hazards Identification

Emergency Overview

WARNING! **Extremely cold, oxidizing liquid and gas under pressure. Vigorously accelerates combustion. Combustibles in contact with liquid may explode on ignition or impact. May cause dizziness and drowsiness. Self-contained breathing apparatus and protective clothing may be required by rescue workers. Can cause sever frostbite.**

ROUTES OF EXPOSURE: Inhalation. Swallowing. Skin contact. Eye contact.

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION: Breathing 80% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular twitching, unconsciousness and convulsions. Breathing of oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.

SKIN CONTACT: No harm expected from vapour. Liquid may cause frostbite.

SKIN ABSORPTION: No harm expected from vapour. Liquid may cause severe frostbite.

SWALLOWING:

This product is a gas at normal temperature and pressure. An unlikely route of exposure, but frostbite of the lips and mouth may result from contact with the liquid.

EYE CONTACT:

No harm expected from vapour. Liquid may cause frostbite.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:

No evidence of adverse effects from available information.

OTHER EFFECTS OF OVEREXPOSURE:

See "Notes to Physician", in the "First Aid" section.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

See "Notes to Physician", in the "First Aid" section.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

None currently known.

CARCINOGENICITY:

Not listed as carcinogen by OSHA, NTP or IARC.

3. Composition and Information on Ingredients

COMPONENTS	CAS NUMBER	CONCENTRATION % by Mole
Oxygen	7782-44-7	100

4. First Aid Measures

INHALATION:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention. Keep patient warm and at rest..

SKIN CONTACT:

Immediately warm frostbite area with warm water (not to exceed 40 C). In case of massive exposure, remove clothing and shoes while showering with warm water. Get medical attention immediately.

SWALLOWING:

This product is a gas at normal temperature and pressure.

EYE CONTACT:

See a physician, preferably an ophthalmologist, immediately.

NOTES TO PHYSICIAN:

Supportive treatment should include immediate sedation, anti-convulsive therapy if needed, and rest. Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increase the susceptibility to toxicity from oxygen at high concentrations or pressures. Animal studies also indicate that vitamin E deficiency may increase susceptibility to oxygen toxicity. Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the eustachian tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce "vacuum-type" headache. Newborn premature infants exposed to high oxygen concentrations may suffer delayed retinal damage, which can progress, to retinal detachment and blindness (retrolental fibroplasia). Retinal damage can also occur in adults exposed to 100% oxygen under greater that atmospheric pressure, particularly in individuals whose retinal circulation has been previously compromised.

All individuals exposed for only periods to oxygen at high pressure and all that exhibit overt oxygen toxicity should have ophthalmologic examination.

5. Fire Fighting Measures

FLAMMABLE : No. **IF YES, UNDER WHAT CONDITIONS?** Vigorously accelerates combustion.

EXTINGUISHING MEDIA:

Vigorously accelerates combustion. Use media appropriate for surrounding fire. Water (i.e., safety shower) is the preferred extinguishing media for clothing fires.

PRODUCTS OF COMBUSTION:

None.

PROTECTION OF FIREFIGHTERS:

WARNING! Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Do not dischage water sprays into liquid.

SPECIFIC PHYSICAL AND CHEMICAL HAZARDS:

Oxidizing agent, vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion. Closed container may rupture due to heat of fire. Liquid will freeze water rapidly. Containers are provided with pressure relief devices that are designed to vent the contents when they are exposed to elevated temperatures. Do not walk on or roll equipment over spill as this could cause explosion. Liquid causes cryogenic " burns" (frostbite-like injury). Smoking, flames, and electric sparks in the presence of enriched oxygen atmospheres are potential explosion hazards.

SENSITIVITY TO IMPACT:

Avoid impact against container.

SENSITIVITY TO STATIC DISCHARGE:

Not applicable.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:

Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.

FLAMMABLE LIMITS IN AIR, % by volume:

LOWER: Not applicable. **UPPER:** Not applicable.

FLASH POINT: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Personal Precautions:

WARNING! Extremely cold oxidizing liquid and gas. Immediately evacuate all personnel from danger area. Allow spilled liquid to evaporate. Do not walk on or roll equipment over spill as this could cause explosion. Contact with flammable materials may cause fire or explosion. Shut off leak if without risk. Ventilate area of leak or move leaking container to ventilated area.

Environmental Precautions:

Keep personnel away. Liquid should be dumped into an outdoor pit filled with clean, grease-free and oil-free gravel, where it will safely evaporate. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING:

Use piping and equipment adequately designed to withstand pressures to be encountered. Ground all equipment. Store and use with adequate ventilation at all times. Use only in a closed system.

PRECAUTIONS TO BE TAKEN IN STORAGE:

Extremely cold oxidizing liquid and gas. Vigorously accelerates combustion. Contact with liquid or cold gas causes severe frostbite. Combustibles with liquid air may explode on ignition or contact. Keep oil, grease, and combustibles away. Use only with equipment conditioned for oxygen service. Use piping and equipment adequately designed to withstand the pressures and temperatures to be encountered. Do not get liquid in eyes, on skin or clothing. Store and use with adequate ventilation. Close valve when not in use and when empty. Clothing exposed to liquid air should be removed immediately and aired out to reduce the likelihood of an engulfing fire. Ignition sources, such as static electricity generated in clothing by walking, etc., should be prevented. Protect container against physical damage. Isolate from combustible gas installations and combustible materials by adequate distance or by gas-tight, fire resistive barriers. For additional information refer to CGA pamphlet P-1 (See section 16 for more details).

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE:

Extremely cold oxidizing liquid and gas. Do not get liquid or vapours in eyes, on skin, or clothing. Safety showers and eyewash fountains should be immediately available. Use only in a closed system. Use piping and equipment adequately designed to withstand pressures to be encountered. . Liquid can solidify air. ***Vigorously accelerates combustion.*** Keep oil, grease, and combustibles away. ***Store and use with adequate ventilation at all times.*** Close valve after each use; keep closed even when empty. Air will condense on exposed liquid or cold-gas surfaces, such as vaporizers and piping. Nitrogen, having a lower boiling point than oxygen, will evaporate first leaving an oxygen-enriched condensation on the surface. ***Prevent reverse flow.*** Reverse flow into cylinder may cause rupture. ***When returning cylinder to supplier,*** be sure valve is closed. ***Never work on a pressurized system.*** If there is a leak, close the cylinder valve. Vent the system down in a safe and environmentally sound manner in compliance with all federal, provincial, and local laws; then repair the leak. ***Never place a compressed gas cylinder where it may become part of an electrical circuit.***

RECOMMENDED PUBLICATIONS:

Additional information on storage, handling, and use of this product is provided in **NFPA 55: *Standard for the Storage, Use, and Handling of Compressed and Liquefied Gases in Portable Cylinders***, published by the National Fire Protection Association.

See also Praxair publication P-14-153, *Guidelines for Handling Gas Cylinders and Containers*. Obtain from your local supplier.

8. Exposure Controls/Personal Protection

INGREDIENTS	CAS NUMBER	LD_{50} (Species & Routes)	LC_{50} (Rat, 4 hrs.)	Exposure Limits
Oxygen	7782-44-7	Not applicable.	Not applicable.	None.

IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH):

VENTILATION/ENGINEERING CONTROLS:

LOCAL EXHAUST: Use a local exhaust system, if necessary, to prevent increased oxygen concentration in the worker's breathing zone.

MECHANICAL (General): General exhaust ventilation may be acceptable if it can maintain a supply of air that is not too rich in oxygen in the worker's breathing zone.

SPECIAL: Not applicable.

OTHER: Not applicable.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION: None required under normal use. However, air-supplied respirators are required while working in confined spaces with this product. Selection should be based on the current CSA standard Z94.4 “Selection, Care, and Use of Respirators”. Respirators should be approved by NIOSH and MSHA.

SKIN PROTECTION: Loose-fitting cryogenic gloves. Gloves free of oil and grease.

EYE PROTECTION: Wear safety glasses when handling cylinders.

Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Protective clothing where needed. Cuffless trousers should be worn outside the shoes. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines.

9. Physical and Chemical Properties

PHYSICAL STATE:	Liquid.	**FREEZING POINT:**	-218.78°C (-361.8°F)	**pH:**	Not applicable.
BOILING POINT	-182.96°C (-297.3°F)	**VAPOUR PRESSURE**	Not applicable.	**MOLECULAR WEIGHT:**	31.9988 g/mole
SPECIFIC GRAVITY: LIQUID (Water = 1)	1.14 @ -183 C	**SOLUBILITY IN WATER,**	Negligible.		
SPECIFIC GRAVITY: VAPOUR (air = 1)	1.105 g/ml @ 21.1 C	**EVAPORATION RATE** (Butyl Acetate=1):	High.	**COEFFICIENT OF WATER/OIL DISTRIBUTION:**	Not applicable.
VAPOUR DENSITY:	0.0013 g/ml @ 21.1 C	**% VOLATILES BY VOLUME:**	100% (v/v).	**ODOUR THRESHOLD:**	Ordourless.
APPEARANCE & ODOUR:	Light blue cryogenic liquid.	Odourless.			

10. Stability and Reactivity

STABILITY:	The product is stable.
CONDITIONS OF CHEMICAL INSTABILITY:	Elevated temperatures. Oxygen reacts with many materials.
INCOMPATIBILITY (materials to avoid):	Flammable materials, hydrocarbons such as oils and grease, ashphalt, ethers, alcohols, acids and aldehydes.
HAZARDOUS DECOMPOSITION PRODUCTS:	None.
HAZARDOUS POLYMERIZATION:	Will not occur.
CONDITIONS TO AVOID:	None known.
CONDITIONS OF REACTIVITY:	None known.

11. Toxicological Information

ACUTE DOSE EFFECTS: See section 2.

STUDY RESULTS:

At atmospheric concentration and pressure, oxygen poses no toxicity hazards. At high concentrations, newborn premature infants may suffer delayed retinal damage (retrolental fibroplasia) that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hours) or at greater than atmospheric pressure, particularly in individuals whose retinal circulation has been previously compromised. All individuals exposed for long periods to oxygen at high pressure and all who exhibit overt oxygen toxicity should have ophthalmologic examinations.

At two or more atmospheres, toxicity to the Central Nervous System (CNS) occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes, and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours; at six atmospheres, in only a few minutes.

Patients with chronic obstructive pulmonary disease retain carbon dioxide abnormally. If oxygen is administered, raising their blood oxygen concentration, their breathing becomes depressed and retained carbon dioxide rises to a dangerous level.

Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increases the susceptibility to toxicity from oxygen at high concentrations or pressures. Animal studies also indicate that vitamin E deficiency may increase susceptibility to oxygen toxicity.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the eustachians tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce vacuum-type headache.

12. Ecological Information

No adverse ecological effects expected. This product does not contain any Class I or Class II ozone-depleting chemicals. The components of this mixture are not listed as marine pollutants by TDG Regulations.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

TDG/IMO SHIPPING NAME: Oxygen, Refrigerated Liquid

HAZARD CLASS: CLASS 2.2(5.1): Non-flammable, non-corrosive, non-toxic gas and oxidizing material	**IDENTIFICATION #:** UN1073	**PRODUCT REPORTABLE QUANTITY(PRQ):** Any accidental release in a quantity that could pose a danger to public safety or any sustained release of 10 minutes or more.

SHIPPING LABEL(s): Special Oxidizer with Class 2 at bottom.

PLACARD (When Required): Special Oxidizer with Class 2 at bottom.

SPECIAL SHIPPING INFORMATION:

Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, non-ventilated compartment of a vehicle can present serious safety hazards.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, provincial, and local regulations. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS (Canada): CLASS A: Compressed gas.
CLASS C: Oxidizing material.

This product is on the DSL list.

International Regulations:

EINECS: Not available.

DSCL (EEC): R8- Contact with combustible material may cause fire.

International Lists: No products were found.

16. Other Information

MIXTURES:

When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

HAZARD RATING SYSTEM:

HMIS RATINGS:

HEALTH	**3**
FLAMMABILITY	**0**
PHYSICAL HAZARD	**2**

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:	CGA-440 (cryogenic liquid withdrawl)
PIN-INDEXED YOKE:	Not applicable.
ULTRA-HIGH-INTEGRITY CONNECTION:	Not applicable.

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlets V-1 and V-7 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information about this product can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, Fax (703) 961-1831, website: www.cganet.com.

AV-1	Safe Handling and Storage of Compressed Gases
AV-8	Characteristics and Safe Handling of Cryogenic Liquid and Gaseous Oxygen
G-4	Oxygen
G-4.1	Cleaning Equipment for Oxygen Service
G-4.3	Commodity Specification for Gaseous and Liquid Oxygen
P-1	Safe Handling of Compressed Gases in Containers
P-2	Characteristics and Safe Handling of Medical Gases
P-12	Safe Handling of Cryogenic Liquids
P-14	Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres
SB-8	Use of Oxy-Fuel Gas Welding and Cutting Apparatus
V-1	Compressed Gas Cylinder Valve Inlet and Outlet Connections

V-7 Standard Method of Determining Cylinder Valve Outlet Connections for Industrial Gas Mixtures
--- Handbook of Compressed Gases, Fifth Edition

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

PREPARATION INFORMATION:

DATE: **October 15, 2016**
DEPARTMENT: **Safety and Environmental Services**
TELEPHONE: **905-803-1600**

The opinions expressed herein are those of qualified experts within Praxair Canada Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair Canada Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair Canada Inc. requests the users of this product to study this Material Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety nformation, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

Praxair Canada Inc.
1 City Centre Drive
Suite 1200
Mississauga, ON L5B 1M2

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: SPCUSE 1-GL 2PK 9100 THINNER

Revision Date: 3/13/2018

Product Identifier: 160402

Supercedes Date: 1/23/2017

Product Use/Class: Paint Thinner/ Thinners

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Rust-Oleum Consumer Brands Canada (RCBC)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Warning

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.

Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.

GHS LABEL PRECAUTIONARY STATEMENTS

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370+P378	In case of fire: Use alcohol film forming foam, carbon dioxide, dry chemical, dry sand to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local, regional and national regulations.
P201	Obtain special instructions before use.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P321	For specific treatment see label
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

GHS SDS PRECAUTIONARY STATEMENTS

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

3. Composition / Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.%	GHS Symbols	GHS Statements
Xylenes (o-, m-, p- isomers)	1330-20-7	54	GHS02-GHS07	H226-315-319-332
Propylene glycol monomethyl ether	107-98-2	31	GHS02-GHS07	H226-332-336
Ethylbenzene	100-41-4	14	GHS02-GHS07-GHS08	H225-304-332-351-373
Toluene	108-88-3	0.7	GHS02-GHS07-GHS08	H225-304-315-332-336-361-373

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Isolate from heat, electrical equipment, sparks and open flame. Vapors can travel to a source of ignition and flash back. Vapors may form explosive mixtures with air. No unusual fire or explosion hazards noted. Closed containers may explode when exposed to extreme heat due to buildup of steam. Keep containers tightly closed.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): No Information

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Eliminate all ignition sources; use explosion-proof equipment. Place material in a container and dispose of according to local, provincial, state and federal regulations. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Remove contaminated clothing and launder before reuse. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Keep away from heat, sparks, flame and sources of ignition. Keep container closed when not in use. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Avoid excess heat. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class II combustible liquids.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Xylenes (o-, m-, p- isomers)	1330-20-7	55.0	100 ppm	150 ppm	100 ppm	N.E.
Propylene glycol monomethyl ether	107-98-2	35.0	50 ppm	100 ppm	N.E.	N.E.
Ethylbenzene	100-41-4	15.0	20 ppm	N.E.	100 ppm	N.E.
Toluene	108-88-3	1.0	20 ppm	N.E.	200 ppm	300 ppm

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.886	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Negligible	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	119 - 137	**Explosive Limits, vol%:**	1.2 - 10.9
Flammability:	Supports Combustion	**Flash Point, °C:**	27
Evaporation Rate:	Slower than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid all possible sources of ignition. Avoid temperatures above 120°F (49°C).

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May be absorbed through the skin in harmful amounts. Prolonged or repeated skin contact may cause irritation. Causes skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. May cause headaches and dizziness. High vapor concentrations are irritating to the eyes, nose, throat and lungs. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
107-98-2	Propylene glycol monomethyl ether	5000 mg/kg Rat	13000 mg/kg Rabbit	25
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
108-88-3	Toluene	2600 mg/kg Rat	12000 mg/kg Rabbit	12.5 mg/L Rat

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems. Do not incinerate closed containers.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Paint	Paint	Paint Products in Limited Quantities
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

No Information

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4
Toluene	108-88-3

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

Health:	2	**Flammability:**	3	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	3	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 884

SDS REVISION DATE: 3/13/2018

REASON FOR REVISION:
Regulatory Formula Source Changed
Substance Chemical Name Changed
Substance and/or Product Properties Changed in Section(s):
01 - Identification
02 - Hazard Identification
15 - Regulatory Information
Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The manufacturer believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. The manufacturer makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

There was a problem getting the SDS for -

Product Name: McKay Parts Dip, Carburetor Cold Dip
CAS Number:
Manufacturer: AIROSOL COMPANY, INC.
SDS Date: 6/1/2015

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

Product Number 803

Issuing Date No data available **Revision Date** 05/28/15 **Revision Number** 2

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

Product identifier

Product Name **Sunnyside Low Odor Mineral Spirits**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Paint Thinner (*Note Future CARB requirements: 2013 - 3 wt%)

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Sunnyside Corporation
Supplier Address 225 Carpenter Avenue
Wheeling
IL
60090
US
Supplier Phone Number Phone:8003238611
Fax:8475419043

Supplier Email sscontact@sunnysidecorp.com
Emergency telephone number Chem Trec 8004249300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Aspiration toxicity	Category 1
Flammable liquids	Category 3

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Warning**

Hazard Statements
May be fatal if swallowed and enters airways
Flammable liquid and vapor

Appearance Clear **Physical State** Liquid **Odor** Petroleum distillates

Precautionary Statements - Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

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

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

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

Other information

May be harmful in contact with skin
PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Mineral Spirits	64742-88-7	60 - 100	

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

4. FIRST AID MEASURES

First aid measures

General Advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin Contact In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

Ingestion Do NOT induce vomiting. Aspiration hazard if swallowed - can enter lungs and cause damage. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical, CO2, water spray or regular foam. Use water spray or fog; do not use straight streams.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
Some may be transported hot.

Uniform Fire Code Combustible Liquid: II

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge Yes.

Protective equipment and precautions for firefighters
Move containers from fire area if you can do it without risk.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. See section 8 for more information. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
Other Information	Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental Precautions

Environmental Precautions	Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for Containment	A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Methods for cleaning up	Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Handle in accordance with good industrial hygiene and safety practice. Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.
Incompatible Products	Strong oxidizing agents like liquid chlorine or concentrated oxygen.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tight sealing safety goggles.

Skin and Body Protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves. Antistatic boots.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Liquid		
Appearance	Clear	**Odor**	Petroleum distillates
Color	Colorless	**Odor Threshold**	No information available

Property	Values	Remarks/ Method
pH	N/A	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	149 °C / 300 °F	None known
Flash Point	42 C / 108 F	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	N/A	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	0.9%	
Vapor pressure	2mmHg@20C	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	No data available	None known
Solubility in other solvents	Insoluble in water	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	445°F	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Explosive properties	No data available
Oxidizing Properties	No data available

Other Information

Softening Point	No data available
VOC Content (%)	100%
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract.
Eye Contact	Specific test data for the substance or mixture is not available. May cause irritation.
Skin Contact	Repeated exposure may cause skin dryness or cracking.
Ingestion	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Mineral Spirits	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Asthma-like and/ or skin allergy-like symptoms.

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

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity No known effect based on information supplied. Aspiration may cause pulmonary edema and pneumonitis.

Target Organ Effects Respiratory system.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (dermal)
3,000.00 mg/kg (ATE)

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods	This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).
Contaminated Packaging	Dispose of contents/containers in accordance with local regulations.
US EPA Waste Number	D001
California Hazardous Waste Codes	213

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	NOT REGULATED (If shipped in NON BULK packaging by ground transport) NON-REGULATED
Hazard Class	N/A
Emergency Response Guide Number	128

TDG

UN-No.	UN1268
Proper Shipping Name	PETROLEUM DISTILLATES, N.O.S.
Hazard Class	3
Packing Group	III

MEX

UN-No.	UN1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III
Description	UN1268 Petroleum distillates, n.o.s.,3,III

ICAO

UN-No.	UN1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III
Description	1268,Petroleum distillates, n.o.s.,3,PG III

IATA

UN-No.	1268
Proper Shipping Name	PETROLEUM DISTILLATES, N.O.S.
Hazard Class	3
Packing Group	III
Description	UN1268,Petroleum distillates, n.o.s.,3,PG III

IMDG/IMO

UN-No.	1268

Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III
EmS No.	F-E, S-E
Description	1268, Petroleum distillates, n.o.s.,3,PG III, FP 42C

RID

UN-No.	1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III
Classification code	F1
Description	1268 Petroleum distillates, n.o.s.,3,III

ADR

UN-No.	UN1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III
Classification code	F1
Description	UN1268 Petroleum distillates, n.o.s.,3,III

ADN

UN-No.	UN1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III
Classification code	F1
Description	UN1268 Petroleum distillates, n.o.s.,3,III
Hazard Labels	3
Limited Quantity	LQ7
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product may contain trace amounts of chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm, and maybe subject to the requirements of California Proposition 65.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Mineral Spirits	X				

International Regulations

Canada
WHMIS Hazard Class
B3 - Combustible liquid
D2B - Toxic materials

16. OTHER INFORMATION

NFPA	**Health Hazards**	2	**Flammability**	2	**Instability** 0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazards**	2	**Flammability**	2	**Physical Hazard** 0	**Personal Protection**	X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date 17-Sep-2014
Revision Note No information available

Disclaimer

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

End of Safety Data Sheet

There was a problem getting the SDS for -

Product Name: PhosVer 3 Phosphate Reagent
CAS Number:
Manufacturer: Hach Company
SDS Date: 4/11/2014

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Christy's Multi Purpose Low VOC Plastic Pipe Cement
CAS Number:
Manufacturer: T. CHRISTY ENTERPRISES INC
SDS Date: 5/1/2016

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

MATERIAL SAFETY DATA SHEET
Polyken 1027 Primer

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Polyken 1027 Primer
Product Description	Pipe Corrosion Protection
Manufacturer/Supplier	Berry Plastics Corporation, Tapes and Coatings Division
Address	2320 Bowling Green Road
	Franklin, Kentucky
Phone Number	(270) 586-3261 (Monday – Friday 8:00 am to 5:00 pm)
Chemtrec Number	(800) 424-9300
Revision Date:	April 19, 2011
MSDS Date:	November 15, 2007

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards
R11 Highly flammable.
R36/38 Irritating to eyes and skin.
R45 May cause cancer.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

Routes of Entry
Absorption - Eye contact - Ingestion - Inhalation - Skin contact

Carcinogenic Status
See Section 11.

Target Organs
Central Nervous System - Skin - Eye - Liver - Kidney - Respiratory System - Reproductive - Heart

Health Effects - Eyes
Liquid, mist or vapor may cause pain, transient irritation and superficial corneal effects.

Health Effects - Skin
Material may cause irritation. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis. Material can be absorbed through the skin and cause effects similar to those resulting from inhalation.

Health Effects - Ingestion
Swallowing may have the following effects:
- abdominal pain - vomiting - central nervous system depression - kidney damage - liver damage - adverse heart effects - testis damage - aspiration into the lungs may occur during ingestion or vomiting causing lung damage
A large dose may have the following effects:
- systemic effects similar to those resulting from inhalation

2. HAZARDS IDENTIFICATION

Health Effects - Inhalation
Exposure to vapor may have the following effects:
- irritation of nose, throat and respiratory tract - central nervous system depression - dizziness - drowsiness - headache - mental confusion
Exposure to vapor at high concentrations may have the following effects:
- nerve damage leading to numbness and muscle weakness - lung damage - liver damage - kidney damage - testis damage – adverse reproductive effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#/Codes	Concentration	R Phrases	Classification
Aliphatic Petroleum Distillate	64742-89-8 265-192-2	60 - 80%	R45, R65	T, Xn, Carc Cat. 2
Toluene	108-88-3 203-625-9	5 - 10%	R11, R38, R48/20, R63, R65, R67	F, Xn, Xi, Repro Cat 3
Carbon Black	1333-86-4 215-609-9	<5%	None	None
Polymers and Resins	N.A.	<25%	None	None

4. FIRST AID MEASURES

Eyes
Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin
Immediately flood the skin with large quantities of water for at least 15 minutes, preferably under a shower. Remove contaminated clothing and continue washing. Contaminated clothing should be washed or dry-cleaned before re-use. Obtain medical attention if blistering occurs or redness persists.

Ingestion
Do not induce vomiting, unless directed to do so by a physician. Have victim drink 1-3 glasses of water to dilute stomach contents. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Inhalation
Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Advice to Physicians
Treat symptomatically.

5. FIRE- FIGHTING MEASURES

Extinguishing Media
Use foam, dry chemical or carbon dioxide. Be aware of the possibility of re-ignition. Keep containers and surroundings cool with water spray.

Unusual Fire and Explosion Hazards
Vapors can travel a considerable distance to a source of ignition and flashback. Flashback can occur if air temperature exceeds flash point. Be aware of possibility of re-ignition.

Protective Equipment for Fire-Fighting
Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Wear appropriate protective clothing. Eliminate all sources of ignition. Use non-sparking scoops for flammable materials. Vapors can accumulate in low areas. Consider need for evacuation. Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation.

7. HANDLING AND STORAGE

Use in well ventilated area. Use local exhaust ventilation. Avoid inhaling vapor. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.

Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - out of direct sunlight – away form sources of ignition(heat, sparks, flames, pilot lights) - away from incompatible materials (see Section 10)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards
Exposure limits are listed below, if they exist.
Toluene
ACGIH: TLV 20ppm (75 mg/m^3) 8h TWA
OSHA: PEL 200ppm 8h TWA. 300 ppm CEILING, 500 ppm 10-min peak per shift.
Aliphatic Petroleum Distillate
ACGIH: TLV 300ppm (1370 mg/m^3) 8h TWA (as VM&P naphtha 8032-32-4)
OSHA: PEL 500ppm (2000 mg/m^3) 8h TWA. (as Petroleum distillates)
Carbon Black
ACGIH: TLV 3.5 mg/m^3 8h TWA
OSHA: PEL 3.5 mg/m^3 8h TWA
Polymers and Resins
None assigned.
Engineering Control Measures
Use engineering methods to prevent or control exposure. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Respiratory Protection
Wear respiratory protection if there is a risk of exposure to high vapor concentrations, aerosols or if applied to hot surfaces. A NIOSH approved full face respirator may be worn. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Hand Protection
Butyl gloves are recommended.

Eye Protection
Chemical goggles or safety glasses with side shields. Consider the use of a face shield if splashing is possible.

Body Protection
If there is danger of splashing, wear: - overall or apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Black
Odor	Light Hydrocarbon
pH	No data

9. PHYSICAL AND CHEMICAL PROPERTIES

Density (lbs/gal)	No data
Boiling Range/Point (°C/F)	No data
Melting Point (°C/F)	Not applicable
Flash Point (°F)	Est. 40 – 50 °F
Vapor Pressure	No data
Evaporation Rate	Slower than ether
Solubility in Water	Negligible
Vapor Density	Heavier than air.
VOC	78.9%

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Heat, sparks, flames - High temperatures - sources of ignition - contact with incompatible materials

Materials to Avoid
Strong oxidizing agents - acids - bases - reducing agents - halogens - hydrogen

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
Oxides of carbon - hydrocarbons – phenolic vapors – aldehydes -smoke -fumes

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Toluene: Oral LD50 rat >2,000 mg/kg
Dermal LD50 rabbit >3,000 mg/kg
Inhalation LC50(rat) 28.1 mg/l 4hr
Carbon Black: LD50 (rat) >8000 mg/kg

Specific Target Organ Systemic Toxicity (single and repeat)
Toluene: Adverse effects to central nervous system, liver, kidney and heart have been observed in laboratory animal studies.

Serious Eye damage/Eye Irritation
Toluene: Causes irritation to rabbit eyes.

Skin Corrosion/Irritation
Toluene: Causes moderate irritation to rabbit skin.

Respiratory or Skin Sensitization
Carbon Black: No evidence of sensitization was found in animals. No cases of sensitization in humans have been reported.
Toluene: Did not cause sensitization in laboratory animals.

Carcinogenicity
Carbon Black is classified by IARC: Group 2B possible human carcinogen. When encapsulated in the liquid matrix the risk of exposure is reduced.
Aliphatic Petroleum Distillate (as VM&P naphtha 8032-32-4): ACGIH Carcinogen Category: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Toluene: No evidence of carcinogenic activity in laboratory animal studies.

Germ Cell Mutagenicity
Carbon Black: Not considered to be mutagenic based on in vivo studies.
Toluene: Negative Ames Test with and without metabolic activation.

11. TOXICOLOGICAL INFORMATION

Toxicity to Reproduction
Carbon Black: No reproductive effects have been reported in long term animal studies.
Toluene: In laboratory studies, birth defects, increased fetal lethality and delayed fetal development have been observed in offspring of female animals exposed during pregnancy. Toluene has been demonstrated to be embryofetotoxic and teratogenic in laboratory animals.

12. ECOLOGICAL INFORMATION

Mobility
Carbon Black: Mobility: Not soluble in water. Not expected to migrate. Expected to remain on soil surface.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
Carbon Black: Potential bioaccumulation is not expected because of physiochemical properties of the substance.

Ecotoxicity
Toluene: LC50 Fathead minnow (Pimephales promelas) 34.27 mg/l 96hr
EC50 Daphnia magna 11.5 mg/l 48 h
Carbon Black: LC50 Zebra fish >1000mg/l 96hr
EC50 Water flea >5600 mg/l 24hr
EC50 Algae >10,000 mg/l 72hr

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near to the container. Use non-sparking tools. Do not incinerate closed containers. Empty containers may contain hazardous residues. Dispose of containers with care.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Coating Solution (3) UN1139, ll
UN Proper Shipping Name	Coating Solution
UN Class	(3)
UN Number	UN1139
UN Packaging Group	ll
Classification for AIR Transportation (IATA)	Consult current IATA Regulations prior to shipping by air.

15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

EU Hazard Symbol and Indication of Danger
T- Toxic
F- Flammable

R phrases
R11 Highly flammable.
R36/38 Irritating to eyes and skin.
R45 May cause cancer.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

15. REGULATORY INFORMATION

R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness

S phrases

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell, seek medical advice immediately.
S53 Avoid exposure – obtain special instructions before use.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing

All ingredients have been verified for inclusion on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing

All ingredients in this product have not been verified for inclusion on the European Inventory of Existing Commercial Chemical Substances (EINECS).

DSL (Canadian) Listing

All ingredients in this product have not been verified for inclusion on the Domestic Substance List (DSL).

California Proposition 65

This product contains the following materials which the State of California has found to cause cancer, birth defects or other reproductive harm: Toluene (108-88-3) - Ethylbenzene (100-41-4) - Formaldehyde (50-00-0) trace – Benzene (71-43-2)

WHMIS Classification

B2.D2A

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

SARA Title III Sect. 311/312 Categorization

Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard

SARA Title III Sect. 313

This product contains a chemical that is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: Toluene (108-88-3)

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Flammability - 4
NFPA Code for Health - 2
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards – None

HMIS Ratings

HMIS Code for Flammability - 4
HMIS Code for Health - 2*
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration

16. OTHER INFORMATION

TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety

For further Information email: msdstechnical@berryplastics.com

Prepared By: EnviroNet LLC.

The information and recommendations presented in this MSDS are based on sources believed to be accurate Berry Plastics Corporation, Tapes and Coatings Division assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the **material** for their particular purposes. In particular, we make NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use **or disposal** of the material is in accordance with applicable Federal, State, and local laws and regulations.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

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

· **Product Identifier**
· **Product Name: Gram Decolorizer**
(Gram Stain Set w/ Stabilized Iodine)
· **Catalog Number:** 212539

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone.: (410) 771 - 0100 or (800) 638 – 8663
· **Information Department:** Technical Service
· **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.

2 Composition/information on ingredients

· **Chemical characterization: Mixture**
· **Description:** Mixture consisting of the following components.

· **Dangerous Components:**		
67-63-0	isopropanol	75.0%
67-64-1	acetone	25.0%

3 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**


Xi; Irritant

R36: Irritating to eyes.


F; Highly flammable

R11: Highly flammable.
· **Information concerning particular hazards for human and environment:** Has a narcotizing effect.
· **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with regulations on hazardous materials.

· **Code letter and hazard designation of product:**
Xi Irritant
F Highly flammable

· **Hazard-determining components of labelling:**
isopropanol
acetone

· **Risk phrases:**
11 Highly flammable.

(Contd. on page 2)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 1)

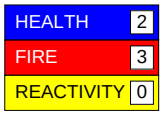
36 Irritating to eyes.

· **Safety phrases:**
7/9 Keep container tightly closed and in a well-ventilated place.
16 Keep away from sources of ignition - No smoking.
24/25 Avoid contact with skin and eyes.
60 This material and its container must be disposed of as hazardous waste.

· **NFPA ratings (scale 0-4)**

Health = 2
Fire = 3
Reactivity = 0

· **HMIS ratings (scale 0-4)**



Health = 2
Fire = 3
Reactivity = 0

4 First aid measures

· **General information** No special measures required.
· **After inhalation** Supply fresh air; consult doctor in case of complaints.
· **After skin contact** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
· **After swallowing** Call a doctor immediately.
· **Information for doctor** Show this product label or this MSDS.

5 Firefighting measures

· **Suitable extinguishing agents**
CO2, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** Wipe up with damp sponge or mop.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

(Contd. on page 3)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 2)

7 Handling and storage

· **Handling**
· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
· **Storage**
· **Requirements to be met by storerooms and receptacles:** 15 - 30 ℃
· **Information about storage in one common storage facility:**
Do not store together with oxidizing and acidic materials.
Do not store with chloroform.
Do not store with halogens.
· **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see Section 7.

· **Components with limit values that require monitoring at the workplace:**	
67-63-0 isopropanol	
PEL	980 mg/m³, 400 ppm
REL	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
TLV	Short-term value: 984 mg/m³, 400 ppm Long-term value: 492 mg/m³, 200 ppm
67-64-1 acetone	
PEL	2400 mg/m³, 1000 ppm
REL	590 mg/m³, 250 ppm
TLV	Short-term value: 1782 mg/m³, 750 ppm Long-term value: 1188 mg/m³, 500 ppm BEI

· **Additional information:** The lists that were valid during the creation were used as basis.
· **Personal Protective Equipment**
· **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.
· **Breathing equipment:**
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
Use suitable respiratory protective device in case of insufficient ventilation.
· **Protection of hands:**

Chemical resistant gloves (i.e. nitrile, or equivalent).

· **Eye protection:** Safety glasses

(Contd. on page 4)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 3)

· **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	Colorless Clear
· **Odor:**	Alcohol-like
· **Change in condition**	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	56.1 - 82°C (133 - 180 °F)
· **Flash point:**	-6.7°C (20 °F)
· **Ignition temperature:**	425.0°C (797 °F)
· **Auto igniting:**	Product is not self igniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	3.5 Vol %
Upper:	18.0 Vol %
· **Vapor pressure at 20°C (68 °F):**	186.0 hPa (140 mm Hg)
· **Density at 20°C (68 °F):**	2.0 - 2.1 g/cm3
· **Solubility in / Miscibility with**	
Water:	Soluble
· **Solvent content:**	
Organic solvents:	100.0 %

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Incompatible materials:** Incompatible materials: strong acids and oxidizers.
· **Hazardous decomposition products:** Carbon monoxide (CO) and carbon dioxide (CO2)

11 Toxicological information

· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritating effect.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:

(Contd. on page 5)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 4)

Irritant

12 Ecological information

· **Acquatic toxicity:** *This material is not expected to be toxic to aquatic life.*
· **Additional ecological information:**
· **General notes:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed of with solid waste.
Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.
RCRA hazardous waste - RCRA # D001 (unused), F003 (spent).

· **Uncleaned packagings:**
· **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

· **DOT regulations:**

· **Hazard class:** 9
· **Identification number:** UN3316
· **Packing group:** II
· **Proper shipping name:** CHEMICAL KITS
· **Label** 9

· **Land transport ADR/RID (cross-border)**

· **ADR/RID class:** 9 (M11) Miscellaneous dangerous substances and articles
· **Danger code (Kemler):** 33
· **UN-Number:** 3316
· **Packaging group:** II

(Contd. on page 6)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 5)

· **UN proper shipping name:** 3316 CHEMICAL KIT

· **Maritime transport IMDG:**

· **IMDG Class:**	9
· **UN Number:**	3316
· **Label**	9
· **Packaging group:**	II
· **EMS Number:**	F-A,S-P
· **Marine pollutant:**	No
· **Proper shipping name:**	CHEMICAL KITS

· **Air transport ICAO-TI and IATA-DGR:**

· **ICAO/IATA Class:**	9
· **UN/ID Number:**	3316
· **Label**	9
· **Packaging group:**	II
· **Proper shipping name:**	CHEMICAL KITS

15 Regulatory information

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

67-63-0 isopropanol

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **California Proposition 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 7)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 03/02/2011 Reviewed On: 02/11/2011

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 6)

· **TLV (Threshold Limit Value established by ACGIH)**		
67-63-0	isopropanol	A4
67-64-1	acetone	A4

· **National regulations**
· **Additional classification according to Decree on Hazardous Materials:**
CERCLA: This product contains Acetone which has a Reporting Quantity (RQ) of 5000#.
SARA 311/312: Subject to reporting.
313: Acetone and Isopropyl Alcohol are subject to reporting.
TSCA: This product is exempt under TSCA.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities 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 can not guarantee that these are the only hazards that exist.

· **Department issuing MSDS:**
Environmental, Health & Safety
Created by Michael J. Spinazzola
· **Contact:** Technical Service Representative

There was a problem getting the SDS for -

Product Name: Propane
CAS Number: 74-98-6
Manufacturer: Bakers Propane Inc.
SDS Date: 2/29/2016

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL 600 W SUPER CYLINDER OIL**
Product Description: Base Oil and Additives
Product Code: 20156050D010, 601211-00, 970121
Intended Use: Cylinder oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

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

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS
No significant hazards.

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

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert

advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.

SECTION 4 FIRST AID MEASURES

INHALATION

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

SKIN CONTACT

Wash contact areas with soap and water.

EYE CONTACT

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

INGESTION

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

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

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

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

FLAMMABILITY PROPERTIES

Flash Point [Method]: >282°C (540°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

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

PROTECTIVE MEASURES

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

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

SPILL MANAGEMENT

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

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

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

ENVIRONMENTAL PRECAUTIONS

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

SECTION 7 HANDLING AND STORAGE

HANDLING

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

(Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

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

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

No biological limits allocated.

ENGINEERING CONTROLS

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

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

PERSONAL PROTECTION

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

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

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

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

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

No protection is ordinarily required under normal conditions of use.

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

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

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

ENVIRONMENTAL CONTROLS

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

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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

GENERAL INFORMATION

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

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.907
Flammability (Solid, Gas): N/A
Flash Point [Method]: >282°C (540°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 460 cSt (460 mm2/sec) at 40 °C | 30.5 cSt (30.5 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -6°C (21°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

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

MATERIALS TO AVOID: Strong oxidizers

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

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

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

OTHER INFORMATION

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

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

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

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

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

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

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

SECTION 13 DISPOSAL CONSIDERATIONS

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

DISPOSAL RECOMMENDATIONS

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

REGULATORY DISPOSAL INFORMATION

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

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

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

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

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

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

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
OILS, LARD	8016-28-2	18

--REGULATORY LISTS SEARCHED--

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

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

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

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 09: Vapor Pressure information was added.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: Special Cases Table information was deleted.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2007381XUS (547803)

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: Mar-19

QUIKRETE® Product Name	Item #(s)
Fence Post Mix	1005
Fiber-Reinforced Concrete Mix	1006
Crack Resistant Concrete Mix	1006-80
Pro-Finish Crack Resistant Concrete Mix	1006-68
QUIKRETE 5000 Concrete Mix	1007
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	1120-80/NR810065
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
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: March 11, 2019

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

There was a problem getting the SDS for -

Product Name: HE208 - WET PATCH ROOF LEAK REPAIR
CAS Number:
Manufacturer: Henry Company
SDS Date: 6/5/2014

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: BCS SODIUM BISULFITE SOLUTION (15-40%)
CAS Number:
Manufacturer: BASIC CHEMICAL SOLUTIONS
SDS Date: 3/5/2009

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

SAFETY DATA SHEET

M7745 - ANSI - EN

SODIUM HYPOCHLORITE (EPA)

SDS No.: M7745 **SDS Revision Date:** 01-Apr-2016

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151
24 Hour Emergency Telephone Number:	1-800-733-3665 or 1-972-404-3228 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Product Identifier:	**SODIUM HYPOCHLORITE (EPA)**
Synonyms:	Chlorine bleach, Soda bleach
Product Use:	Bleaching agent, Chemical Intermediate, Water treatment (chlorination)
Uses Advised Against:	None identified
Note:	Sodium Hypochlorite (EPA) is a registered antimicrobial pesticide: EPA Registration Number 935-20007.

SECTION 2. HAZARDS IDENTIFICATION

SODIUM HYPOCHLORITE (EPA)

SDS No.: M7745 **SDS Revision Date:** 01-Apr-2016

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

****

EMERGENCY OVERVIEW:

Color: Colorless to yellow
Physical State: Liquid
Appearance: Clear
Odor: Characteristic bleach odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CORROSIVE. CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN BURNS. CAUSES DAMAGE TO RESPIRATORY SYSTEM WHEN INHALED. TOXIC IF SWALLOWED. MAY CAUSE DAMAGE TO GASTROINTESTINAL TRACT WHEN SWALLOWED.

PHYSICAL HAZARDS: CORROSIVE TO METALS.

AQUATIC TOXICITY: Toxic to fish and aquatic organisms.

PRECAUTIONARY STATEMENTS: Do not breathe mist, vapors, or spray. Do not taste or swallow. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Wear protective gloves, protective clothing, eye, and face protection. Do not eat, drink or smoke when using this product. Keep only in original container. Avoid release to the environment. Store in a secure manner. Store in corrosive resistant container with a resistant inner liner.

****

GHS CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	Corrosive to Metals
GHS: CONTACT HAZARD - SKIN:	Category 1C - Causes severe skin burns and eye damage.
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 1 - Causes damage to: Respiratory System
GHS: CARCINOGENICITY:	Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC, or OSHA.

UNKNOWN ACUTE TOXICITY: Listed below.

Unknown Acute Dermal Toxicity:
100% of this product consists of ingredient(s) of unknown acute dermal toxicity.

Unknown Acute Inhalation Toxicity:
100% of this product consists of ingredient(s) of unknown acute inhalation toxicity.

GHS SYMBOL: Corrosion, Health hazards

SODIUM HYPOCHLORITE (EPA)

SDS No.: M7745 **SDS Revision Date:** 01-Apr-2016


GHS SIGNAL WORD: **DANGER**

GHS HAZARD STATEMENTS:

GHS - Physical Hazard Statement(s)
• May be corrosive to metals

GHS - Health Hazard Statement(s)
• Causes severe skin burns and eye damage
• Causes serious eye damage
• Causes damage to organs (Respiratory System)

GHS - Precautionary Statement(s) - Prevention
• Do not breathe mist, vapors, or spray
• Wear protective gloves, protective clothing, eye, and face protection
• Wash thoroughly after handling
• Do not eat, drink or smoke when using this product
• Keep only in original container

GHS - Precautionary Statement(s) - Response
• 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/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower
• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
• IF INHALED: Remove person to fresh air and keep comfortable for breathing
• Immediately call a POISON CENTER or doctor/physician
• Specific treatment (see First Aid information on product label and/or Section 4 of the SDS)
• Wash contaminated clothing before reuse
• IF exposed: Call a POISON CENTER or doctor/physician
• Absorb spillage to prevent material damage

GHS - Precautionary Statement(s) - Storage
• Store in a secure manner
• Store in corrosive resistant container with a resistant inner liner

GHS - Precautionary Statement(s) - Disposal
• Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Hazards Not Otherwise Classified (HNOC)
Contact with acids liberates toxic gas

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Chlorine bleach, Soda bleach

Contains Sodium hypochlorite, Sodium Hydroxide

Component	Percent [%]	CAS Number
Water	70-76	7732-18-5
Sodium hypochlorite	12.5-15	7681-52-9
Sodium Chloride	11-14.5	7647-14-5
Sodium Hydroxide	0.5-1.5	1310-73-2

SECTION 4. FIRST AID MEASURES

INHALATION: If inhalation of mists, vapors, or spray occurs and adverse effects result, remove to uncontaminated area. Evaluate ABC's (is Airway constricted, is Breathing occurring, and is blood Circulating) and treat symptomatically. GET MEDICAL ATTENTION IMMEDIATELY. There is no specific antidote, treat symptomatically.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with large amounts of water. GET MEDICAL ATTENTION IMMEDIATELY. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately contact a physician. Immediate and thorough decontamination of the eye is essential followed by ophthalmological assessment. Follow protocol for corrosive injury.

INGESTION: If swallowed, DO NOT INDUCE VOMITING. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. Never give anything by mouth to an unconscious or convulsive person. GET MEDICAL ATTENTION IMMEDIATELY.

Most Important Symptoms/Effects (Acute and Delayed): :.

Acute Symptoms/Effects: Listed below.
Inhalation (Breathing): Respiratory System Effects: Inhalation exposure may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.
Skin: Skin Corrosion. Skin exposure to gas or liquid may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.
Eye: Serious Eye Damage. Exposure to eyes may cause irritation and burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye.
Ingestion (Swallowing): Gastrointestinal System Effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

Delayed Symptoms/Effects:
- Repeated and prolonged skin contact may cause a dermatitis

Interaction with Other Chemicals Which Enhance Toxicity: Mixing with ammonia, acids, detergents, or organic matter will release chlorinated compounds, which are irritating to eyes, lungs, and mucus membranes.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions such as:. Eye disorders that decrease tear production or have reduced integrity. Skin disorders that compromise the integrity of the skin. Respiratory conditions including asthma and other breathing disorders.

Protection of First-Aiders: Protect yourself by avoiding contact with this material. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Do not ingest. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: Treat as a corrosive due to the pH of this material. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. Probable mucosal damage may contraindicate the use of gastric lavage. There is no specific antidote. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation.

SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: May release toxic gases.

Fire Fighting: Wear an approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Component	Immediately Dangerous to Life/ Health (IDLH)
Sodium Hydroxide 1310-73-2	10 mg/m^3 IDLH

Hazardous Combustion Products: Hydrogen chloride, Chlorine

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not flammable

Auto-ignition Temperature: Not applicable

GHS: PHYSICAL HAZARDS:
- Corrosive to Metals

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Avoid contact with skin, eyes and clothing. Avoid breathing fumes, vapor, mist, or spray. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the SDS. Vacate poorly ventilated areas as soon as possible, and do not return until odors have dissipated. Evacuation of surrounding area may be necessary for large spills. Stay upwind and keep out of low areas. Consider evacuation of personnel located downwind. Refer to Section 7, Handling and Storage, for additional precautionary measures.

Methods and Materials for Containment and Cleaning Up:
Remove sources of ignition. Stop leak if possible without personal risk. Keep people away from and upwind of spill/leak. Evacuation of surrounding area may be necessary for large spills. Absorb spillage to prevent material damage. Absorb with inorganic absorbents. Liquid material may be removed with a vacuum truck. Shovel dried residue into suitable container. See Section 13, Disposal considerations, for additional information.

Environmental Precautions:
Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling:
Avoid breathing vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Use only with adequate ventilation. Vacate poorly ventilated areas as soon as possible, and do not return until odors have dissipated.

Safe Storage Conditions:
Store and handle in accordance with all current regulations and standards. If possible, store in original container. If not possible, store in a corrosion resistant container with a resistant inner liner and with an adequate relief device. Keep container tightly closed and upright when not in use. Store in a cool, dry area. Store out of direct sunlight. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Do not freeze. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet). Store in a secure manner.

Incompatibilities/ Materials to Avoid:
Material is a strong oxidizing agent and should only be mixed with water. Mixing this product with chemicals (e.g. ammonia compounds, acids, detergents) or organic matter will release chlorinated compounds, which are irritating to eyes, lungs, and mucous membranes, Other materials to avoid include: most metals, peroxides, reducing agents, oxidizing agents

GHS: PHYSICAL HAZARDS:
- Corrosive to Metals

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure Limit(s): As listed below.

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PELCeiling
Sodium Hydroxide 1310-73-2	2 mg/m³	-----	-----

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S): As listed below.

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Sodium Hydroxide	-----	-----	2 mg/m³	-----	-----	2 mg/m³

- *The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).*

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
Sodium hypochlorite 7681-52-9 (12.5-15)		2 mg/m³	-----
Sodium Chloride 7647-14-5 (11-14.5)	-----	-----	-----

ENGINEERING CONTROLS: Use closed systems when possible. Provide local exhaust ventilation where vapor or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear splash resistant safety goggles with a face-shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Contaminated clothing should be removed, then discarded or laundered.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types:
Natural rubber, Neoprene, Nitrile, Polyvinyl chloride (PVC)

Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. Acid gas cartridges may be required if decomposition products are present. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Component	Immediately Dangerous to Life/ Health (IDLH)
Sodium Hydroxide 1310-73-2	10 mg/m^3 IDLH

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Clear
Color:	Colorless to yellow
Odor:	Characteristic bleach odor
Odor Threshold [ppm]:	0.3 ppm (0.9 mg/m^3).
Decomposition Temperature:	230 °F (110 °C)
Boiling Point/Range:	230 °F (110 °C)
Freezing Point/Range:	-3 to -14 °F (-19.4 to -25.6 °C).
Melting Point/Range:	Not applicable to liquids
Vapor Pressure:	No data available
Vapor Density (air=1):	No data available
Relative Density/Specific Gravity (water=1):	1.22
Density:	9.9 - 10.5 lb/gal
Water Solubility:	100%
pH:	12
Volatility:	No data available
Evaporation Rate (ether=1):	No data available
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not flammable
Flammability (solid, gas):	Not applicable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Auto-ignition Temperature:	Not applicable
Viscosity:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: May decompose upon heating and exposure to sunlight.

Chemical Stability: Stable at normal temperatures and pressures.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition. Direct sunlight.

Incompatibilities/ Materials to Avoid: Material is a strong oxidizing agent and should only be mixed with water. Mixing this product with chemicals (e.g. ammonia compounds, acids, detergents) or organic matter will release chlorinated compounds, which are irritating to eyes, lungs, and mucous membranes. Other materials to avoid include: most metals, peroxides, reducing agents, oxidizing agents.

Hazardous Decomposition Products: hydrogen chloride, Chlorine, oxygen

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

PRODUCT TOXICITY DATA: SODIUM HYPOCHLORITE (EPA)

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
8910 mg/kg (Rat)	No data available	No data available

COMPONENT TOXICITY DATA:

Note: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

Component	LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
Sodium hypochlorite 7681-52-9 (12.5-15 %)	8200 mg/kg (Rat)	10000 mg/kg (Rabbit)	Not listed
Sodium Chloride 7647-14-5 (11-14.5 %)	3000 mg/kg (Rat)	Not listed	42 g/m^3 (1 hr-Rat)
Sodium Hydroxide 1310-73-2 (0.5-1.5 %)	140-3400 mg/kg	1350 mg/kg (Rabbit)	Not listed

****

POTENTIAL HEALTH EFFECTS:

Eye contact: Causes serious eye damage. Eye exposures may cause burns to the eye lids, conjunctivitis, corneal edema, and corneal burn.

Skin contact: Skin contact may be irritating and corrosive. Can cause skin burns.

Inhalation: Inhalation may cause coughing, choking, irritation (possibly severe), chemical burns, shortness of breath, and pulmonary edema. Pulmonary edema may develop several hours after a severe acute exposure.

Ingestion: Not a likely route of exposure in occupational settings. If swallowed, may cause irritation, swelling, pain, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

Chronic Effects: Repeated or prolonged skin contact may result in dermatitis.

SIGNS AND SYMPTOMS OF EXPOSURE:
Listed below.

Inhalation (Breathing): Respiratory System Effects: Inhalation exposure may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.
Skin: Skin Corrosion. Skin exposure to gas or liquid may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.
Eye: Serious Eye Damage. Exposure to eyes may cause irritation and burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye.
Ingestion (Swallowing): Gastrointestinal System Effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

TOXICITY:
Carefully controlled sensitization studies on animal have not resulted in any reproducible positive findings. Standard sensitization patch tests in healthy human volunteers show no potential to induce contact sensitization. In tests using rats and mice, there was no evidence of carcinogenicity.

Interaction with Other Chemicals Which Enhance Toxicity: Mixing with ammonia, acids, detergents, or organic matter will release chlorinated compounds, which are irritating to eyes, lungs, and mucus membranes.

****

GHS HEALTH HAZARDS:
Listed below.

GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage

GHS: CONTACT HAZARD - SKIN: Category 1C - Causes severe skin burns and eye damage.

Skin Absorbent / Dermal Route? No.

GHS: CARCINOGENICITY:
Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC, or OSHA.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):
Category 1 - Respiratory system

MUTAGENIC DATA:
Not classified as a mutagen per GHS criteria. Sodium hypochlorite has tested positive in in vitro test systems and negative in in vivo test systems. These results are consistent with other germicides.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Aquatic Toxicity:
Data provided are for sodium hypochlorite.

Component	Freshwater Fish	Invertebrate Toxicity:	Algae Toxicity:	Other Toxicity:
Sodium hypochlorite 7681-52-9 (12.5-15)	- LC50 clupea harengus 0.033 - 0.097 mg//l/96 hr, flow through bioassay (pH: 8) - LC50 cymatogaster aggregata 0.045 - 0.098 mg/l/96 hr, flow through bioassay (pH: 8) - LC50 gasterosteus aculeatus 0.141 - 0.193 mg/l/96 hr, flow through bioassay (pH: 8) - LC50 oncorhynchus gorbuscha 0.023 - 0.052 mg/l/96 hr, flow through bioassay (pH: 8) - LC50 oncorhynchus kisutch 0.026 - 0.038 mg/l/96 hr, flow through bioassay (pH: 8) - LC50 parophrys vetulus 0.044 - 0.144 mg/l/96 hr, flow through bioassay (pH: 8) - LC50 pimephales promelas 0.22 - 0.62 mg/l/96 hr, flow through bioassay (pH: 7)	- EC50 ceriodaphnia sp. 0.006 mg/l/24 hr - EC50 daphnia magna 0.07 - 0.7 mg/l/24 hr - EC50 daphnia magna 2.1mg/l/96 hr - EC50 gammarus fasciatus 4 mg/l/96 hr - EC50 nitocra spinipes 40 mg/l/96 hr - EC50 palaemonetes pugio 52 mg/l/96 hr	- ErC50 dunaliella sp. 0.6 mg/l/24 hr - ErC50 dunaliella tertiolecta 0.11 mg/l/24 hr -ErC50 skeletonema costatum 0.095 mg/l/24 hr	

FATE AND TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: This material is believed not to persist in the environment.

BIOCONCENTRATION: This material is not expected to bioconcentrate in organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:
Reuse or reprocess, if possible. May be subject to disposal regulations. Dispose of in accordance with federal, state and local regulations.

Container Management:
See product label for container disposal information. Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:
UN NUMBER: UN1791
PROPER SHIPPING NAME: Hypochlorite solutions (SODIUM HYPOCHLORITE)
HAZARD CLASS/ DIVISION: 8
PACKING GROUP: III
LABELING REQUIREMENTS: 8

MARINE POLLUTANT: Marine Pollutant (Sodium Hypochlorite)
RQ (lbs): RQ 100 Lbs. (Sodium hypochlorite)

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
UN NUMBER: UN1791
SHIPPING NAME: Hypochlorite Solution (Sodium Hypochlorite)
CLASS OR DIVISION: 8
PACKING/RISK GROUP: III
LABELING REQUIREMENTS: 8
CAN. MARINE POLLUTANT: Marine Pollutant (Sodium Hypochlorite)

MARITIME TRANSPORT (IMO / IMDG) :
UN NUMBER: UN1791
PROPER SHIPPING NAME: Hypochlorite solutions (SODIUM HYPOCHLORITE)
HAZARD CLASS / DIVISION: 8
Packing Group: III
LABELING REQUIREMENTS: 8
MARINE POLLUTANT: Marine Pollutant (Sodium Hypochlorite)

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	CERCLA Reportable Quantities:
Sodium hypochlorite	100 lb (final RQ)
Sodium Hydroxide	1000 lb (final RQ)

SARA EHS Chemical (40 CFR 355.30)
Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):
Acute Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):
Not regulated

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):
Not regulated

FIFRA REGULATIONS: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

SODIUM HYPOCHLORITE (EPA)

SDS No.: M7745 **SDS Revision Date:** 01-Apr-2016

FIFRA LABELING REQUIREMENTS: - This chemical is a pesticide product registered by the United States Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
- FIFRA Signal Word - DANGER
- Corrosive
- May cause burns to eyes, skin, and mucus membranes
- Causes eye damage
- This pesticide is toxic to fish and aquatic organisms
- STRONG OXIDIZING AGENT
- Mix only with water according to label directions
- Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs, and mucus membranes

FDA: This product is not produced under all current Good Manufacturing Practices (cGMP) requirements as defined by the Food and Drug Administration (FDA).

NATIONAL INVENTORY STATUS

Component	U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):
Sodium hypochlorite 7681-52-9 (12.5-15 %)	Listed
Sodium Chloride 7647-14-5 (11-14.5 %)	Listed
Sodium Hydroxide 1310-73-2 (0.5-1.5 %)	Listed

TSCA 12(b): This product is not subject to export notification.

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

STATE REGULATIONS

Component	California Proposition 65 Cancer WARNING:	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List
Sodium hypochlorite 7681-52-9	Not Listed	Not Listed	Not Listed	Listed	1707	Not Listed
Sodium Chloride 7647-14-5	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Sodium Hydroxide 1310-73-2	Not Listed	Not Listed	Not Listed	Listed	1706	Corrosive

Component	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List	Rhode Island Right to Know Hazardous Substance List

Sodium hypochlorite 7681-52-9	Not Listed	Listed	Not Listed	Present	Not Listed
Sodium Chloride 7647-14-5	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Sodium Hydroxide 1310-73-2	Not Listed	Listed	Not Listed	Present	Listed

CANADIAN REGULATIONS

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

WHMIS - Classifications of Substances:

• E - Corrosive material

SECTION 16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship

Rev. Date: 01-Apr-2016

Reason for Revision:

• Updated Transportation Information: SEE SECTION 14
• Updated First Aid Measures: SEE SECTION 4
• Format change to sections: 2, 5, 8, 11, 12, 15, and 16

IMPORTANT:

The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and OxyChem assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws
OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees

SODIUM HYPOCHLORITE (EPA)

End of Safety Data Sheet

There was a problem getting the SDS for -

Product Name: HASA 12.5% SODIUM HYPOCHLORITE SOLUTION
CAS Number: 7681-52-9
Manufacturer: HASA Inc
SDS Date: 7/1/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: SUBMARINE COOLER COATING
CAS Number:
Manufacturer: Dial Manufacturing Inc
SDS Date: 1/10/2018

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: SRF 1/4000
CAS Number:
Manufacturer: Petro-Canada Lubricants Inc.
SDS Date: 4/8/2019

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: Thorite
CAS Number:
Manufacturer: Thoro Consumer Products
SDS Date: 7/1/2007

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo Syn ATF HD

Product Use: Automatic Transmission Fluid
Product Number(s): 223040, 223081
Synonyms: Delo Syn ATF HD ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Skin Sensitizer: Category 1. Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

Signal Word: Warning

Health Hazards: May cause allergic skin reaction.

Environmental Hazards: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment.
Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Specific treatment (see Notes to Physician on this label).
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Heating may release highly toxic and flammable hydrogen sulfide (H2S). Do not attempt rescue without supplied-air respiratory protection.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight
Long chain alkyl amine thiophosphate	Mixture	0.3 - < 1 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

If exposure to hydrogen sulfide (H2S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin may cause an allergic skin reaction. Symptoms may include pain, itching, discoloration, swelling, and blistering. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.
Contact with the skin is not expected to cause prolonged or significant irritation.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H2S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed
Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas. For additional information on H2S, see Chevron MSDS No. 301. In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Nitrogen.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Do not get in eyes, on skin, or on clothing. Do not breathe gas. Wash thoroughly after handling. Keep out of the reach of children.

Unusual Handling Hazards: Toxic quantities of hydrogen sulfide (H2S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H2S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H2S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H2S, the concentration should be measured by the use of fixed or portable devices.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid,

and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted.
Suggested materials for protective gloves include: Nitrile Rubber.
Respiratory Protection: No respiratory protection is normally required.
If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron MSDS No. 301. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Long chain alkyl amine	Not Applicable	--	--	--	--

thiophosphate					

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Density: 0.8535 kg/l @ 15°C (59°F) (Typical)
Viscosity: 6.80 mm2/s @ 100°C (212°F) Minimum
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 180 °C (356 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Hydrogen Sulfide (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in

the aquatic environment.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: 1. Immediate (Acute) Health Effects: YES

2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), KECI (Korea), TSCA (United States).

One or more components is listed on ELINCS (European Union). All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), NZIoC (New Zealand), PICCS (Philippines).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 2 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 02 - Hazards Otherwise Not Classified information was modified.
SECTION 03 - Composition information was modified.
SECTION 04 - First Aid - Inhalation information was modified.

SECTION 04 - First Aid - Note to Physicians information was modified.
SECTION 04 - Immediate Health Effects - Inhalation information was modified.
SECTION 04 - Immediate Health Effects - Skin information was modified.
SECTION 05 - Fire Fighters Protection Measures information was modified.
SECTION 05 - Special hazards arising from the substance or mixture information was added.
SECTION 07 - Precautionary Measures information was modified.
SECTION 07 - Unusual Handling Hazards information was added.
SECTION 08 - Occupational Exposure Limit Table information was modified.
SECTION 08 - Respiratory Protection information was modified.
SECTION 09 - Physical/Chemical Properties information was deleted.
SECTION 09 - Physical/Chemical Properties information was modified.
SECTION 10 - Hazardous Decomposition Products information was modified.
SECTION 12 - Ecological Information information was deleted.
SECTION 14 - IMO Classification information was added.
SECTION 14 - IMO Classification information was deleted.
SECTION 15 - Chemical Inventories information was modified.
SECTION 15 - SARA 311 Score information was modified.
SECTION 16 - HMIS Rating information was modified.
SECTION 16 - NFPA Rating information was modified.

Revision Date: May 25, 2018

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with

which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

There was a problem getting the SDS for -

Product Name: TRI-FLOW AEROSOL - TF20005,20006,20009,20025
CAS Number:
Manufacturer: THE SHERWIN-WILLIAMS COMPANY
SDS Date: 11/29/2015

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

RPM® Universal Gear Lubricant

Product Use: Gear Lubricant
Product Number(s): 225039, 225040
Synonyms: Chevron RPM® Universal Gear Lubricant SAE 80W-90, Chevron RPM® Universal Gear Lubricant SAE 85W-140
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15-C50)	Mixture	70 - 99 %wt/wt

SECTION 3 HAZARDS IDENTIFICATION

****
EMERGENCY OVERVIEW

- HARMFUL TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT
****

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (ASTM D92) 180 °C (356 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Keep out of the reach of children.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15-C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15-C50)	OSHA Z-1	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Brown
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 1 @ 15°C (59°F) (Typical)
Density: @ 15°C (59°F)
Viscosity: 13.7 mm2/s @ 100°C (212°F) Minimum
Evaporation Rate: No data available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not

been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

ENVIRONMENTAL FATE
Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Gear oil)

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 2, 16.
Revision Date: August 20, 2013

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the

date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

There was a problem getting the SDS for -

Product Name: Waterplug
CAS Number:
Manufacturer: Thoro Consumer Products
SDS Date: 7/1/2007

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again

There was a problem getting the SDS for -

Product Name: WD-40 Aerosol
CAS Number:
Manufacturer: WD-40 Products (Canada) LTD.
SDS Date: 11/15/2016

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.

The document may be a secured document. Delete the existing record. Unsecure the document and upload again