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Abbey Group Companies

Abbey Color Incorporated
400 E. Tioga Street
Philadelphia, PA 19134
215-739-9960
215-739-9963(fax)
EMERGENCY NUMBER: 1-800-985-2207

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Leak Seek® -10 Clear
PRODUCT CODES: 1600212, 1600213, 1600214, 1600215, 1600219, 1600220, 1600221, 1600224, and 1600229

SUPPLIER:
ADDRESS: Abbey Color Incorporated
400 East Tioga Street
Philadelphia, PA 19134
USA

EMERGENCY PHONE: 215-739-9960
ANSWER FIRST PHONE: 800-985-2207
OTHER CALLS: 215-739-9960
FAX: 215-739-9963

PRODUCT USE: Detection of Gas Leaks in Pipes
PREPARED BY: Abbey Color Incorporated DBA Abbey Products

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS):
Acute Toxicity, Oral (Category 4), H302
Specific Target Organ Toxicity – Repeated Exposure, Oral (Category 2), Kidney, H373

LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS:

Pictogram:

Signal Word: Warning

Hazard Statement(s):
H302 Harmful if swallowed.
H373 May cause damage to organs (kidney) through prolonged or repeated exposure if swallowed.

Precautionary Statement(s):

P260	Do not breathe dust/fumes/gas/mist/vapor/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P301/P312/P330	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P314	Get medical advice/attention if you feel unwell.
P501	Dispose of contents/container to an approved waste disposal plant.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS:
None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:
Ethylene Glycol – Acute Tox. 4; STOT RE 2, H302, H373

SECTION 4: FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES:

GENERAL ADVICE: Consult a physician. Show this safety data sheet to the doctor in attendance.

IN CASE OF EYE CONTACT:
Rinse thoroughly with plenty of water for at least 15 minutes. Seek a physician if necessary.

IN CASE OF SKIN CONTACT:
Wash with soap and plenty of water. Seek a physician if necessary.

IF INGESTED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek a physician if necessary.

IF INHALED: Move person into fresh air. If not breathing, give artificial respiration. Seek a physician if necessary.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:
The most important known symptoms and effects are described in the labeling (see section 2 and section 11).

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT:
No data available

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
Use carbon dioxide, dry chemical, or foam.

SPECIFIC HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:
No data available

ADVICE FOR FIREFIGHTERS:
Wear self-contained breathing apparatus for firefighting.

EXPLOSION HAZARDS: No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES:
Use personal protective equipment. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

ENVIRONMENTAL PRECAUTIONS:
Do not let product enter drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:
Pick up and arrange disposal. Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:
Avoid contact with eyes and skin. See section 2 for precautions.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
Keep container tightly closed and in a dry, well-ventilated place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS:

Components with Workplace Control Parameters:

Component	CAS-No.	Value	Control Parameters	Basis
Ethylene Glycol	107-21-1	C	100.000000 Mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Eye & Upper Respiratory Tract Irritation Not classifiable as a human carcinogen		
		C	100.000000 Mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract Irritation Eye irritation Not classifiable as a human carcinogen		
		C	100 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract Irritation Eye Irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See notice of intended Changes (NIC) Not classifiable as a human carcinogen		

EXPOSURE CONTROLS:

Engineering Controls:
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the work shift.

Personal Protective Equipment
Eye/Face Protection:
Wear anti-splash chemical goggles with side shields or wear a full face shield.

Skin Protection:
Handle with gloves and boots suitable for this material. Gloves and boots should be inspected before use. Remove gloves without touching skin. Dispose of contaminated gloves according to applicable laws. Wash and dry hands.

Respiratory Protection:
For nuisance exposure use N95 or type 1 particle respirator.

Control of Environmental Exposure:
Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE (COLOR):	Clear
ODOR:	None
PHYSICAL STATE:	Liquid
pH AS SUPPLIED:	No data available
MELTING POINT/FREEZING POINT:	-23°C (-10°F)
BOILING POINT:	197°C (386°F)
FLASH POINT:	111°C (231°F) – closed cup method
DENSITY:	1.06 g/cm^3
EVAPORATION RATE:	No data available
UPPER FLAMMABILITY LIMIT:	15.3% (V)
LOWER FLAMMABILITY LIMIT:	3.2% (V)
VAPOR PRESSURE:	0.11 at 20°C (68°F)
VAPOR DENSITY (AIR=1.0):	2.1
SPECIFIC GRAVITY (H_2O=1):	1.06
WATER SOLUBILITY:	No data available
SOLUBILITY IN OTHER SOLVENTS:	No data available
PARTITION COEFFICIENT; n-octanol/water:	No data available
AUTOIGNITION TEMPERATURE:	No data available
DECOMPOSITION TEMPERATURE:	No data available
VISCOSITY:	No data available
EXPLOSIVE PROPERTIES:	No data available
OXIDIZING PROPERTIES:	No data available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	No data available
CHEMICAL STABILITY:	Stable under recommended storage conditions.
POSSIBILITY OF HAZARDOUS REACTIONS:	None under normal storage conditions.
HAZARDOUS POLYMERIZATION	No data available
CONDITIONS TO AVOID:	Extreme heat, open flames, sparks
INCOMPATIBLE MATERIALS:	Chromium trioxide, potassium permanganate, silver peroxide
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon oxides

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Acute Toxicity:	LD50 Oral – Rat – 4700mg/kg
Skin Corrosion/Irritation:	LD50 Dermal – Rabbit – 10626 mg/kg Skin: Rabbit – Result: No skin irritation
Eye Damage/Irritation:	Eyes: Rabbit – Result: Mild eye irritation – 24 h
Respiratory:	No data available
Germ Cell Mutagenicity:	No data available
Carcinogenicity:	
IARC:	No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
ACGIH:	No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.
OSHA:	No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive Toxicity:	No data available

Specific Target Organ Toxicity:	Repeated Exposure: Oral – May cause damage to organs through prolonged or repeated exposure – Kidney RTECS: KW2975000
SECTION 11 NOTES:	When ingested, early symptoms mimic alcohol inebriation and are followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemia tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage. Exposure to and/or consumption of alcohol may increase toxic effects.To the best of our knowledge the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Toxicity:	LC50 – Oncorhynchus mykiss (rainbow trout) – 18500 mg/l – 96 h LC50 – Leuciscus idus (Golden orfe) - > 10000 mg/l – 48 h NOEC – Pimephales promelas (fathead minnow) – 32000 mg/l – 7 d NOEC – Pimephales promelas (fathead minnow) – 39140 mg/l – 96 h
Persistence and Degradability:	Ratio BOD/ThBOD - 0.78%
Bioaccumulative Potential:	Bioaccumulation other fish – 61 d - 50 mg/l Bioconcentration factor (BCF): 0.60
Mobility in Soil:	No data available
PBT and vPvB Assessment:	No required as a chemical safety assessment or not conducted.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:	Offer surplus and non-recyclable solutions to a licensed disposal company.
RCRA HAZARD CLASS:	Not hazardous waste.

SECTION 14: TRANSPORT INFORMATION

DOT: Not Dangerous Goods

IMDG: Not Dangerous Goods

IATA: Not Dangerous Goods

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

SARA 302 COMPONENTS:	The following component is subject to the reporting requirements of SARA Title III, Section 302: Ethylene Glycol – CAS: 107-21-1
311/312 HAZARD CATEGORIES:	Acute Health Hazard, Chronic Health Hazard
313 REPORTABLE INGREDIENTS:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting established by SARA Title III, Section 313.

STATE REGULATIONS:

MASSACHUSETTS RIGHT TO KNOW COMPONENTS:
Ethylene Glycol CAS: 107-21-1

PENNSYLVANIA RIGHT TO KNOW COMPONENTS:
Ethylene Glycol CAS: 107-21-1

NEW JERSEY RIGHT TO KNOW COMPONENTS:
Ethylene Glycol CAS: 107-21-1

CALIFORNIA PROP. 65 COMPOENENTS:
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

HMIS HAZARD CLASSIFICATION
HEALTH: 1 CHRONIC HEALTH: 0 FLAMMABILITY: 1 PHYSICAL HAZARD: 0

NFPA HAZARD CLASSIFICATION
HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0

PREPARATION INFORMATION: Created 09-25-2015 Revised 10-06-2023

DISCLAIMER: TO THE BEST OF OUR KNOWLEDGE, THE INFORMATION CONTAINED HEREIN IS ACCURATE. HOWEVER, ABBEY COLOR DOES NOT ASSUME ANY LIABILITY WHATSOEVER FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. ALL MATERIALS THAT MAY PRESENT UNKNOWN HEALTH HAZARDS ARE DESCRIBED HEREIN. WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

SAFETY DATA SHEET

Alloy SAC305 H10

Section 1. Identification

GHS product identifier : Alloy SAC305 H10

Reference number : GHS003

Other means of identification : Not available.

Product type : Solid. [Solder Paste]

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

Not applicable.

Supplier's details : AIM
9100 Henri Bourassa East
Montreal, QC
H1E 2S4
(514) 494-2000

In the United States:
AIM
25 Kenney Drive
Cranston, RI 02920
(800) CALL-AIM

In México
AIM Soldadura de México
Circuito Interior Norte # 460
Parque Industrial Salvarcar
Ciudad Juárez, Chih.
(656) 630-0032

Emergency telephone number (with hours of operation) : INFOTRAC
North America: (800) 535-5053
International: (352) 323-3500

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 : SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : May cause an allergic skin reaction.

Precautionary statements

Prevention : Wear protective gloves. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.

Response : Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.

Storage : Not applicable.

Section 2. Hazards identification

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

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Ingredient name	%	CAS number
Tin	≥75 - ≤90	7440-31-5
Silver	≤3	7440-22-4
Resin acids and Rosin acids, hydrogenated	≤1	65997-06-0
Amine Decanoic Acid Salt	≤1	-
Copper	≤1	7440-50-8

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health 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. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

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

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : No specific data.

Inhalation : No specific data.

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

Ingestion : No specific data.

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

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

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

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

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

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

For emergency responders : If 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

Section 6. Accidental release measures

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

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

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Tin	**ACGIH TLV (United States, 3/2020).** TWA: 2 mg/m³, (as Sn) 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2016).** TWA: 2 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 2 mg/m³, (as Sn) 8 hours.
Silver	**ACGIH TLV (United States, 3/2020).** TWA: 0.1 mg/m³ 8 hours. Form: Dust and fumes **OSHA PEL 1989 (United States, 3/1989).** TWA: 0.01 mg/m³, (as Ag) 8 hours. **OSHA PEL (United States, 5/2018).** TWA: 0.01 mg/m³, (as Ag) 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 0.01 mg/m³, (as Ag) 10 hours. Form: METAL DUST AND SOLUBLE
Resin acids and Rosin acids, hydrogenated	None.
Amine Decanoic Acid Salt	None.
Copper	**ACGIH TLV (United States, 3/2020).** TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dust and mist TWA: 0.2 mg/m³ 8 hours. Form: Fume **OSHA PEL 1989 (United States, 3/1989).**

Section 8. Exposure controls/personal protection

	TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Fume **NIOSH REL (United States, 10/2016).** TWA: 1 mg/m³, (as Cu) 10 hours. Form: Dusts and Mists **OSHA PEL (United States, 5/2018).** TWA: 1 mg/m³ 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m³ 8 hours. Form: Fume

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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

Skin protection

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

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

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

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

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [Solder Paste]
Color	: Not available.
Odor	: Not available.
Odor threshold	: Not available.
pH	: Not available.
Melting point	: Not available.
Boiling point	: Not available.
Flash point	: Open cup: 160°C (320°F)
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not applicable.
Vapor pressure	: Not available.
Vapor density	: Not applicable.
Relative density	: Not available.
Solubility	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Viscosity	: Not applicable.
Flow time (ISO 2431)	: Not available.

Section 10. Stability and reactivity

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

Chemical stability : The product is stable.

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

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Section 11. Toxicological information

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Resin acids and Rosin acids, hydrogenated	-	4	-
Amine Decanoic Acid Salt	None.	4	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

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

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.

Section 11. Toxicological information

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	192687.75 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Silver	Acute EC50 1.4 µg/l Marine water	Algae - Chroomonas sp.	4 days
	Acute EC50 0.24 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 11 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata	48 hours
	Acute LC50 2.13 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 5 mg/l Marine water	Algae - Glenodinium halli	72 hours
Copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 1 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Silver	-	70	low

Section 12. Ecological information

Mobility in soil

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	**Reportable quantity** 37664.8 lbs / 17099.8 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	-	-	-	-	-

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 IMO instruments : Not available.

Section 15. Regulatory information

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

State regulations

Massachusetts : The following components are listed: TIN; SILVER

New York : The following components are listed: Silver

New Jersey : The following components are listed: TIN; SILVER; bis(2-butoxyethyl) ether

Pennsylvania : The following components are listed: TIN; SILVER COMPOUNDS; bis(2-butoxyethyl) ether

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Turkey : Not determined.

Section 16. Other information

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

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
SKIN SENSITIZATION - Category 1	Calculation method

History

Date of printing : 8/3/2022

Date of issue/Date of revision : 8/3/2022

Date of previous issue : 3/24/2020

Version : 0.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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

Safety Data Sheet

LEAK SEEK –BLUE & Yellow

SDS Revision Date: **04/02/2015**

1. Identification

1.1. Product identifier

Product Identity	LEAK SEEK –BLUE & Yellow
Alternate Names	90-203,4,5,8,9, Blended Formula, LEAK SEEK –BLUE & Yellow

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

Intended use	See Technical Data Sheet
Application Method	See Technical Data Sheet

1.3. Details of the supplier of the safety data sheet

Company Name	ComStar International Inc. 20-45 128th Street, College Point, NY 11356
Telephone No.	718-445-7900 800-328-0142 Fax: 718-353-5998

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Skin Irrit. 2;H315 Causes skin irritation

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Warning

Harmful if inhaled.

[Prevention]:

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P271 Use only outdoors or in a well-ventilated area.

[Response]:

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

[Storage]:
No GHS storage statements
[Disposal]:
No GHS disposal statements

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
SURFACTANT CAS#: 9016-45-9	<5	Skin Corrosion/Irritation: 3 Eye Damage/Irritation: 2B	[2]
SODIUM LAURYL SULFATE CAS#: 68585-47-7	<5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318	[1][2]
SODIUM DECYL SULFATE CAS#: 142-87-0	<5	Eye Dam, 1. H318 Acute Tox. 4 H302 Skin Irrit. 2 H315 STOT SE 3 H335	[1][2]
BENZENE SULFONIC ACID SALT CAS#: 68081-81-2	<5	Skin corrosion/irritation, 3 Serious Eye Damage/Irritation, 2B Specific target organ toxicity - Single exposure, 3 Acute toxicity, 5	[1][2]
ETHYLENE GLYCOL CAS#: 107-21-1	>30	Acute toxicity, Oral 4 Specific target organ toxicity - repeated exposure 2	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.
[1] Substance classified with a health or environmental hazard.
[2] Substance with a workplace exposure limit.
[3] PBT-substance or vPvB-substance.
*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

Overview No specific symptom data available.
See section 2 for further details.

Inhalation Harmful if inhaled.

5. Fire-fighting measures

5.1. Extinguishing media

Water fog, C02, dry chemical, universal foams

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus and protective clothing.

ERG Guide No. ---

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
For Large Spills: Flush spill area with water spray. Prevent run-off from entering drains, sewers, or streams, collect run-off.

7. Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes and skin. Wash thoroughly after handling. Do not breathe vapors or fumes.

Preventation of Fire and Explosion: Keep from contact with oxidizing materials, alkalis and acids. Store away from heat, sunlight and moisture.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.
Incompatible materials: Oxidizing agents, alkali metals
See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
9016-45-9	SURFACTANT	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
68585-47-7	SODIUM LAURYL SULFATE	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
142-87-0	SODIUM DECYL SULFATE	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
68081-81-2	BENZENE SULFONIC ACID SALT	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
107-21-1	ETHYLENE GLYCOL	OSHA	50 ppm
		ACGIH	100 ppm
		NIOSH	50 ppm
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
9016-45-9	SURFACTANT	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
68585-47-7	SODIUM LAURYL SULFATE	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
142-87-0	SODIUM DECYL SULFATE	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
68081-81-2	BENZENE SULFONIC ACID SALT	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
107-21-1	ETHYLENE GLYCOL	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory If engineering controls do not maintain airborne concentrations to an acceptable level, a NIOSH approved respirator must be worn.

Respirator Type: Organic vapor. If respirators are used, a program should be instituted to assure Compliance with OSHA Standard 29 CFR 1910.134.

Eyes Safety glasses with side shields, goggles or face shield are recommended.

Skin Wear overalls to keep skin contact to a minimum.

Engineering Controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc. Recommended Decontamination Facilities: Eye bath, washing facilities.

Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance Blue or Yellow Liquid

Odor Butyl odor

Odor threshold	Not Measured
pH	Not Measured
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	370 F/188 C
Flash Point	None
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** 135C(275F): NA **Upper Explosive Limit:** 199C(390F): NA
Vapor pressure (Pa)	6 mmHg (at 70 F)
Vapor Density	Not Measured
Specific Gravity	> 2 (H20 = 1)
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	(ASTM D 2155): NA
Decomposition temperature	Not Measured
Viscosity (cSt)	25C/77F: NA
Volatiles (% by weight)	NA
Octanol/Water Partition Coefficient	NA

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Strong Oxidizers

10.6. Hazardous decomposition products

No hazardous decomposition data available.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
SURFACTANT (9016-45-9)	3241 mg/kg	> 16 000 mg/kg	No data available	No data available	No data available
SODIUM LAURYL SULFATE (68585-47-7)	1800 mg/kg (Rat)	No data available	No data available	No data available	No data available
SODIUM DECYL SULFATE (142-87-0)	1950 mg/kg (Rat)	No data available	No data available	No data available	No data available
BENZENE SULFONIC ACID SALT (68081-81-2)	4900 mg/kg (Rat)	No data available	No data available	No data available	No data available
ETHYLENE GLYCOL (107-21-1)	4,700 mg/kg (Rat)	10,626 mg/kg Rabbit	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
SURFACTANT (9016-45-9)	> 100 mg/L	> 100 mg/L	> 100 mg/L

SODIUM LAURYL SULFATE (68585-47-7)	Not Available	Not Available	Not Available
SODIUM DECYL SULFATE (142-87-0)	Not Available	Not Available	Not Available
BENZENE SULFONIC ACID SALT (68081-81-2)	Not Available	Not Available	Not Available
ETHYLENE GLYCOL (107-21-1)	18,500 mg/L	41,000 mg/L	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Applicable	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	**DOT Hazard Class:** Not Applicable	**IMDG:** Not Applicable **Sub Class:** Not Applicable	**Air Class:** Not Applicable
14.4. Packing group	Not Applicable	Not Applicable	Not Applicable

14.5. Environmental hazards

IMDG Marine Pollutant: No

14.6. Special precautions for user

No further information

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.
WHMIS Classification	Not Regulated
US EPA Tier II Hazards	

Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): No
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
EPCRA 302 Extremely Hazardous:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
EPCRA 313 Extremely Hazardous:
ETHYLENE GLYCOL
Proposition 65 - Carcinogens (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65 - Developmental Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65 - Female Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
New Jersey RTK Substances (>1%):
ETHYLENE GLYCOL
Pennsylvania RTK Substances (>1%):
ETHYLENE GLYCOL

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H302 Harmful if swallowed.

H331 Toxic if inhaled.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The opinions expressed are those of qualified experts within ComStar International Inc. We believe that the information contained is current as of the date of the Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of ComStar International Inc., it is the user's obligation to determine the conditions of safe use of the product.

End of Document

SAFETY DATA SHEET

Section 1: Product And Company Identification

Product Name: Lithium-Ion Battery Packs – Rechargeable

Document Number: SDS180001-B

Issue Date: January 2020

Company Identification:

Techtronic Industries (Australia & NZ) Pty Ltd
21 Kelletts Road,
Rowville, VIC, 3178
Australia

Company Phone Number: 1300 234 797 (Australia)
0800 234 797 (New Zealand)

Emergency Contact Number:
13 11 26
Australian Poison Information Centre
www.poisonsinfo.nsw.gov.au

0800 764 766
New Zealand Poison Information Centre
www.poisons.co.nz

Proper Shipping Name:

- Battery only: **UN 3480 Lithium ion Batteries**
- Battery with equipment **UN 3481 Lithium ion Batteries packed with equipment**

Product Numbers:

Trade Name	Model Number	Voltage (Vdc)	Rated Capacity (Ah)	Rated Capacity (Wh)
Milwaukee	M12 B2	12V	2	24
Milwaukee	M12 B3	12V	3	36
Milwaukee	M12 B4	12V	4	48
Milwaukee	M12 B6	12V	6	72
Milwaukee	M18 B2	18V	2	36
Milwaukee	M18 B4	18V	4	72
Milwaukee	M18 B5	18V	5	90
Milwaukee	M28 BX	28V	3	84
Milwaukee	L4 B2	4V	2.5	10

Supplied with Samsung Li-Ion battery cells, INR18650-30Q or INR18650-20RM or INR18650-25RM or INR18650-15M.

Section 2: Hazards Identification

Eye Irritation: No classified hazards	Acute Toxicity: No classified hazards	Flammable liquid: No classified hazards
Skin Irritation: No classified hazards	Chronic Toxicity: No classified hazards	
Acute Toxicity, Oral: No classified hazards		
Acute Toxicity, Inhalation: No classified hazards		

GHS Label:
No applicable labelling

Hazard Statements	Precautionary Statements
No exposure during routine handling of product	

CLASSIFIED HAZARDS

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200. This SDS contains valuable information for the safe handling and proper use of this product. Save this SDS for future reference.

OTHER HAZARDS

Flammable:

Organic components will burn if cell is incinerated. Combustion of cell contents may cause evolution of Hydrogen Fluoride.

Potential Health Effects:

Fluoride interferes with nerve impulse conduction causing severe pain or absence of sensations

Warning:

No exposure during routine handling of product. Hydrofluoric Acid exposure during firefighting: This information is given for the use of professional fire fighters responding to a warehouse fire where fire from other materials may incinerate batteries. This section is provided solely in case of exposure, during firefighting, to the combustion by-products.

Section 3: Composition / Information of Ingredients

Chemical Name	CAS#	Concentration
Aluminium Foil	7429-90-5	0.1 - 10
Biphenyl (BP)	92-52-4	0.1 - 0.3
Copper Foil	7440-50-8	0.1 - 10
Linear & Cyclic Carbonate solvents	N/A	0 - 17
Graphite Powder/Carbon	7440-44-0	10 - 30
Metal Oxide or other Electrolyte (proprietary)	Confidential	10 - 50
Lithium Hexaflurophosphate ($LiPF_6$)	21324-40-3	0 - 5
Polyvinylidene Fluoride (PVDF)	24937-79-9	0.1 - 5
Styrene Butadiene Rubber (SBR)	N/A	<5
Aluminium, Steel, Nickel and other inert materials	N/A	Remainder

Section 4: First Aid Measures

No exposure during routine handling of product. Risk of exposure occurs only if the battery is mechanically or electrically abused.

No effect under routine handling and use to eyes, skin or if inhaled. Ingestion is not likely, given the physical size and state of the pack. If swallowed, seek medical attention immediately.

If exposure to internal materials within cell due to damaged outer casing the following actions are recommended:

EYE CONTACT:

Flush with water for 15 minutes without rubbing and immediately seek medical attention.

SKIN CONTACT:

Wash area immediately with soap and water. If irritation continues see medical attention.

INHALATION:

Leave area immediately and move to fresh air and seek medical attention.

INGESTION:

If swallowed, contact POISON CONTROL CENTER immediately.

Section 5: Fire Fighting Measures

NFPA 704 Hazard Class

HMIS

0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

SUITABLE EXTINGUISHING MEDIA:

Water spray, carbon dioxide, dry chemical powder or appropriate foam. Use agent appropriate for surrounding materials.

UNSUITABLE EXTINGUISHING MEDIA:

None.

PRODUCTS OF COMBUSTION:

Organic components will burn if incinerated. Combustion of cell contents may cause evolution of Hydrogen Fluoride. In case of fire in an adjacent area, use water, CO2, or

dry chemical extinguishers if cells are packed in their original containers since the fuel of the fire is basically paper products.

PROTECTION OF FIREFIGHTERS:

Hydrofluoric Acid exposure during firefighting: This information is given for the use of professional fire fighters responding to a warehouse fire where fire from other materials may incinerate batteries. This section is provided solely in case of exposure, during firefighting, to the combustion by-products.

Section 6: Accidental Release Measures

PERSONAL PRECAUTIONS:

Use standard industrial clothing in normal use. If handling large containers of cells wear steel toed footwear.

ENVIRONMENTAL PRECAUTIONS:

No special precautions necessary.

METHODS FOR CONTAINMENT:

Transport container outdoors. Hold burned cells and fire clean-up solids for disposal as potential hazardous waste. Unburned cells are not hazardous waste. A fire with over 100 kg of cells burnt will likely require reporting to environmental officials. Always consult and obey all international, federal and local environmental laws.

METHODS FOR CLEAN-UP:

No data available

OTHER INFORMATION:

No data available

Section 7: Handling and Storage

HANDLING:

Use only approved charging equipment. Do not disassemble battery or battery pack. Do not puncture, crush or dispose of in fire.

STORAGE:

Store in a cool, dry place away from sparks and flame. Keep below 125°C. Keep above -60°C. Charge between 0°C and 45°C.

Section 8: Exposure Controls/Personal Protection

Chemical Name	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Aluminium Foil	TWA 5mg/m3*	TWA 5mg/m3*	N	N
Biphenyl (BP)	NA	NA	N	N
Copper Foil	NA	NA	N	N
Linear & Cyclic Carbonate solvents	NA	NA	N	N
Graphite Powder/Carbon	NA	NA	N	N
Metal Oxide or other Electrolyte (proprietary)	NA	NA	N	N
Lithium Hexaflurophosphate (LiPF6)	NA	NA	N	N
Polyvinylidene Fluoride (PVDF)	NA	NA	N	N
Styrene Butadiene Rubber (SBR)	NA	NA	N	N
Aluminium, Steel, Nickel and other inert materials	NA	NA	N	N

EYE PROTECTION:

Not necessary under conditions of normal use

SKIN PROTECTION:

Not necessary under conditions of normal use

RESPIRATORY PROTECTION:

Not necessary under conditions of normal use

ENGINEERING CONTROLS:

Not necessary under conditions of normal use

GENERAL HYGIENE CONSIDERATIONS:

Not necessary under conditions of normal use

EXPOSURE GUIDELINES:

Not necessary under conditions of normal use

Section 9: Physical and Chemical Properties

Data represent typical values and are not intended to be specifications.
NA=Not Applicable; ND=Not Determined

Physical State:	Solid	Viscosity:	NA
Colour:	NA	Upper Explosive Limits (vol% in air):	NA
Odour:	Odourless	Lower Explosive Limits (vol% in air):	NA
Odour Threshold:	NA	Vapor Pressure:	NA
pH:	NA	Vapor Density:	NA
Melting/Freezing Point:	NA	Relative Density:	NA
VOC Content:	NA	Solubility:	NA
Boiling Point:	NA	Partition Coefficient:	NA
Flash Point:	NA	Auto-ignition Temperature:	NA
Evaporation Rate:	NA	Decomposition Temperature:	NA
Specific Gravity:	NA	Flammability (solid, gas):	Organic components will burn if cell incinerated

Section 10: Stability and Reactivity

INCOMPATIBLE MATERIALS:

Water, heat and strong acids.

DECOMPOSITION PRODUCTS MAY INCLUDE:

Hydrogen Fluoride, Phosphorus Oxides, Carbon Monoxide, Carbon Dioxide, Lithium Hydroxide, Manganese Oxides, Aluminium Oxide, possible fluoro-compounds, Carbon soot.

CONDITIONS TO AVOID:

Do not crush, puncture, incinerate, immerse in water or heat over 212°F (100°C). Steel casing slowly dissolves in strong mineral acids.

POLYMERIZATION:

Hazardous polymerization will not occur. Spontaneous decomposition will not occur at normal temperature.

CHEMICAL STABILITY:

This product is stable.

REACTIVITY:

Hazardous polymerization will not occur. Spontaneous decomposition will not occur at normal temperature.

Section 11: Toxicology Information

LIKELY ROUTES OF EXPOSURE: Inhalation, Eye and Skin contact

Eye contact, skin contact, skin absorption, inhalation only if burned. Hydrofluoric acid is extremely corrosive. Contact with hydrogen fluoride fumes is to be avoided. Permissible exposure limit is 3ppm. In case of contact with hydrogen fluoride fumes, immediately leave the area and seek first aid **and** emergency medical attention. Symptoms may have delayed onset. Fluoride ions penetrate skin readily causing destruction of deep tissue layers even bone. Fluoride interferes with nerve impulse conduction causing severe pain or absence of sensations. Immediately flush eyes or skin with water for at least 20 minutes to neutralize the acidity and remove some fluoride. Remove and destroy all contaminated clothing and permeable personal possessions. Before re-use, impermeable possessions should be soaked in benzalkonium chloride after washing. Following flushing of the affected areas, an iced aqueous solution of benzalkonium chloride or 2.5% calcium gluconate gel should be applied to react with the fluoride ion. Compresses and wraps may be used for areas where immersion is not practical. Medicated dressing should be changed every 2 minutes. Exposure to hydrofluoric acid fumes sufficient to cause pain requires immediate hospitalization for monitoring for pulmonary edema.

ACUTE SYMPTOMS AND EFFECTS:

Inhalation: No further toxicological data known
Eye contact: No further toxicological data known
Skin contact: No further toxicological data known
Ingestion: No further toxicological data known

OTHER:

No further data known.

Section 12: Ecological Information

ECOTOXICOLOGICAL INFORMATION:

None in routine handling of product.

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY (BIOPERSISTENCY & BIODEGRADABILITY):

None in routine handling of product.

POTENTIAL OF BIOACCUMULATION:

None in routine handling of product.

MOBILITY IN SOIL:

None in routine handling of product.

OTHER ADVERSE EFFECTS:

No data available

Section 13: Disposal Considerations

DISPOSAL:

Dispose in accordance with appropriate regulations. Always consult and obey all international, federal, provincial/state and local hazardous waste disposal laws. Some jurisdictions require recycling of this spent product. Battery recycling is encouraged. Lithium ion batteries are safe for disposal in the normal municipal waste stream since they are not defined by the federal government as hazardous waste. However, Lithium ion batteries are recyclable.

This product does not contain mercury, cadmium or Lithium (metal).

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212°F (100°C).

Section 14: Transportation Information

Proper Shipping Description:

- **UN3480 Lithium ion batteries** - For batteries on their own.
- **UN3481 Lithium ion batteries packed with equipment** - For batteries packed with other equipment.

These Milwaukee Lithium - ion batteries are to be shipped in compliance with relevant requirements of the following DG Regulations:

- **Air:**
  - ICAO Technical Instructions or IATA Dangerous Goods Regulations
    - For **UN3480**
      - Packing Instruction 965, Section IB
    - For **UN3481**
      - Packing Instruction 966, Section IB
- **Sea:**
  - IMDG Code: Packing Instruction P903, or Special Provision 188, as applicable.
- **Road:**
  - Australian Dangerous Goods (ADG): Packing Instruction P903, or Special Provision 188, as applicable.

UN 38.3 BATTERY TRANSPORTATION TESTING:

Milwaukee rechargeable Lithium - ion batteries listed in Section 1 have passed the relevant transportation test requirements as described in the UN Manual of Tests and Criteria, Part III, section 38.3.

UN 38.3 Test Reports are maintained on file at the corporate headquarters of Techtronic Industries (Australia & NZ) Pty Ltd, 21 Kelletts Rd, Rowville, Victoria, Australia.

Milwaukee batteries are shipped with a State of Charge (SOC) less than 30%.

Section 15: Regulatory Information

GLOBAL INVENTORIES

TSCA: United States	See Sec. 14. Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
DSL: Canada	See Sec. 14. Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
ECL: Korea	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
PICCS:	Philippines Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
ENCS: Japan	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
AICS: Australia	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
IECS: China	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
EINECS: European Union	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.

SARA 313 Information:

SARA Title III Section 313: This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

WHMIS: Canadian Workplace

This product does not contain regulated levels of any toxic chemical subject to the reporting requirements

Section 16: Other Information

ABBREVIATIONS:

TSCA	Toxic Substance Control Act
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous
OSHA	Occupational Safety and Health
IARC/NTP	International Agency for Research on Cancer/National Toxicology Program
SARA	Superfund Amendments and Reauthorization Act of 1986
ACGIH	American Conference of Governmental Industrial Hygienists
NIOSH/MSHA	National Institute for Occupational Safety Health/ Mine Safety and Health Administration
WHMIS	Workplace Hazardous Materials Information System

Prepared by: Milwaukee Electric Tool Corporation

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation.

MILWAUKEE ELECTRIC TOOL CORPORATION makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto.

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

· **Product identifier**

· **Trade name: Lubricant for Pneumatic Fastening Tool**

· **Relevant identified uses of the substance or mixture and uses advised against**
· **Application of the substance / the preparation** Lubricating oil

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US- Tulsa, OK 74146
Tel: 1-800-879-8000 toll free
Fax: 1-800-879-7000
christina.zimmer@hilti.com

· **Information department:** see section 16
· **Emergency telephone number:**
Schweizerisches Toxikologisches Informationszentrum - 24 h Service
Tel.: +41 44 251 51 51 (international)
email: info@toxi.ch

2 Hazards identification

· **Classification of the substance or mixture**

H333 May be harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Label elements**

· **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with directives on hazardous materials.

· **Risk phrases:**
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

· **Safety phrases:**
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 1
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

(Contd. on page 2)

Trade name: Lubricant for Pneumatic Fastening Tool

(Contd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture: consisting of the following components.

· **Dangerous components:**		
CAS: 74869-22-0 EINECS: 278-012-2	Lubricating oils	50-100%
CAS: 68649-42-3	phosphorodithioic, acid, dialkyl esters, zinc salts Xi R36; N R51/53 H411; H319; H401	≤1%
CAS: 128-39-2 EINECS: 204-884-0	2,6-di-tert-butylphenol Xn R20/21 H311; H314; H332	≤1%
CAS: 101-02-0 EINECS: 202-908-4	triphenyl phosphite Xi R36/38; N R50/53 H400; H410; H315; H319	≤0.5%
CAS: 93820-57-6	benzenesulfonic acid, di-C10-18-alkyl derivs., calcium salts Xi R36/37 H319; H335	≤0.5%

4 First aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Take affected persons into fresh air and keep quiet.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
· **For safety reasons unsuitable extinguishing agents:**
Water
Water with full jet
· **Special hazards arising from the substance or mixture**
Carbon monoxide (CO)
Nitrogen oxides (NOx)
Carbondioxide (CO2)
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained respiatory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

(Contd. on page 3)

Trade name: Lubricant for Pneumatic Fastening Tool

(Contd. of page 2)

· **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.

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.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:** None.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.
· **Protection of hands:** Protective gloves
· **Material of gloves** Natural rubber, NR
· **Eye protection:** Safety glasses
· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	Yellowish
· **Odor:**	Mineral-oil-like
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 300°C (> 572 °F)
· **Flash point:**	205°C (401 °F) (DIN EN ISO 2592)
· **Flammability (solid, gaseous):**	Not applicable.

(Contd. on page 4)

(Contd. of page 3)

· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
Lower:	0.6 Vol %
Upper:	7 Vol %
· **Vapor pressure:**	Not determined.
· **Density at 20°C (68 °F):**	0.87 g/cm³ (7.26 lbs/gal) (DIN 51757)
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Segregation coefficient (n-octonol/water):**	Not determined.
· **Viscosity:**	
Dynamic at 40°C (104 °F):	22 mm2/s (DIN EN ISO 3104)
Kinematic:	Not determined.
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
Temperatures > 200 °C
No decomposition if used according to specifications.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Harmful to aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.

(Contd. on page 5)

(Contd. of page 4)

· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**

14 Transport information

· **UN-Number** · **DOT, ADR, ADN, IMDG, IATA**	Void
· **UN proper shipping name** · **DOT, ADR, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)** · **DOT, ADR, ADN, IMDG, IATA** · **Class**	Void
· **Packing group** · **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:** · **Marine pollutant:**	No
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

68649-42-3	phosphorodithioic, acid, dialkyl esters, zinc salts
128-39-2	2,6-di-tert-butylphenol
101-02-0	triphenyl phosphite

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

(Contd. on page 6)

(Contd. of page 5)

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.
· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.
· **NTP (National Toxicology Program)**
None of the ingredients is listed.
· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.
· **MAK (German Maximum Workplace Concentration)**
None of the ingredients is listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.
· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

· **Product related hazard informations:**
The product has been classified and marked in accordance with directives on hazardous materials.

· **Risk phrases:**
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

· **Safety phrases:**
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

· **National regulations:**

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H401 Toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

R20/21 Harmful by inhalation and in contact with skin.
R36 Irritating to eyes.
R36/37 Irritating to eyes and respiratory system.
R36/38 Irritating to eyes and skin.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
· **Contact:**

(Contd. on page 7)

Trade name: Lubricant for Pneumatic Fastening Tool

(Contd. of page 6)

Christina Zimmer
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F: +423 234 7804
M: christina.zimmer@hilti.com

· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)

RECTORSEAL

A CSW Industrials Company

SAFETY DATA SHEET

METACAULK® 1000

Intumescent, water-based firestop sealant

Section 1 – Product and Company Information

Product Name
Metacaulk® 1000 Intumescent Firestop Sealant

Product Codes
66640, 66242, 66302, 66303, 66305, 66307, 66309, 66312

Chemical Family
Organic/Inorganic

Use
Firestopping sealant

Manufacturer's Name
RectorSeal, LLC
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
June 2, 2020

Date of Preparation
August 21, 2017

HMIS Codes

Health	1
Flammability	0
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

GHS CLASSIFICATION

Physical Hazards:
None

Health Hazards

Acute Toxicity:
Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
None

Precautionary Statements:
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

LABELING SYMBOLS: None

RISK R-PHRASES: None

SAFETY S-PHRASES:
S2: Keep out of the reach of children.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION
Not a respiratory irritant.

EYE CONTACT
Contact may cause eye irritation.

SKIN CONTACT
Contact may cause skin irritation.

INGESTION
Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

Section 3 – Composition/Information on Ingredients

% by WT	CAS No.	INGREDIENT	UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

Section 4 – First Aid Measures

If inhaled: Not a respiratory irritant.

If on skin: Wash with soap and water. If irritation occurs, seek medical attention.

If in eyes: Immediately flush with large amounts of water. If irritation occurs, seek 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: Heat may build up and rupture closed containers.

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil. Wear protective clothing during clean up.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Keep container closed and upright when not in use. To prevent freezing and possible rupture of container, do not store below 35°F.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues and vapors; treat as if full and observe all product precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Clothing Or Equipment: None required.

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:	212°F (100°C) @ 760mm Hg
Specific gravity (H20 = 1):	1.25
Vapor pressure (mmHg):	17 @ 68°F (20°C)
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	> 1
Appearance/Odor:	Red paste/Mild odor
Solubility in water:	Soluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight): TVOC, CDPH 01350 v1.2 standard	< 1% or (< 10 g/L) 14.4 (µg m–3)
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

Section 10 – Stability and Reactivity

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

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

None

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	**None**
Food Chain Concentration Potential:	N/A
Waterfowl Toxicity:	N/A
BOD:	N/A
Aquatic Toxicity:	N/A

Section 13 – Disposal Considerations

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not 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:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	**None**
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

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

RECTORSEAL

A CSW Industrials Company

SAFETY DATA SHEET

METACAULK® INTUMESCENT SLEEVE

Prefabricated firestop system

Section 1 – Product and Company Information

Product Name
Metacaulk® Intumescent Sleeve

Product Codes
66582, 66584

Chemical Family
Organic/Inorganic

Use
Intumescent sleeve

Manufacturer's Name
RectorSeal, LLC
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
June 2, 2020

Date of Preparation
March 20, 2012

HMIS Codes

Health	1
Flammability	0
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

GHS CLASSIFICATION

Physical Hazards:
None

Health Hazards

Acute Toxicity:
Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
None

Precautionary Statements:
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION
Not a respiratory irritant.

EYE CONTACT
Contact may cause eye irritation.

SKIN CONTACT
Contact may cause skin irritation.

INGESTION
Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

Section 4 – First Aid Measures

If inhaled:	Not a respiratory irritant.
If on skin:	Wash with soap and water. If irritation occurs, seek medical attention.
If in eyes:	Immediately flush with large amounts of water. If irritation occurs, seek 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.

Unusual Fire And Explosion Hazards: Fire conditions will activate product causing intumescence to occur.

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up debris to prevent footing hazard.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Do not store near heat, sparks, or open flames.

Other Precautions: KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Clothing Or Equipment: None required.

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:	N/A
Specific gravity (H20 = 1):	N/A
Vapor pressure (mmHg):	N/A
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	N/A
Appearance/Odor:	Black/Mild odor
Solubility in water:	Insoluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight): TVOC, CDPH 01350 v1.2 standard	< 1% or < 10 g/L 15.0 (µg m–3)
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

Section 10 – Stability and Reactivity

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

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 listed carcinogen.

Toxicology Data

Ingredient Name **None**

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	**None**
Food Chain Concentration Potential:	N/A
Waterfowl Toxicity:	N/A
BOD:	N/A
Aquatic Toxicity:	N/A

Section 13 – Disposal Considerations

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not 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:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	**None**
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

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

METACAULK® JOINT STRIP

Flexible material for up to 2" wide joints

Section 1 – Product and Company Information

Product Name
Metacaulk® Joint Strip

Product Codes
66700, 66701, 66702, 66703, 66704

Chemical Family
Organic/Inorganic

Use
Firestopping material

Manufacturer's Name
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
August 21, 2017

Date of Preparation
August 21, 2017

HMIS Codes

Health	1
Flammability	0
Reactivity	0
PPI	B

Emergency Telephone No.
Chemtrec 24 Hours
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GHS CLASSIFICATION

Physical Hazards:
None

Health Hazards

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Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
None

Precautionary Statements:
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION
Not a respiratory irritant.

EYE CONTACT
Contact may cause eye irritation.

SKIN CONTACT
Contact may cause skin irritation.

INGESTION
Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

Section 4 – First Aid Measures

If inhaled:	Not a respiratory irritant.
If on skin:	Wash with soap and water. If irritation occurs, seek medical attention.
If in eyes:	Immediately flush with large amounts of water. If irritation occurs, seek 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.

Unusual Fire And Explosion Hazards: Fire conditions will activate product causing intumescence to occur.

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up debris to prevent footing hazard.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Do not store near heat, sparks, or open flames.

Other Precautions: KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Clothing Or Equipment: None required.

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:	N/A
Specific gravity (H20 = 1):	N/A
Vapor pressure (mmHg):	N/A
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	N/A
Appearance/Odor:	Black/Mild odor
Solubility in water:	Insoluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	< 1% or < 10 g/L
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

Section 10 – Stability and Reactivity

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

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 listed carcinogen.

Toxicology Data

Ingredient Name

None

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	**None**
Food Chain Concentration Potential	N/A
Waterfowl Toxicity	N/A
BOD	N/A
Aquatic Toxicity	N/A

Section 13 – Disposal Considerations

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not 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:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	**None**
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

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

METACAULK MC 150+

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 3/6/2024 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Trade name : METACAULK MC 150+

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

RectorSeal, LLC
2601 Spenwick Drive
Houston, Texas 77055
USA
T (800)-231-3345 or (713)263-8001
www.rectorseal.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1.800.424.9300
Outside USA and Canada: +1.703.527.3887
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
4-hydroxy-4-methyl-2-pentanone	CAS-No.: 123-42-2	5 – 10	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 3 (Inhalation:vapour), H331 Eye Irrit. 2, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

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

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

Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Exercise caution. Spill area may be slippery.

6.1.2. For emergency responders

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

Emergency procedures : Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Protect from sunlight.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Diacetone alcohol

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
ACGIH OEL TWA	50 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Diacetone alcohol (4-Hydroxy-4-methyl-2-pentanone)
OSHA PEL TWA	240 mg/m³
	50 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

Wear protective clothing

Hand protection:

Neoprene or nitrile rubber gloves

Type	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR), Neoprene rubber (HNBR)		0.3 mm - 0.6 mm	

Eye protection:

Wear eye protection

Skin and body protection:

Wear protective clothing

Respiratory protection:

No respiratory protection needed under normal use conditions

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Paste.

Color : red

Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour:
Odourless Characteristic odour Almost odourless Mild odour Pleasant odour Sweet odour

Odor threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : Not applicable

Boiling point : No data available

Flash point : Not applicable

Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : Non flammable.

Vapor pressure : No data available

Relative vapor density at 20°C : No data available

Relative density : No data available

Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: > 25 mm²/s
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
LD50 oral rat	3002 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2738 - 3290
LD50 oral	4000 mg/kg
LD50 dermal rat	> 1875 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 1875 mg/kg Source: ECHA
LC50 Inhalation - Rat (Vapours)	≥ 7.6 mg/l Source: ECHA
ATE US (oral)	3002 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (vapors)	3 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
LOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (oral,rat,90 days)	250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEC (inhalation,rat,vapor,90 days)	≥ 4.106 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified

Viscosity, kinematic : > 25 mm²/s

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Viscosity, kinematic	1.966 mm²/s

Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	> 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

METACAULK MC 150+	
Persistence and degradability	Not rapidly degradable

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.07 g O_2/g substance
Chemical oxygen demand (COD)	2.11 g O_2/g substance
ThOD	2.21 g O_2/g substance

12.3. Bioaccumulative potential

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Partition coefficient n-octanol/water (Log Pow)	1.9 (Read-across, Equivalent or similar to OECD 117)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

4-hydroxy-4-methyl-2-pentanone (123-42-2)	
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

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

15.2. International regulations

CANADA

4-hydroxy-4-methyl-2-pentanone (123-42-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

4-hydroxy-4-methyl-2-pentanone (123-42-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

4-hydroxy-4-methyl-2-pentanone (123-42-2)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

15.3. US State regulations

⚠ **WARNING:** This product can expose you to Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
SODIUM HYDROXIDE(1310-73-2)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Aliphatic alcohol(111-87-5)	U.S. - Pennsylvania - RTK (Right to Know) List
3-iodo-2-propynyl butylcarbamate(555406-53-6)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
Titanium dioxide(1317-80-2)	U.S. - Massachusetts - Right To Know List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
amorphous silica(7631-86-9)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List
iron(III) oxide(1309-37-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
chalk(1317-65-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
quartz, 1%≤conc respirable crystalline silica<10%(14808-60-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Ethylene Oxide(75-21-8)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS); U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
4-hydroxy-4-methyl-2-pentanone(123-42-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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

Full text of H-phrases

H226	Flammable liquid and vapor
H312	Harmful in contact with skin
H319	Causes serious eye irritation

RECTORSEAL

A CSW Industrials Company

SAFETY DATA SHEET

METACAULK® WRAP STRIP

Firestop for penetrations

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product name
Metacaulk Wrap Strip

Product Codes
66440, 66441, 66442, 66443

Chemical Family
Organic/Inorganic

Use
Firestopping Sealant

Manufacturer's Name
RectorSeal LLC
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of validation
February 3, 2021

Date of Preparation
February 3, 2021

HMIS Codes

Health	1
Flammability	0
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 Physical Hazards
None

GHS CLASSIFICATION

PHYSICAL HAZARDS: None

HEALTH HAZARDS

Skin irritation, Category 2
Eye irritation, Category 2
Skin sensitisation, Category 1

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: GHS07: Exclamation Mark
Signal Word: Warning

Hazard Statements:
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H317 - May cause an allergic skin reaction.

Precautionary Statements:
Prevention:
- P102 - Keep out of reach of children.
- P260 - Do not breathe dust/fumes/gas/mist/vapours/spray.
- P264 - Wash hands thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/ eye protection/ face protection.

Response:
- P302+P352 - IF ON SKIN: wash with plenty of water.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.
  Remove contact lenses if present and easy to do - continue rinsing.
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
- P337 + P313 - If eye irritation persists: Get medical advice/ attention.
- P362 + P364 - Take off contaminated clothing and wash it before reuse.

Storage
- P402 - Store in a cool, dry place.

Disposal
- P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

SUMMARY OF ACUTE HAZARDS

May cause skin irritation.

ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

INHALATION
Not a respiratory irritant.

EYE CONTACT
Contact may cause eye irritation.

SKIN CONTACT
Contact may cause skin irritation.

INGESTION
Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Acrylic polymer
PERCENTAGE BY WEIGHT: 30-50
CAS NUMBER: Proprietary
EINEC: Proprietary

INGREDIENT: Ethylenediamine, salt with phosphoric acid
PERCENTAGE BY WEIGHT: <20
CAS NUMBER: 14852-17-6
EINECS: 238-914-9

INGREDIENT: Graphite
PERCENTAGE BY WEIGHT: 1-20
CAS NUMBER: 7782-42-5
EINECS: 231-955-3

SECTION 4 - FIRST AID MEASURES

If INHALED	Not a respiratory irritant.
If on SKIN	Wash with soap and water. If irritation occurs, seek medical attention.
If in EYES	Immediately flush with large amounts of water. If irritation occurs, seek 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

EXTINGUSING MEDIA
Foam, dry chemical, carbon dioxide or water fog.

SPECIAL FIRE FIGHTING PROCEDURES:
Wear self-contained breathing apparatus (SCBA) and other protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Heat may build up and rupture closed containers.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Pick up debris to prevent footing hazard..

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store near heat, sparks, or open flames.

OTHER PRECAUTIONS:
KEEP OUT OF REACH OF CHILDREN.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): None required.
VENTILATION - LOCAL EXHAUST: N/A
SPECIAL: N/A
MECHANICAL (GENERAL): N/A
OTHER: N/A
PROTECTIVE GLOVES: None required.
EYE PROTECTION: None required.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None required.
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:	N/A
Specific Gravity (H_20 = 1):	N/A
Vapor Pressure (mm Hg):	N/A
Melting Point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation Rate (Ethyl Acetate = 1):	N/A
Appearance/Odor:	Black/Mild odor
Solubility In Water:	Insoluble
Flash Point:	None
Lower Explosion Limit:	None
Upper Explosion Limit:	None
VOLATILE ORGANIC COMPOUNDS (VOC)	
Content (Theoretical Percentage By Weight):	<1% or <10 g/L
TVOC, CDPH 01350 v1.2 standard	15.0 (µg m-s)

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None.

Incompatibility (Materials to Avoid): None known.

Hazardous Decomposition Products: CO, CO2 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 listed carcinogen.

Toxicology Data

Ingredient Name

None

SECTION 12 - ECOLOGICAL INFORMATION

Ecological Data

Ingredient Name

None

Food Chain Concentration Potential	N/A
WATERFOWL TOXICITY	N/A
BOD	N/A
AQUATIC TOXICITY	N/A

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not 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:	Non-Regulated
OCEAN (IMDG):	Non-Regulated
AIR (IATA):	Non-Regulated
WHMIS (CANADA)	Non-Regulated

SECTION 15 - REGULATORY INFORMATION

Regulatory Data

Ingredient Name

Acrylic polymer

SARA 313 No
TSCA Inventory Yes
CERCLA RQ N/A
RCRA Code N/A

Ethylenediamine, salt with phosphoric acid

SARA 313 No
TSCA Inventory Yes
CERCLA RQ N/A
RCRA Code N/A

Graphite

SARA 313 No
TSCA Inventory Yes
CERCLA RQ N/A
RCRA Code N/A

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
Nitrogen, compressed.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name
Nitrogen, compressed.
EC No (from EINECS): 231-783-9
CAS No: 7727-37-9
Index-Nr. -
Chemical formula N2
REACH Registration number:
Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.
Known uses
Not known.
Company identification
Linde AG, Linde Gas Division, Seitnerstraße 70, D-82049 Pullach
E-Mail Address Info@de.linde-gas.com
Emergency phone numbers (24h): 089-7446-0

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)
Press. Gas (Compressed gas) - Contains gas under pressure; may explode if heated.

Classification acc. to Directive 67/548/EEC & 1999/45/EC
Not classified as hazardous to health.
Asphyxiant in high concentrations.
Risk advice to man and the environment
In high concentrations may cause asphyxiation.
Compressed gas.
Label Elements

- Labelling Pictograms

- Signal word
Warning

- Hazard Statements

H280	Contains gas under pressure; may explode if heated.
EIGA-As	Asphyxiant in high concentrations.

- Precautionary Statements

Precautionary Statement Prevention
None.

Precautionary Statement Response
None.

Precautionary Statement Storage
P403 Store in a well-ventilated place.

Precautionary Statement Disposal
None.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.
Components/Impurities
Nitrogen, compressed.
CAS No: 7727-37-9
Index-Nr. -
EC No (from EINECS): 231-783-9
REACH Registration number:
Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.
Contains no other components or impurities which will influence the classification of the product.

4 FIRST AID MEASURES

Inhalation
In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
Ingestion
Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards
Exposure to fire may cause containers to rupture/explode. Non flammable.
Hazardous combustion products
None.
Suitable extinguishing media
All known extinguishants can be used.
Specific methods
If possible, stop flow of product. Move container away or cool with water from a protected position.
Special protective equipment for fire-fighters
Normal firefighters' equipment consists of an appropriate SCBA (open-circuit positive pressure compressed air type) in combination with fire kit. Equipment and clothing to the following standards will provide a suitable level of protection for firefighters.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions
Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. EN 137 Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with full face mask — Requirements, testing, marking.
Environmental precautions
Try to stop release.
Clean up methods
Ventilate area.

7 HANDLING AND STORAGE

Handling
Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's handling instructions. Only experienced and properly instructed persons should handle gases under pressure. Protect

containers from physical damage; do not drag, roll, slide or drop. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the container contents. When moving containers, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Ensure the complete gas system has been (or is regularly) checked for leaks before use. If user experiences any difficulty operating container valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminates particularly oil and water. Never attempt to transfer gases from one container to another. Do not smoke while handling product. The substance must be handled in accordance with good industrial hygiene and safety procedures.

Storage

Keep container below 50°C in a well ventilated place. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Cylinders should be stored in the vertical position and properly secured to prevent falling over. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from ignition sources (including static discharges). Keep away from combustible materials. Secure cylinders to prevent them from falling. Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value

Value type	value	Note

Respiratory protection

Not required

Hand protection

Advice

Wear working gloves and safety shoes while handling containers.

Personal protection

Ensure adequate ventilation.

9 PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance/Colour: Colourless gas.
Odour: None.

Important information on environment, health and safety

Molecular weight: 28 g/mol
Melting point: -210 °C
Boiling point: -196 °C
Critical temperature: -147 °C
Flash point: Not applicable for gases and gas mixtures.
Autoignition temperature: Not applicable.
Flammability range: Non flammable.
Relative density, gas (Air=1): 0,97
Relative density, liquid (Water=1): 0,8
Vapour Pressure 20 °C: Not applicable.
Solubility in water: 20 mg/l
Maximum filling pressure (bar): 300 bar
Other data
None.

10 STABILITY AND REACTIVITY

Stability and reactivity

Stable under normal conditions.
Hazardous decomposition products
Statements on decomposition
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 TOXICOLOGICAL INFORMATION

General

No known toxicological effects from this product.

12 ECOLOGICAL INFORMATION

General

No ecological damage caused by this product.

13 DISPOSAL CONSIDERATIONS

General

Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required. Vent to atmosphere in a well ventilated place. Consult supplier for specific recommendations. Refer to the EIGA code of practice (Doc.30 "Disposal of Gases", downloadable at http://www.eiga.org) for more guidance on suitable disposal methods.

Gases in pressure containers excluding those, which are mentioned under 16 05 04

EWC Nr. 16 05 05

14 TRANSPORT INFORMATION

ADR/RID

Class	2	Classification Code	1A

UN number and proper shipping name

UN 1066 Nitrogen, compressed
UN 1066 Nitrogen, compressed

Labels	2.2	Hazard number	20
Packing Instruction	P200		

IMDG

Class	2.2

UN number and proper shipping name

UN 1066 Nitrogen, compressed

Labels	2.2
Packing Instruction	P200
EmS	F-C

IATA

Class	2.2

UN number and proper shipping name

UN 1066 Nitrogen, compressed

Labels	2.2
Packing Instruction	P200

Other transport information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of

an accident or an emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the container valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15 REGULATORY INFORMATION

Further national regulations
Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work
Directive 94/9/EC on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)
Directive 89/686/EEC on personal protective equipment
Council Directive 67/548/EEC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
Directive 1999/45/EC concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations
Directive 97/23/EC on the approximation of the laws of the Member States concerning pressure equipment.
Water pollution class
Not polluting to waters according to VwVwS from 27.07.2005.
TA-Luft
Not classified according to TA-Luft.

16 OTHER INFORMATION

Ensure all national/local regulations are observed. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Advice
Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. Details given in this document are believed to be correct at the time of going to press.
Further information
Linde safety advice

No. 3	Oxygen deficiency
No. 7	Safe handling of gas cylinders and cylinder bundles
No. 11	Transport of gas receptacles in vehicles

End of document

RECTORSEAL

A CSW Industrials Company

SAFETY DATA SHEET

NOKORODE® AQUA FLUX™

Water washable flux

Section 1 - Product and Company Information

Product Name
Nokorode Aqua Flux

Product Codes
74044, 74046, 74047, 74060

Chemical Family
Organic/Inorganic

Use
Soldering flux

Manufacturer's Name
RectorSeal LLC
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of validation
January 20, 2022

Date of Preparation
August 1, 2012

HMIS Codes

Health	1
Flammability	1
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

GHS Classification

Physical Hazards
None

Health Hazards
Acute Toxicity:

Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

Section 2 - Hazards Identification

Environmental Hazards

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

GHS07: Exclamation Mark/Irritant
Signal Word: Warning

Hazard Statements:

H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary Statements:

P102 - Keep out of reach of children.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling.
P281 Use personal protective equipment as required.

Summary Of Acute Hazards

Irritation to respiratory system from fumes evolved during soldering. Eye contact may cause intense irritation and injury.

Route Of Exposure, Signs And Symptoms

INHALATION: Irritation to respiratory system from fumes evolved during soldering.
EYE CONTACT: Contact may cause intense irritation and injury.
SKIN CONTACT: May cause skin irritation.
INGESTION: Nausea, vomiting, irritation to digestive system.
SUMMARY OF CHRONIC HAZARDS: Short term effects to liver and kidneys can occur. Chemical irritation from continued skin contact can occur. Continuous industrial use in small unventilated areas may result in sufficient inhalation of solder and flux fumes to cause lung damage and irritation of respiratory tract.
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 exposure.

Section 3 - Composition/Information on Ingredients

Ingredient: Ammonium Chloride
Percentage By Weight: < 10
CAS Number: 12125-02-9
EC#: 235-186-4

Ingredient: Ethanolamine hydrochloride
Percentage By Weight: < 10
CAS#: 2002-24-6
EC#: 217-900-6

Ingredient: Paraffinic Oil
Percentage By Weight: < 10
CAS#: 64742-01-4
EC#: 265-101-6

Ingredient: Petroleum Deriviatives
Percentage By Weight: < 10
CAS Number: 12794-56-8
EC#: 246-771-9

Ingredient: Polyethylene-polypropylene glycol
Percentage By Weight: < 10
CAS#: 9003-11-6
EC#: N/D

Ingredient: Glycerine
Percentage By Weight: < 10
CAS#: 56-81-5
EC#: 200-289-5

Ingredient: Polyethylene glycol octylphenyl ether
Percentage By Weight: < 10
CAS#: 9036-19-5
EC#: N/D

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 wash with soap and water. Remove and wash any contaminated clothing.
IF IN EYES:	Immediately flush with large amounts of water for at least 15 minutes. Get medical attention if irritation persists.
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 full face piece breathing apparatus and other protective clothing. Hazardous decomposition products possible (see Section 10). May release ZnO and HCl fumes.

Unusual fire and explosion hazards
Heat may build up pressure and rupture closed containers.

Section 6 - Accidental Release Measures

Steps to be taken in case material is released or spilled:
Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil.
Wear protective clothing during clean up.

Section 7 - Handling and Storage

Precautions to be taken in handling and storing:

Keep container closed and upright when not in use. Store flux at ambient conditions.
Wash thoroughly after handling to remove all residue.

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.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ammonium Chloride
ACGIH TLV: 10 mg/m3
OSHA PEL: 10 mg/m3

Ethanolamine hydrochloride
ACGIH TLV: N/D
OSHA PEL: N/D

Paraffinic Oil
ACGIH TLV: N/D
OSHA PEL: N/D

Petroleum Deriviatives
ACGIH TLV: N/D
OSHA PEL: N/D

Polyethylene-polypropylene glycol
ACGIH TLV: N/D
OSHA PEL: N/D

Glycerine
ACGIH TLV: N/D
OSHA PEL: N/D

Polyethylene glycol octylphenyl ether
ACGIH TLV: N/D
OSHA PEL: N/D

Respiratory Protection (Specify Type): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators during soldering operations until fumes have dissipated.
Ventilation: Local Exhaust: Acceptable
Special: N/A
Mechanical (General): Acceptable.
Other: N/A
Protective Gloves: Wear rubber gloves.
Eye Protection: Safety glasses (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	N/A
SPECIFIC GRAVITY (H20 = 1)	0.98
VAPOR PRESSURE (MMHG)	< 0.01 @ 68°F (20°C)
MELTING POINT	120° – 150°F (52° – 66°C)
VAPOR DENSITY (AIR = 1)	N/A
EVAPORATION RATE (ETHYL ACETATE = 1)	N/A
APPEARANCE/ODOR	Tan/Petroleum odor
SOLUBILITY IN WATER	Insoluble
VOLATILE ORGANIC COMPOUNDS (VOC) CONTENT (THEORETICAL PERCENTAGE BY WEIGHT)	0% or (0 g/L)
FLASH POINT	> 400°F (204°C) SETA CC
LOWER EXPLOSION LIMIT	N/D
UPPER EXPLOSION LIMIT	N/D

Section 10 - Stability and Reactivity

Stability:
Stable

Conditions to avoid:
None.

Incompatibility (materials to avoid):
None known.

Hazardous decomposition products:
Toxic fumes of zinc, chlorine, and HCL may be evolved during soldering.

Hazardous polymerization:
Will not occur.

Section 11 - Toxicology Information

Chronical Health Hazards:
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Toxicology Data:
Ingredient name

Ammonium Chloride
Oral-Rat LD50: 1650 mg/kg
Inhalation-Rat LC50: N/D

Ethanolamine Hydrochloride
Oral-Rat LD50: N/D
Inhalation-Rat LC50: N/D

Paraffinic Oil
Oral-Rat LD50: N/D
Inhalation-Rat LC50: N/D

Petrolatum Deriviatives
Oral-Rat LD50: N/D
Inhalation-Rat LC50: N/D

Polyethylene-polypropylene glycol
Oral-Rat LD50: N/D
Inhalation-Rat LC50: N/D

Glycerine
Oral-Rat LD50: 12600 mg/kg
Inhalation-Rat LC50: >570 mg/m3/1H

Polyethylene glycol octylphenyl ether
Oral-Rat LD50: 4190 mg/kg
Inhalation-Rat LC50: N/D

Section 12 - Ecological Information

Ecological Data:

Ingredient Name:	**Ammonium Chloride**
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/A
BOD	None
Aquatic Toxicity	6 ppm/96 hr/sunfish TLm

Ingredient Name:	**Ethanolamine Hydrochloride**
Food Chain Concentration	Potential None
Waterfowl Toxicity	N/D
BOD	N/D
Aquatic Toxicity	N/D

SECTION 12 - ECOLOGICAL INFORMATION

Ingredient Name:	**Paraffinic Oil**
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/D
BOD	N/D
Aquatic Toxicity	N/D

Ingredient Name:	**Petrolatum Deriviative**
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/D
BOD	N/D
Aquatic Toxicity	N/D

Ingredient Name:	**Polyethylene-polypropylene glycol**
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/D
BOD	N/D
Aquatic Toxicity	N/D

Ingredient Name:	**Glycerine**
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/D
BOD	N/D
Aquatic Toxicity	N/D

Ingredient Name:	**Polyethylene glycol octylphenyl ether**
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/D
BOD	N/D
Aquatic Toxicity	N/D

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not 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:	Non-Regulated
OCEAN (IMDG):	Non-Regulated
AIR (IATA):	Non-Regulated
WHMIS (CANADA):	Non-Regulated

Section 15 - Regulatory Information

Regulatory Data:

Ingredient Name:	**Ammonium Chloride**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Ethanolamine Hydrochloride**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Paraffinic Oil**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Petrolatum Deriviative**
SARA 313	Yes
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Polyethylene-polypropylene glycol**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Section 15 - Regulatory Information

Ingredient Name:	**Glycerine**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Polyethylene glycol octylphenyl ether**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

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

NOKORODE REGULAR PASTE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 8/14/2023 Revision date: 8/17/2023 Supersedes: 8/14/2023 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Trade name : NOKORODE REGULAR PASTE

1.2. Recommended use and restrictions on use

Recommended use : Industrial

1.3. Supplier

Manufacturer

RectorSeal, LLC
2601 Spenwick Drive
Houston, Texas 77055
USA
T (800)-231-3345 or (713)263-8001
www.rectorseal.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1.800.424.9300
Outside USA and Canada: +1.703.527.3887
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H302 - Harmful if swallowed
H318 - Causes serious eye damage

Precautionary statements (GHS US) : P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
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.
P330 - Rinse mouth.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Zinc chloride	CAS-No.: 7646-85-7	5.54 – 22.16	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314
ammonium chloride	CAS-No.: 12125-02-9	0.831 – 8.31	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
Hydrochloric Acid	CAS-No.: 7647-01-0	0 – 1.385	Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1A, H314

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Zinc chloride (7646-85-7)

No additional information available

ammonium chloride (12125-02-9)

USA - ACGIH - Occupational Exposure Limits

Local name	Ammonium chloride, fume
ACGIH OEL TWA	10 mg/m³
ACGIH OEL STEL	20 mg/m³
Remark (ACGIH)	TLV® Basis: Eye & URT irr
Regulatory reference	ACGIH 2021

Hydrochloric Acid (7647-01-0)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

Wear protective clothing

Hand protection:

Neoprene or nitrile rubber gloves

Type	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR), Neoprene rubber (HNBR)	6 (> 480 minutes)	> 0.6 mm	

Eye protection:

Wear eye protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Paste.

Color : Beige

Odor : petroleum-like odor

Odor threshold : No data available

pH	: No data available
Melting point	: 52 – 66 °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: > 204 °C Non-equilibrium method - Setaflash apparatus
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0.01 mm Hg @ 20 °C
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: > 23 mm²/s
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified
Additional information	: Based on available data, the classification criteria are not met

NOKORODE REGULAR PASTE

ATE US (oral)	1991.492 mg/kg body weight

Zinc chloride (7646-85-7)

ATE US (oral)	500 mg/kg body weight

ammonium chloride (12125-02-9)

LD50 oral rat	1410 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1260 - 1550
LD50 oral	1410 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 434 (Acute Dermal Toxicity - Fixed Dose Procedure)

ammonium chloride (12125-02-9)

LC50 Inhalation - Rat	> 3.6 mg/l (4 h, Rat, Read-across, Inhalation)
ATE US (oral)	1410 mg/kg body weight

Hydrochloric Acid (7647-01-0)

ATE US (dust, mist)	0.5 mg/l/4h
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) Based on available data, the classification criteria are not met

ammonium chloride (12125-02-9)

pH	5 (10 %)
Serious eye damage/irritation	: Causes serious eye damage.

ammonium chloride (12125-02-9)

pH	5 (10 %)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Hydrochloric Acid (7647-01-0)

IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

ammonium chloride (12125-02-9)

NOAEL (oral,rat,90 days)	≈ 1695.7 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Aspiration hazard	: Not classified
Viscosity, kinematic	: > 23 mm²/s

ammonium chloride (12125-02-9)

Viscosity, kinematic	Not applicable (solid)
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

ammonium chloride (12125-02-9)

LC50 - Fish [1]	42.91 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	136.6 mg/l Test organisms (species): Daphnia magna
LC50 - Fish [2]	46.27 mg/l Test organisms (species): Prosopium williamsoni
EC50 - Crustacea [2]	98.5 mg/l Test organisms (species): other:Ceriodaphnia acanthina

12.2. Persistence and degradability

ammonium chloride (12125-02-9)

Not rapidly degradable	
Persistence and degradability	Biodegradability in soil: not applicable.

12.3. Bioaccumulative potential

ammonium chloride (12125-02-9)

Partition coefficient n-octanol/water (Log Pow)	-4.37 (Estimated value)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

ammonium chloride (12125-02-9)

Surface tension	No test data is available
Ecology - soil	No (test) data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
3077	UN3077	3077	3077
14.2. Proper Shipping Name			
Environmentally hazardous substances, solid, n.o.s. (CONTAINS : Zinc chloride)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Zinc chloride)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Zinc chloride)	Environmentally hazardous substance, solid, n.o.s. (CONTAINS : Zinc chloride)
Transport document description			
UN3077 Environmentally hazardous substances, solid, n.o.s. (CONTAINS : Zinc chloride), 9, III	UN3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Zinc chloride), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Zinc chloride), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s. (CONTAINS : Zinc chloride), 9, III
14.3. Transport hazard class(es)			
9 	9 	9 	9 
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes

No supplementary information available

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN3077

DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. 384 - For transportation by motor vehicle, substances meeting the conditions for high viscosity flammable liquids as prescribed in §173.121(b)(1)(i), (b)(1)(ii), and (b)(1)(iv) of this subchapter, may be reassigned to Packing Group III under the following conditions: A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg: a. Metal: 11A, 11B, 11N, 21A, 21B and 21N b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2 c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2 d. Fiberboard: 11G e. Wooden: 11C, 11D and 11F (with inner liners) f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner). B54 - Open-top, sift-proof rail cars are also authorized. B120 - The use of flexible bulk containers conforming to the requirements in subpart R and subpart S of part 178 of this subchapter is permitted. IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle. N91 - The use of a non specification sift-proof, non-bulk, metal can with or without lid, or a non specification sift-proof, non-bulk fiber drum, with or without lid is authorized when transporting coal tar pitch compounds by motor vehicle or rail freight. The fiber drum must to be fabricated with a three ply wall, as a minimum. The coal tar pitch compound must be in a solid mass during transportation. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No Limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No Limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG)	: UN3077

TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS.99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	: 5 kg
Excepted quantities (TDG)	: E1
Emergency Response Guide (ERG) Number	: 171

IMDG

Special provision (IMDG)	: 274, 335, 966, 967, 969
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP02, P002
Packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: BK1, BK2, BK3, T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provision (IATA)	: A97, A158, A179, A197, A215

ERG code (IATA) : 9L

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

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

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Zinc chloride	CAS-No. 7646-85-7	5.54 – 22.16%
Hydrochloric Acid	CAS-No. 7647-01-0	0 – 1.385%

Zinc chloride (7646-85-7)

CERCLA RQ	1000 lb

ammonium chloride (12125-02-9)

CERCLA RQ	5000 lb

Hydrochloric Acid (7647-01-0)

Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

15.2. International regulations

CANADA

Zinc chloride (7646-85-7)

Listed on the Canadian DSL (Domestic Substances List)

ammonium chloride (12125-02-9)

Listed on the Canadian DSL (Domestic Substances List)

Hydrochloric Acid (7647-01-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Zinc chloride (7646-85-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

ammonium chloride (12125-02-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Hydrochloric Acid (7647-01-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

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This product is listed on the TSCA inventory or otherwise complies with TSCA premanufacture notification requirements

Zinc chloride (7646-85-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

ammonium chloride (12125-02-9)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Hydrochloric Acid (7647-01-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

15.3. US State regulations

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

Component	State or local regulations
Paraffin Wax(8002-74-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Zinc chloride(7646-85-7)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
ammonium chloride(12125-02-9)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Hydrochloric Acid(7647-01-0)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS); U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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

Revision date : 8/17/2023

Full text of H-phrases

H302 Harmful if swallowed

Full text of H-phrases

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: **NON-HWY #2 15NRLM DYED**

Distributor Information:

Sunoco LP
3801 West Chester Pike

Newtown Square, Pennsylvania, 19073
sunocomsds@sunocoinc.com

Product Use:

Diesel Fuel 2 (15 ppm Sulfur)

Emergency Phone Numbers:

Chemtrec	(800) 424-9300	24 Hours
Sunoco LP	(800) 964-8861	24 Hours

Information:

Product Safety Information	(888) 567-3066

2. HAZARDS IDENTIFICATION

GHS Hazard

Flammable liquids – Category 3 H226
Skin corrosion/irritation – Category 2 H315
Aspiration hazard – Category 1 H304
Acute toxicity, Inhalation – Category 4 H332
Specific organ toxicity (repeated exposure) – Category 2 H373
Carcinogenicity – Category 2 H351
Hazardous to the aquatic environment, chronic toxicity – Category 1 H410

Label Elements – Signal Word: Danger

Hazard Statements
Flammable liquid and vapor. Causes skin irritation. May be fatal if swallowed and enters airways. Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer. Very toxic to aquatic life with long lasting effects.

Precautionary Statements

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. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist/vapors/spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release into the environment. Wear protective gloves/protective clothing and eye/face protection. IF SWALLOWED: immediately call a POISON CENTER or doctor/physician. Do not induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Take off contaminated clothing and wash before reuse. In case of fire: Use CO2, dry chemical or foam for extinction. Store in a well-ventilated place. Keep cool. Dispose of contents/container to an approved waste disposal facility.

Hazards Ratings:

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

	Health	Fire	Reactivity	PPI
NFPA	1	2	0	
HMIS	2	2	0	X

- **EMERGENCY OVERVIEW**
  Vapors may cause flash fire or explosion. Static accumulator. May form an ignitable vapor/air mixture.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount (Vol%)
NO. 2 FUEL OIL	68476-30-2	100 - 100
NAPHTHALENE	91-20-3	0 - 2
M-XYLENE	108-38-3	0 - 0.2
O-XYLENE	95-47-6	0 - 0.12
TOLUENE	108-88-3	0 - 0.098
P-XYLENE	106-42-3	0 - 0.064
ETHYLBENZENE	100-41-4	0 - 0.063
CUMENE	98-82-8	0 - 0.015
HEXANE	110-54-3	0 - 0.014
BENZENE	71-43-2	0 - 0.009

4. FIRST AID MEASURES

- **INHALATION**
  Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.
- **SKIN**
  Wash with soap and water for 20 minutes. Get medical attention if irritation develops or persists. Wash clothing before reuse. Destroy contaminated shoes and other leather products. Injection injuries may not appear serious at first but within a few hours, without proper treatment, the area will become swollen, discolored and extremely painful. NOTE TO PHYSICIAN: Following injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.
- **EYES**
  Flush eye with water for 20 minutes. Get medical attention.
- **INGESTION**
  Do not induce vomiting! Do not give liquids! Get medical attention immediately.

5. FIRE FIGHTING MEASURES

- **EXTINGUISHING MEDIA**
  The following media may be used to extinguish a fire involving this material: Regular foam; Dry chemical; Carbon dioxide; Water may be ineffective. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

- **FIRE FIGHTING INSTRUCTIONS**

  Use water spray. Use water spray to cool fire exposed tanks and containers. Wear structural fire-fighting gear. The use of fresh air equipment such as Self Contained Breathing Apparatus (SCBA) or Supplied Air Respirators should be worn for fire-fighting if exposure or potential exposure to products of combustion is expected.

FLAMMABLE PROPERTIES

Flammable. This material can be ignited by heat, sparks or open flames or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, electronic devices such as cell phones, computers, calculators). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back or explode. May create vapor/air explosions hazard indoors, confined spaces, outdoors or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can ruptured in the heat of fire.

HAZARDOUS COMBUSTION PRODUCTS: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

6. ACCIDENTAL RELEASE MEASURES

Prevent ignition, stop leak and ventilate the area. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container.

7. HANDLING AND STORAGE

- **HANDLING**

  Use only in a well-ventilated area. STATIC ACCUMULATOR. This liquid may form an ignitable vapor-air mixture in closed tanks or containers. This liquid may accumulate static electricity even when transferred into properly grounded containers. Bonding and grounding may be insufficient to remove static electricity. Static electricity accumulation may be significantly increased by the presence of small quantities of water. Always bond receiving container to the fill pipe before and during loading, following NFPA-77 and/or API RP 2003 requirements. Automatic gauging devices and other floats in vessels or tanks which contain static accumulating liquids should be electrically bonded to the shell. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. In addition to bonding and grounding, efforts to mitigate the hazards of an electrostatic discharge may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Always keep the nozzle in contact with the container throughout the loading process. Do not fill any portable containers in or on a vehicle. Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e. loading this material in tanks or shipping compartments that previously contained middle distillates or similar products). Non-equilibrium conditions may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigating efforts, including bonding and grounding. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling. "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. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioned, or properly disposed of. For use as a motor fuel only. Do not use as a solvent due to its flammable and potentially toxic properties.

- **STORAGE**

  Keep away from heat, sparks, and flame. Keep container closed when not in use. Store in a cool place in original container and protect from sunlight. Outside or detached storage is preferred. NFPA class II storage. Flash point is greater than 100 degrees F and less than 140 degrees F. Consult NFPA and / or OSHA codes for additional information.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult With a Health and Safety Professional for Specific Selections

- **ENGINEERING CONTROLS**
  Use with adequate ventilation. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Good general ventilation should be sufficient to control airborne levels.
- **PERSONAL PROTECTION**

  - **EYE PROTECTION**
    Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).
  - **GLOVES or HAND PROTECTION**
    The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Polyethylene; Nitrile; Viton; Polyvinyl chloride (PVC); Neoprene; Polyvinyl alcohol;
  - **RESPIRATORY PROTECTION**
    Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.
  - **OTHER**
    Where splashing is possible, full chemically resistant protective clothing and boots are required. The following materials are acceptable for use as protective clothing: Polyethylene; Nitrile; Viton; Polyvinyl chloride (PVC); Polyvinyl alcohol (PVA); Neoprene; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

EXPOSURE GUIDELINES

	CAS No.	Governing Body	Exposure Limits		
Limit for the product	68476-30-2	ACGIH	TWA	100	mg/m3
BENZENE	71-43-2	ACGIH	STEL	2.5	ppm
BENZENE	71-43-2	OSHA	STEL	5	ppm
BENZENE	71-43-2	ACGIH	TWA	0.5	ppm
BENZENE	71-43-2	OSHA	TWA	1	ppm
CUMENE	98-82-8	ACGIH	TWA	50	ppm
CUMENE	98-82-8	OSHA	TWA	50	ppm
HEXANE	110-54-3	ACGIH	TWA	50	ppm
HEXANE	110-54-3	OSHA	TWA	500	ppm
M-XYLENE	108-38-3	ACGIH	STEL	150	ppm
M-XYLENE	108-38-3	ACGIH	TWA	100	ppm
M-XYLENE	108-38-3	OSHA	TWA	100	ppm
NAPHTHALENE	91-20-3	ACGIH	STEL	15	ppm
NAPHTHALENE	91-20-3	ACGIH	TWA	10	ppm
NAPHTHALENE	91-20-3	OSHA	TWA	10	ppm
O-XYLENE	95-47-6	ACGIH	STEL	150	ppm
O-XYLENE	95-47-6	ACGIH	TWA	100	ppm
O-XYLENE	95-47-6	OSHA	TWA	100	ppm
P-XYLENE	106-42-3	ACGIH	STEL	150	ppm
P-XYLENE	106-42-3	ACGIH	TWA	100	ppm
P-XYLENE	106-42-3	OSHA	TWA	100	ppm
TOLUENE	108-88-3	NIOSH	STEL	150	ppm
TOLUENE	108-88-3	ACGIH	TWA	20	ppm
TOLUENE	108-88-3	OSHA	TWA	200	ppm
ETHYLBENZENE	100-41-4	ACGIH	TWA	20	ppm
ETHYLBENZENE	100-41-4	OSHA	TWA	100	ppm
NO. 2 FUEL OIL	68476-30-2	ACGIH	TWA	100	mg/m3

NO. 2 FUEL OIL	68476-30-2	Sunoco	TWA	15	ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Property	Typical	Units	Text Result	Reference
Appearance		N/A	Reddish liquid	
Auto Ignition Temperature	494	F		
Boiling Point		F	390 TO 600	
Flash Point	125	F	Min PMCC	
Melting Point		F	no data	
Molecular Weight		g/mole	no data	
Octanol/Water Coefficient		N/A	no data	
Upper Exp. Limit	10	%		
Low Explosion Limit	0.3	%	no data	
Specific Gravity	0.87	N/A		
Solubility In Water		wt %	NIL	
Odor		N/A	Diesel Fuel	
Odor Threshold		ppm	no data	
Vapor Pressure	0.5	mmHg		@ 20 C
Viscosity (F)		SUS	no data	
Viscosity (C)	1.9	CsT		@ 40 C
% Volatile	100	wt %		

10. STABILITY AND REACTIVITY

- **STABILITY**
  Stable
- **CONDITIONS TO AVOID**
  Avoid heat, sparks and open flame.
- **INCOMPATIBILITY**
  Strong oxidizers
- **HAZARDOUS DECOMPOSITION PRODUCTS**
  Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.
- **HAZARDOUS POLYMERIZATION**
  Will not polymerize.

11. TOXICOLOGY INFORMATION

Single Exposure Health Effects

Oral:

LD50 (g/kg): >5 g/kg

Dermal:

LD50 (mg/kg): >4.1 g/kg

Inhalation:

LC50 (mg/l): 4.65 mg/l mist

LC50 (mg/m3): no data

LC50 (ppm): no data

- **POTENTIAL HEALTH EFFECTS**

  - **INHALATION**
    High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death).

  - **SKIN**
    Practically non-toxic if absorbed through the skin. Prolonged or repeated skin contact may cause irritation. Contains a material that has caused skin tumors in laboratory animals.

  - **EYES**
    Mildly irritating to the eyes.

  - **INGESTION**
    Harmful or fatal if swallowed. Pulmonary aspiration hazard. While ingesting or vomiting, may enter lungs and produce damage.

  - **PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**
    The following diseases or disorders may be aggravated by exposure to this product: skin, kidney,

Skin Sensitization: Not expected to be a skin sensitizer.

Respiratory Sensitizer: Not expected to be a respiratory sensitizer.

Specific Target Organ Toxicity (Single Exposure): Not expected to cause organ effects from single exposure.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged and repeated exposure. Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoesis and lymphocyte depletion.

Carcinogenicity: Dermal exposure to middle distillates have caused skin cancer in laboratory animals when repeatedly applied and left in place between applications. Ethylbenzene, a component of this product, has been designated by the International Agency for Research on Cancer as "possibly carcinogenic to humans", based on increased tumor incidence in laboratory animals. Also, exposure to naphthalene has produced "respiratory tract" tumors in laboratory animals.

Component Toxicity Information
Overexposure to naphthalene, a minor component of this product, may cause skin, eye and respiratory tract irritation, anemia, loss of vision, nervous system effects and kidney and thymus damage laboratory animals. Cumene may be harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and cause damage. May cause respiratory irritation, fluid in the lungs and lung damage. May be irritating to the skin and eyes. May cause nervous system effects, including drowsiness, dizziness, coma and even death. Overexposure has caused kidney, nose, and liver damage in laboratory animals. Following inhalation exposure, an increased tumor incidence has been observed in experimental animals. The significance of this finding to human health is presently unknown. , Overexposure to Ethylbenzene may lead to nervous system effects, including drowsiness, dizziness, nausea, headaches, paralysis, loss of consciousness and even death. Repeated overexposure has caused a hearing loss in laboratory animals.

12. ECOLOGICAL INFORMATION

Toxicity: Experimental studies of gas oils show that acute aquatic toxicity values are typically in the range of 2-20 mg/l. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions. They should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment.

Persistence and Degradability: Gas oils are complex combinations of individual hydrocarbon species. Based on the known or expected properties of individual constituents, category members are not predicted to be readily

biodegradable. Some hydrocarbon constituents of gas oils are predicted to meet the criteria for persistence; on the other hand, some component can be easily degraded by microorganisms under aerobic conditions.

Bioaccumulative Potential: Gas oil components have measured or calculated Log Kow values in the range of 3.9 to 6 which indicates a high potential to bioaccumulate. Lower molecular weight compounds are readily metabolized and the actual bioaccumation potential of higher molecular weights compounds is limited by the low water solubility and large molecular size.

Mobility in Soil: Releases to water will result in a hydrocarbon film floating and spreading on the surface. For the lighter components, volatilization is an important loss process and reduces the hazards to aquatic organisms. In air, the hydrocarbon vapors react readily with hydroxyl radicals with half-lives of less than one day. Photoxidation on the water surface is also a significant loss process particularly for polycyclic aromatic compounds. In water, the majority of components will be absorbed in sediment. Adsorption is the most predominant physical process on release to soil. Adsorbed hydrocarbons will slowly degrade in both water and soil.

13. DISPOSAL CONSIDERATIONS

Follow federal, state and local regulations. This material is a RCRA hazardous waste. Do not flush material to drain or storm sewer. Contract to authorized disposal service.

14. TRANSPORT INFORMATION

Governing Body	Mode	Proper Shipping Name
DOT	Ground	Fuel Oil
IATA	Air	Gas Oil

Governing Body	Mode	Hazard Class	UN/NA No.	Label
DOT	Ground	Combustible Liquid	NA1993	
IATA	Air	Flammable Liquid	1202	

15. REGULATORY INFORMATION

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): Maximum Wt% Naphthalene- CAS Number 91-20-3, 2.6%; %; Ethyl benzene- CAS Number 100-41-4, 0.1%. This information must be included in all MSDSs that are copied and distributed for this material.

Regulatory List	Component	CAS No.
ACGIH - Occupational Exposure Limits - Carcinogens	FUEL OIL 2	68476-30-2
ACGIH - Occupational Exposure Limits - TWAs	FUEL OIL 2	68476-30-2
ACGIH - Skin Absorption Designation	FUEL OIL 2	68476-30-2
Inventory - Australia (AICS)	FUEL OIL 2	68476-30-2
Inventory - Canada - Domestic Substances List	FUEL OIL 2	68476-30-2
Inventory - China	FUEL OIL 2	68476-30-2
Inventory - European EINECS Inventory	FUEL OIL 2	68476-30-2
Inventory - Korea - Existing and Evaluated	FUEL OIL 2	68476-30-2
Inventory - Philippines Inventory (PICCS)	FUEL OIL 2	68476-30-2
Inventory - TSCA - Sect. 8(b) Inventory	FUEL OIL 2	68476-30-2
ACGIH - Occupational Exposure Limits - Carcinogens	BENZENE	71-43-2
ACGIH - Occupational Exposure Limits - Carcinogens	ETHYLBENZENE	100-41-4
ACGIH - Occupational Exposure Limits - Carcinogens	M-XYLENE	108-38-3
ACGIH - Occupational Exposure Limits - Carcinogens	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - Carcinogens	NO. 2 FUEL OIL	68476-30-2
ACGIH - Occupational Exposure Limits - Carcinogens	O-XYLENE	95-47-6
ACGIH - Occupational Exposure Limits - Carcinogens	P-XYLENE	106-42-3
ACGIH - Occupational Exposure Limits - Carcinogens	TOLUENE	108-88-3
ACGIH - Occupational Exposure Limits - TWAs	BENZENE	71-43-2
ACGIH - Occupational Exposure Limits - TWAs	CUMENE	98-82-8
ACGIH - Occupational Exposure Limits - TWAs	ETHYLBENZENE	100-41-4

ACGIH - Occupational Exposure Limits - TWAs	HEXANE	110-54-3
ACGIH - Occupational Exposure Limits - TWAs	M-XYLENE	108-38-3
ACGIH - Occupational Exposure Limits - TWAs	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - TWAs	NO. 2 FUEL OIL	68476-30-2
ACGIH - Occupational Exposure Limits - TWAs	O-XYLENE	95-47-6
ACGIH - Occupational Exposure Limits - TWAs	P-XYLENE	106-42-3
ACGIH - Occupational Exposure Limits - TWAs	TOLUENE	108-88-3
ACGIH - Short Term Exposure Limits	BENZENE	71-43-2
ACGIH - Short Term Exposure Limits	ETHYLBENZENE	100-41-4
ACGIH - Short Term Exposure Limits	M-XYLENE	108-38-3
ACGIH - Short Term Exposure Limits	NAPHTHALENE	91-20-3
ACGIH - Short Term Exposure Limits	O-XYLENE	95-47-6
ACGIH - Short Term Exposure Limits	P-XYLENE	106-42-3
ACGIH - Skin Absorption Designation	BENZENE	71-43-2
ACGIH - Skin Absorption Designation	HEXANE	110-54-3
ACGIH - Skin Absorption Designation	NAPHTHALENE	91-20-3
ACGIH - Skin Absorption Designation	NO. 2 FUEL OIL	68476-30-2
CAA (Clean Air Act) - HON Rule - Organic HAPs	BENZENE	71-43-2
CAA (Clean Air Act) - HON Rule - Organic HAPs	CUMENE	98-82-8
CAA (Clean Air Act) - HON Rule - Organic HAPs	ETHYLBENZENE	100-41-4
CAA (Clean Air Act) - HON Rule - Organic HAPs	HEXANE	110-54-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	M-XYLENE	108-38-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	O-XYLENE	95-47-6
CAA (Clean Air Act) - HON Rule - Organic HAPs	P-XYLENE	106-42-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	BENZENE	71-43-2
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	CUMENE	98-82-8
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	ETHYLBENZENE	100-41-4
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	HEXANE	110-54-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	M-XYLENE	108-38-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	O-XYLENE	95-47-6
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	P-XYLENE	106-42-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	TOLUENE	108-88-3
CAA - 1990 Hazardous Air Pollutants	BENZENE	71-43-2
CAA - 1990 Hazardous Air Pollutants	CUMENE	98-82-8
CAA - 1990 Hazardous Air Pollutants	ETHYLBENZENE	100-41-4
CAA - 1990 Hazardous Air Pollutants	HEXANE	110-54-3
CAA - 1990 Hazardous Air Pollutants	M-XYLENE	108-38-3
CAA - 1990 Hazardous Air Pollutants	NAPHTHALENE	91-20-3
CAA - 1990 Hazardous Air Pollutants	O-XYLENE	95-47-6
CAA - 1990 Hazardous Air Pollutants	P-XYLENE	106-42-3
CAA - 1990 Hazardous Air Pollutants	TOLUENE	108-88-3
California - Prop. 65 - Developmental Toxicity	BENZENE	71-43-2
California - Prop. 65 - Developmental Toxicity	TOLUENE	108-88-3
California - Prop. 65 - Reproductive - Female	TOLUENE	108-88-3
California - Prop. 65 - Reproductive - Male	BENZENE	71-43-2
California - Proposition 65 - Carcinogens List	BENZENE	71-43-2
California - Proposition 65 - Carcinogens List	ETHYLBENZENE	100-41-4
California - Proposition 65 - Carcinogens List	NAPHTHALENE	91-20-3
Canada - WHMIS - Ingredient Disclosure	ETHYLBENZENE	100-41-4
Canada - WHMIS - Ingredient Disclosure	HEXANE	110-54-3
Canada - WHMIS - Ingredient Disclosure	M-XYLENE	108-38-3
Canada - WHMIS - Ingredient Disclosure	O-XYLENE	95-47-6
Canada - WHMIS - Ingredient Disclosure	P-XYLENE	106-42-3
Canada - WHMIS - Ingredient Disclosure	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	BENZENE	71-43-2
CERCLA/SARA - Haz Substances and their RQs	CUMENE	98-82-8
CERCLA/SARA - Haz Substances and their RQs	ETHYLBENZENE	100-41-4
CERCLA/SARA - Haz Substances and their RQs	HEXANE	110-54-3
CERCLA/SARA - Haz Substances and their RQs	M-XYLENE	108-38-3

CERCLA/SARA - Haz Substances and their RQs	NAPHTHALENE	91-20-3
CERCLA/SARA - Haz Substances and their RQs	O-XYLENE	95-47-6
CERCLA/SARA - Haz Substances and their RQs	P-XYLENE	106-42-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Section 313 - Emission Reporting	BENZENE	71-43-2
CERCLA/SARA - Section 313 - Emission Reporting	CUMENE	98-82-8
CERCLA/SARA - Section 313 - Emission Reporting	ETHYLBENZENE	100-41-4
CERCLA/SARA - Section 313 - Emission Reporting	HEXANE	110-54-3
CERCLA/SARA - Section 313 - Emission Reporting	M-XYLENE	108-38-3
CERCLA/SARA - Section 313 - Emission Reporting	NAPHTHALENE	91-20-3
CERCLA/SARA - Section 313 - Emission Reporting	O-XYLENE	95-47-6
CERCLA/SARA - Section 313 - Emission Reporting	P-XYLENE	106-42-3
CERCLA/SARA - Section 313 - Emission Reporting	TOLUENE	108-88-3
CWA (Clean Water Act) - Hazardous Substances	BENZENE	71-43-2
CWA (Clean Water Act) - Hazardous Substances	ETHYLBENZENE	100-41-4
CWA (Clean Water Act) - Hazardous Substances	M-XYLENE	108-38-3
CWA (Clean Water Act) - Hazardous Substances	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Hazardous Substances	O-XYLENE	95-47-6
CWA (Clean Water Act) - Hazardous Substances	P-XYLENE	106-42-3
CWA (Clean Water Act) - Hazardous Substances	TOLUENE	108-88-3
CWA (Clean Water Act) - Priority Pollutants	BENZENE	71-43-2
CWA (Clean Water Act) - Priority Pollutants	ETHYLBENZENE	100-41-4
CWA (Clean Water Act) - Priority Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Priority Pollutants	TOLUENE	108-88-3
CWA (Clean Water Act) - Toxic Pollutants	BENZENE	71-43-2
CWA (Clean Water Act) - Toxic Pollutants	ETHYLBENZENE	100-41-4
CWA (Clean Water Act) - Toxic Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Toxic Pollutants	TOLUENE	108-88-3
IARC - Group 1 (carcinogenic to humans)	BENZENE	71-43-2
IARC - Group 2B (Possibly carcinogenic to humans)	ETHYLBENZENE	100-41-4
IARC - Group 2B (Possibly carcinogenic to humans)	NAPHTHALENE	91-20-3
IARC - Group 3 (not classifiable)	M-XYLENE	108-38-3
IARC - Group 3 (not classifiable)	P-XYLENE	106-42-3
IARC - Group 3 (not classifiable)	TOLUENE	108-88-3
Inventory - Australia (AICS)	BENZENE	71-43-2
Inventory - Australia (AICS)	CUMENE	98-82-8
Inventory - Australia (AICS)	ETHYLBENZENE	100-41-4
Inventory - Australia (AICS)	HEXANE	110-54-3
Inventory - Australia (AICS)	M-XYLENE	108-38-3
Inventory - Australia (AICS)	NAPHTHALENE	91-20-3
Inventory - Australia (AICS)	NO. 2 FUEL OIL	68476-30-2
Inventory - Australia (AICS)	O-XYLENE	95-47-6
Inventory - Australia (AICS)	P-XYLENE	106-42-3
Inventory - Australia (AICS)	TOLUENE	108-88-3
Inventory - Canada - Domestic Substances List	BENZENE	71-43-2
Inventory - Canada - Domestic Substances List	CUMENE	98-82-8
Inventory - Canada - Domestic Substances List	ETHYLBENZENE	100-41-4
Inventory - Canada - Domestic Substances List	HEXANE	110-54-3
Inventory - Canada - Domestic Substances List	M-XYLENE	108-38-3
Inventory - Canada - Domestic Substances List	NAPHTHALENE	91-20-3
Inventory - Canada - Domestic Substances List	NO. 2 FUEL OIL	68476-30-2
Inventory - Canada - Domestic Substances List	O-XYLENE	95-47-6
Inventory - Canada - Domestic Substances List	P-XYLENE	106-42-3
Inventory - Canada - Domestic Substances List	TOLUENE	108-88-3
Inventory - China	BENZENE	71-43-2
Inventory - China	CUMENE	98-82-8
Inventory - China	ETHYLBENZENE	100-41-4
Inventory - China	HEXANE	110-54-3
Inventory - China	M-XYLENE	108-38-3
Inventory - China	NAPHTHALENE	91-20-3
Inventory - China	NO. 2 FUEL OIL	68476-30-2
Inventory - China	O-XYLENE	95-47-6

Inventory - China	P-XYLENE	106-42-3
Inventory - China	TOLUENE	108-88-3
Inventory - European EINECS Inventory	BENZENE	71-43-2
Inventory - European EINECS Inventory	CUMENE	98-82-8
Inventory - European EINECS Inventory	ETHYLBENZENE	100-41-4
Inventory - European EINECS Inventory	HEXANE	110-54-3
Inventory - European EINECS Inventory	M-XYLENE	108-38-3
Inventory - European EINECS Inventory	NAPHTHALENE	91-20-3
Inventory - European EINECS Inventory	NO. 2 FUEL OIL	68476-30-2
Inventory - European EINECS Inventory	O-XYLENE	95-47-6
Inventory - European EINECS Inventory	P-XYLENE	106-42-3
Inventory - European EINECS Inventory	TOLUENE	108-88-3
Inventory - Japan - (ENCS)	BENZENE	71-43-2
Inventory - Japan - (ENCS)	CUMENE	98-82-8
Inventory - Japan - (ENCS)	ETHYLBENZENE	100-41-4
Inventory - Japan - (ENCS)	HEXANE	110-54-3
Inventory - Japan - (ENCS)	M-XYLENE	108-38-3
Inventory - Japan - (ENCS)	NAPHTHALENE	91-20-3
Inventory - Japan - (ENCS)	O-XYLENE	95-47-6
Inventory - Japan - (ENCS)	P-XYLENE	106-42-3
Inventory - Japan - (ENCS)	TOLUENE	108-88-3
Inventory - Korea - Existing and Evaluated	BENZENE	71-43-2
Inventory - Korea - Existing and Evaluated	CUMENE	98-82-8
Inventory - Korea - Existing and Evaluated	ETHYLBENZENE	100-41-4
Inventory - Korea - Existing and Evaluated	HEXANE	110-54-3
Inventory - Korea - Existing and Evaluated	M-XYLENE	108-38-3
Inventory - Korea - Existing and Evaluated	NAPHTHALENE	91-20-3
Inventory - Korea - Existing and Evaluated	NO. 2 FUEL OIL	68476-30-2
Inventory - Korea - Existing and Evaluated	O-XYLENE	95-47-6
Inventory - Korea - Existing and Evaluated	P-XYLENE	106-42-3
Inventory - Korea - Existing and Evaluated	TOLUENE	108-88-3
Inventory - Philippines Inventory (PICCS)	BENZENE	71-43-2
Inventory - Philippines Inventory (PICCS)	CUMENE	98-82-8
Inventory - Philippines Inventory (PICCS)	ETHYLBENZENE	100-41-4
Inventory - Philippines Inventory (PICCS)	HEXANE	110-54-3
Inventory - Philippines Inventory (PICCS)	M-XYLENE	108-38-3
Inventory - Philippines Inventory (PICCS)	NAPHTHALENE	91-20-3
Inventory - Philippines Inventory (PICCS)	NO. 2 FUEL OIL	68476-30-2
Inventory - Philippines Inventory (PICCS)	O-XYLENE	95-47-6
Inventory - Philippines Inventory (PICCS)	P-XYLENE	106-42-3
Inventory - Philippines Inventory (PICCS)	TOLUENE	108-88-3
Inventory - TSCA - Sect. 8(b) Inventory	BENZENE	71-43-2
Inventory - TSCA - Sect. 8(b) Inventory	CUMENE	98-82-8
Inventory - TSCA - Sect. 8(b) Inventory	ETHYLBENZENE	100-41-4
Inventory - TSCA - Sect. 8(b) Inventory	HEXANE	110-54-3
Inventory - TSCA - Sect. 8(b) Inventory	M-XYLENE	108-38-3
Inventory - TSCA - Sect. 8(b) Inventory	NAPHTHALENE	91-20-3
Inventory - TSCA - Sect. 8(b) Inventory	NO. 2 FUEL OIL	68476-30-2
Inventory - TSCA - Sect. 8(b) Inventory	O-XYLENE	95-47-6
Inventory - TSCA - Sect. 8(b) Inventory	P-XYLENE	106-42-3
Inventory - TSCA - Sect. 8(b) Inventory	TOLUENE	108-88-3
Massachusetts - Right To Know List	BENZENE	71-43-2
Massachusetts - Right To Know List	CUMENE	98-82-8
Massachusetts - Right To Know List	ETHYLBENZENE	100-41-4
Massachusetts - Right To Know List	HEXANE	110-54-3
Massachusetts - Right To Know List	M-XYLENE	108-38-3
Massachusetts - Right To Know List	NAPHTHALENE	91-20-3
Massachusetts - Right To Know List	O-XYLENE	95-47-6
Massachusetts - Right To Know List	P-XYLENE	106-42-3
Massachusetts - Right To Know List	TOLUENE	108-88-3
New Jersey - Department of Health RTK List	BENZENE	71-43-2
New Jersey - Department of Health RTK List	CUMENE	98-82-8

New Jersey - Department of Health RTK List	ETHYLBENZENE	100-41-4
New Jersey - Department of Health RTK List	HEXANE	110-54-3
New Jersey - Department of Health RTK List	M-XYLENE	108-38-3
New Jersey - Department of Health RTK List	NAPHTHALENE	91-20-3
New Jersey - Department of Health RTK List	O-XYLENE	95-47-6
New Jersey - Department of Health RTK List	P-XYLENE	106-42-3
New Jersey - Department of Health RTK List	TOLUENE	108-88-3
New Jersey - Env Hazardous Substances List	BENZENE	71-43-2
New Jersey - Env Hazardous Substances List	CUMENE	98-82-8
New Jersey - Env Hazardous Substances List	ETHYLBENZENE	100-41-4
New Jersey - Env Hazardous Substances List	HEXANE	110-54-3
New Jersey - Env Hazardous Substances List	M-XYLENE	108-38-3
New Jersey - Env Hazardous Substances List	NAPHTHALENE	91-20-3
New Jersey - Env Hazardous Substances List	O-XYLENE	95-47-6
New Jersey - Env Hazardous Substances List	P-XYLENE	106-42-3
New Jersey - Env Hazardous Substances List	TOLUENE	108-88-3
New Jersey - Special Hazardous Substances	BENZENE	71-43-2
New Jersey - Special Hazardous Substances	CUMENE	98-82-8
New Jersey - Special Hazardous Substances	ETHYLBENZENE	100-41-4
New Jersey - Special Hazardous Substances	HEXANE	110-54-3
New Jersey - Special Hazardous Substances	M-XYLENE	108-38-3
New Jersey - Special Hazardous Substances	NAPHTHALENE	91-20-3
New Jersey - Special Hazardous Substances	O-XYLENE	95-47-6
New Jersey - Special Hazardous Substances	P-XYLENE	106-42-3
New Jersey - Special Hazardous Substances	TOLUENE	108-88-3
NTP - Report on Carcinogens - Known Carcinogens	BENZENE	71-43-2
NTP - Report on Carcinogens - Suspect Carcinogens	NAPHTHALENE	91-20-3
OSHA - Final PELs - Ceiling Limits	BENZENE	71-43-2
OSHA - Final PELs - Ceiling Limits	TOLUENE	108-88-3
OSHA - Final PELs - Short Term Exposure Limits	BENZENE	71-43-2
OSHA - Final PELs - Skin Notations	CUMENE	98-82-8
OSHA - Final PELs - Time Weighted Averages	BENZENE	71-43-2
OSHA - Final PELs - Time Weighted Averages	CUMENE	98-82-8
OSHA - Final PELs - Time Weighted Averages	ETHYLBENZENE	100-41-4
OSHA - Final PELs - Time Weighted Averages	HEXANE	110-54-3
OSHA - Final PELs - Time Weighted Averages	NAPHTHALENE	91-20-3
OSHA - Final PELs - Time Weighted Averages	TOLUENE	108-88-3
Pennsylvania - RTK (Right to Know) List	BENZENE	71-43-2
Pennsylvania - RTK (Right to Know) List	CUMENE	98-82-8
Pennsylvania - RTK (Right to Know) List	ETHYLBENZENE	100-41-4
Pennsylvania - RTK (Right to Know) List	HEXANE	110-54-3
Pennsylvania - RTK (Right to Know) List	M-XYLENE	108-38-3
Pennsylvania - RTK (Right to Know) List	NAPHTHALENE	91-20-3
Pennsylvania - RTK (Right to Know) List	O-XYLENE	95-47-6
Pennsylvania - RTK (Right to Know) List	P-XYLENE	106-42-3
Pennsylvania - RTK (Right to Know) List	TOLUENE	108-88-3
Pennsylvania - RTK - Special Hazardous Substances	BENZENE	71-43-2
TSCA - Sect. 12(b) - Export Notification	NAPHTHALENE	91-20-3
TSCA - Sect. 12(b) - Export Notification	P-XYLENE	106-42-3
TSCA - Section 4 - Chemical Test Rules	NAPHTHALENE	91-20-3
TSCA - Section 4 - Chemical Test Rules	P-XYLENE	106-42-3

Title III Classifications Sections 311,312:

- Acute: **YES**
- Chronic: **YES**
- Fire: **YES**
- Reactivity: **NO**
- Sudden Release of Pressure: **NO**

16. OTHER INFORMATION

Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Keep out of reach of children. Email Address: For MSDS requests/information please contact sunocomsds@sunocoinc.com. For use as a motor fuel only. Do not use as a solvent due to its flammable and potentially toxic properties.

SAFETY DATA SHEET

Oxygen, compressed

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

1.1 Product identifier

Product name: Oxygen, compressed

Trade name: BIOGON® O, Aviator's Breathing Oxygen 2.5, Breathing Oxygen EN-12021, Oxygen 2.5 Industrial, Oxygen 3.5 Chemical, Oxygen 3.5 Laser, Oxygen 4.5 Process, Oxygen 5.0 Instrument, HiQ Oxygen 6.0, Oxygen 6.0 Scientific, VERISEQ® Oxygen Process, CONOXIA® 100% Medisinsk gass komprimert, CONOXIA® 100%, medisinsk gass, komprimert

Additional identification

Chemical name: Oxygen

Chemical formula: O2
INDEX No. 008-001-00-8
CAS-No. 7782-44-7
EC No. 231-956-9
REACH Registration No. Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.

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

Identified uses: Industrial and professional. Perform risk assessment prior to use.
Balance gas for mixtures. Calibration gas. Carrier gas. Chemical synthesis. Combustion, melting and cutting processes. Food packaging gas. Laboratory use. Laser gas. Oxidizing agent. Process gas. Shielding gas in gas welding. Test gas. Use of gas to manufacture pharmaceutical products.
Consumer use.
Oxidizing agent.
It is the responsibility of the end user to ensure that the product as supplied is suitable for its intended use.

Uses advised against Industrial or technical grade is unsuitable for medical and/or food applications or inhalation.

1.3 Details of the supplier of the safety data sheet

Supplier

Linde Gas AS
Postboks 13 Nydalen
N-0409 Oslo Norway

Telephone: +4723177200

E-mail: sds.ren@linde.com

1.4 Emergency telephone number: +47 22 59 13 00 (24h - Giftinformasjonssentralen)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended.

Physical Hazards

Oxidizing gases	Category 1	H270: May cause or intensify fire; oxidizer.
Gases under pressure	Compressed gas	H280: Contains gas under pressure; may explode if heated.

2.2 Label Elements

Signal Words: Danger

Hazard Statement(s):
H270: May cause or intensify fire; oxidizer.
H280: Contains gas under pressure; may explode if heated.

Precautionary Statements

Prevention:
P220: Keep away from clothing and other combustible materials.
P244: Keep valves and fittings free from oil and grease.

Response:
P370+P376: In case of fire: Stop leak if safe to do so.

Storage:
P403: Store in a well-ventilated place.

Disposal:
None.

2.3 Other hazards: None.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Oxygen
INDEX No.:	008-001-00-8
CAS-No.:	7782-44-7
EC No.:	231-956-9
REACH Registration No.:	Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.
Purity:	100% The purity of the substance in this section is used for classification only, and does not represent the actual purity of the substance as supplied, for which other documentation should be consulted.
Trade name:	BIOGON® O, Aviator's Breathing Oxygen 2.5, Breathing Oxygen EN-12021, Oxygen 2.5 Industrial, Oxygen 3.5 Chemical, Oxygen 3.5 Laser, Oxygen 4.5 Process, Oxygen 5.0 Instrument, HiQ Oxygen 6.0, Oxygen 6.0 Scientific, VERISEQ® Oxygen Process, CONOXIA® 100% Medisinsk gass komprimert, CONOXIA® 100%, medisinsk gass, komprimert

SECTION 4: First aid measures

General: Move the exposed person to fresh air at once.

4.1 Description of first aid measures

Inhalation: Move the exposed person to fresh air at once.

Eye contact: Adverse effects not expected from this product.

Skin Contact: Adverse effects not expected from this product.

Ingestion: Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed: Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: None.

Treatment: None.

SECTION 5: Firefighting measures

General Fire Hazards: Heat may cause the containers to explode.

5.1 Extinguishing media

Suitable extinguishing media: Water. Dry powder. Foam. Carbon Dioxide.

Unsuitable extinguishing media: None.

5.2 Special hazards arising from the substance or mixture: Supports combustion.

Hazardous Combustion Products: None.

5.3 Advice for firefighters

Special fire fighting procedures: In case of fire: Stop leak if safe to do so. Continue water spray from protected position until container stays cool. Use extinguishants to contain the fire. Isolate the source of the fire or let it burn out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Guideline: EN 469 Protective clothing for firefighters. Performance requirements for protective clothing for firefighting. EN 15090 Footwear for firefighters. EN 659 Protective gloves for firefighters. EN 443 Helmets for fire fighting in buildings and other structures. EN 137 Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with full face mask - Requirements, testing, marking.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Evacuate area. In case of leakage, eliminate all ignition sources. Provide adequate ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Monitor the concentration of the released product.

6.2 Environmental Precautions: Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up: Provide adequate ventilation.

6.4 Reference to other sections: Refer to sections 8 and 13.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling:

Only experienced and properly instructed persons should handle gases under pressure. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Keep equipment free from oil and grease. Open valve slowly to avoid pressure shock. Use only oxygen approved lubricants and sealants. Use only with equipment cleaned for oxygen service and rated for the pressure. Refer to supplier's handling instructions. The substance must be handled in accordance with good industrial hygiene and safety procedures. Protect containers from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the container contents. When moving containers, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc. Secure cylinders in an upright position at all times, close all valves when not in use. Provide adequate ventilation. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Avoid suckback of water, acid and alkalis. Keep container below 50°C in a well ventilated place. Observe all regulations and local requirements regarding storage of containers. When using do not eat, drink or smoke. Store in accordance with... . Never use direct flame or electrical heating devices to raise the pressure of a container. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Damaged valves should be reported immediately to the supplier Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminates particularly oil and water. If user experiences any difficulty operating container valve discontinue use and contact supplier. Never attempt to transfer gases from one container to another. Container valve guards or caps should be in place.

7.2 Conditions for safe storage, including any incompatibilities:

Containers should not be stored in conditions likely to encourage corrosion. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible material. Avoid asphalted locations for storage, transfer and use (ignition risk if spilt). Segregate from flammable gases and other flammable materials being stored.

7.3 Specific end use(s):

None.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

8.2 Exposure controls

Appropriate engineering controls: Consider a work permit system e.g. for maintenance activities. Ensure adequate air ventilation. Avoid oxygen rich (>23,5%) atmospheres. Gas detectors should be used when quantities of oxidizing gases may be released. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Systems under pressure should be regularly checked for leakages. Preferably use permanent leak tight connections (eg. welded pipes). Do not eat, drink or smoke when using the product.

Individual protection measures, such as personal protective equipment

General information: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered. Keep self contained breathing apparatus readily available for emergency use. Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Eye/face protection: Wear eye protection to EN 166 when using gases.
Guideline: EN 166 Personal Eye Protection.

Skin protection

Hand Protection: Wear working gloves while handling containers
Guideline: EN 388 Protective gloves against mechanical risks.

Body protection: No special precautions.

Other: Wear safety shoes while handling containers
Guideline: ISO 20345 Personal protective equipment - Safety footwear.

Respiratory Protection: Not required.

Thermal hazards: No precautionary measures are necessary.

Hygiene measures: Specific risk management measures are not required beyond good industrial hygiene and safety procedures. Do not eat, drink or smoke when using the product.

Environmental exposure controls: For waste disposal, see section 13 of the SDS.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	Gas
Form:	Compressed gas
Color:	Colorless

Odor:	Odorless
Odor Threshold:	Odor threshold is subjective and is inadequate to warn of over exposure.
pH:	Not applicable.
Melting Point:	-218,4 °C
Boiling Point:	-183 °C
Sublimation Point:	Not applicable.
Critical Temp. (°C):	-118,0 °C
Flash Point:	Not applicable to gases and gas mixtures.
Evaporation Rate:	Not applicable to gases and gas mixtures.
Flammability (solid, gas):	This product is not flammable.
Flammability Limit - Upper (%):	Not applicable.
Flammability Limit - Lower (%):	Not applicable.
Vapor pressure:	4.053 kPa (-124,1 °C)
Vapor density (air=1):	1,1 (0 °C) AIR=1
Relative density:	1,1 (0 °C ,Reference material: Water)
Solubility(ies)	
Solubility in Water:	39 mg/l
Partition coefficient (n-octanol/water):	Not known.
Autoignition Temperature:	Not applicable.
Decomposition Temperature:	Not known.
Viscosity	
Kinematic viscosity:	No data available.
Dynamic viscosity:	No data available.
Explosive properties:	Not applicable.
Oxidizing properties:	Oxidizing
9.2 Other information:	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
Molecular weight:	32 g/mol (O2)

SECTION 10: Stability and reactivity

10.1 Reactivity:	No reactivity hazard other than the effects described in sub-section below.
10.2 Chemical Stability:	Stable under normal conditions.
10.3 Possibility of hazardous reactions:	Violently oxidises organic material. May react violently with combustible materials. May react violently with reducing agents.
10.4 Conditions to avoid:	None.

10.5 Incompatible Materials:	Combustible materials Reducing agents. Keep equipment free from oil and grease. For material compatibility see latest version of ISO-11114. Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (>30 bar) oxygen lines and equipment in case of combustion.
10.6 Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

General information: None.

11.1 Information on toxicological effects

Acute toxicity - Oral
Product: Based on available data, the classification criteria are not met.

Acute toxicity - Dermal
Product: Based on available data, the classification criteria are not met.

Acute toxicity - Inhalation
Product: Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation
Product: Based on available data, the classification criteria are not met.

Serious Eye Damage/Eye Irritation
Product: Based on available data, the classification criteria are not met.

Respiratory or Skin Sensitization
Product: Based on available data, the classification criteria are not met.

Germ Cell Mutagenicity
Product: Based on available data, the classification criteria are not met.

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

Reproductive toxicity
Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure
Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Repeated Exposure
Product: Based on available data, the classification criteria are not met.

Aspiration Hazard
Product: Not applicable to gases and gas mixtures..

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity
Product: No ecological damage caused by this product.

12.2 Persistence and Degradability
Product: Not applicable to gases and gas mixtures..

12.3 Bioaccumulative potential
Product: The substance is naturally occurring.

12.4 Mobility in soil
Product: Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5 Results of PBT and vPvB assessment
Product: Not classified as PBT or vPvB.

12.6 Other adverse effects: No ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information: Do not discharge into any place where its accumulation could be dangerous. Vent to atmosphere in a well ventilated place.

Disposal methods: Refer to the EIGA code of practice (Doc.30 "Disposal of Gases", downloadable at http://www.eiga.org) for more guidance on suitable disposal methods. Dispose of container via supplier only. Discharge, treatment, or disposal may be subject to national, state, or local laws.

European Waste Codes
Container: 16 05 04*: Gases in pressure containers (including halons) containing dangerous substances.

SECTION 14: Transport information

ADR

14.1 UN Number:	UN 1072
14.2 UN Proper Shipping Name:	OXYGEN, COMPRESSED
14.3 Transport Hazard Class(es)	
Class:	2
Label(s):	2.2, 5.1
Hazard No. (ADR):	25
Tunnel restriction code:	(E)
14.4 Packing Group:	–
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	–

RID

14.1 UN Number:	UN 1072
14.2 UN Proper Shipping Name	OXYGEN, COMPRESSED
14.3 Transport Hazard Class(es)	
Class:	2
Label(s):	2.2, 5.1
14.4 Packing Group:	–
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	–

IMDG

14.1 UN Number:	UN 1072
14.2 UN Proper Shipping Name:	OXYGEN, COMPRESSED
14.3 Transport Hazard Class(es)	
Class:	2.2
Label(s):	2.2, 5.1
EmS No.:	F-C, S-W
14.4 Packing Group:	–
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	–

IATA

14.1 UN Number:	UN 1072
14.2 Proper Shipping Name:	Oxygen, compressed
14.3 Transport Hazard Class(es):	
Class:	2.2
Label(s):	2.2, 5.1
14.4 Packing Group:	-
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	-
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

Additional identification: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the container valve is closed and not leaking. Container valve guards or caps should be in place. Ensure adequate air ventilation.

SECTION 15: Regulatory information

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

EU Regulations

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, as amended.:

Chemical	CAS-No.	Lower-tier Requirements	Upper-tier Requirements
Oxygen	7782-44-7	200 t	2.000 t

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
Oxygen	7782-44-7	100%

National Regulations

Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work Directive 89/686/EEC on personal protective equipment Only products that comply with the food regulations (EC) No. 1333/2008 and (EU) No. 231/2012 and are labelled as such may be used as food additives.
This Safety Data Sheet has been produced to comply with Regulation (EU) 2015/830.

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

SECTION 16: Other information

Revision Information: Not relevant.

Key literature references and sources for data: Various sources of data have been used in the compilation of this SDS, they include but are not exclusive to:
Agency for Toxic Substances and Diseases Registry (ATSDR) (http://www.atsdr.cdc.gov/).
European Chemical Agency: Guidance on the Compilation of Safety Data Sheets.
European Chemical Agency: Information on Registered Substances http://apps.echa.europa.eu/registered/registered-sub.aspx#search
European Industrial Gases Association (EIGA) Doc. 169 Classification and Labelling guide.
International Programme on Chemical Safety (http://www.inchem.org/)
ISO 10156:2010 Gases and gas mixtures - Determination of fire potential and oxidizing ability for the selection of cylinder valve outlets.
Matheson Gas Data Book, 7th Edition.
National Institute for Standards and Technology (NIST) Standard Reference Database Number 69.
The ESIS (European chemical Substances S Information System) platform of the former European Chemicals Bureau (ECB) ESIS (http://ecb.jrc.ec.europa.eu/esis/).
The European Chemical Industry Council (CEFIC) ERICards.
United States of America's National Library of Medicine's toxicology data network TOXNET (http://toxnet.nlm.nih.gov/index.html)
Threshold Limit Values (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH).
Substance specific information from suppliers.
Details given in this document are believed to be correct at the time of publication.

Wording of the H-statements in section 2 and 3

H270	May cause or intensify fire; oxidizer.
H280	Contains gas under pressure; may explode if heated.

Classification according to Regulation (EC) No 1272/2008 as amended.

Ox. Gas 1, H270
Press. Gas Compr. Gas, H280

Other information:	Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Ensure adequate air ventilation. Ensure all national/local regulations are observed. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.
Last revised date:	27.01.2020
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

Safety Data Sheet

Issue date 17-Mar-2021 **Revision date** 26-Sep-2022 **Revision Number** 2

1. IDENTIFICATION

Product identification

Product identifier	Penefree
Other means of identification	DY60025622
Recommended use	Penetrant
Restrictions on use	For industrial use only

Supplier

Corporate Headquarters:
Lawson Products, Inc.
8770 W. Bryn Mawr Ave., Suite 900
Chicago, IL 60631
(866) 837-9908

Canadian Distribution Center:
Lawson Canada
7315 Rapistan Court
Mississauga, ON L5N 5Z4
(800) 323-5922

24 Hour Emergency Phone Number (888) 426-4851 (Prosar)

Website www.lawsonproducts.com

2. HAZARD(S) IDENTIFICATION

Hazard Classification This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), WHMIS 2015 and GHS Regulations.

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Gases under pressure	Dissolved gas

Symbol

Signal word DANGER

Hazard statements

H280 - Contains gas under pressure; may explode if heated
H315 - Causes skin irritation

H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H336 - May cause drowsiness or dizziness

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.

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251 - Pressurized container: Do not pierce or burn, even after use
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing and eye/face protection
P264 - Wash hands thoroughly after handling
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P272 - Contaminated work clothing should not be allowed out of the workplace

Response

General

P308 + P313 - IF exposed or concerned: Get medical advice/attention

Eyes

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

Skin

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Inhalation

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell

Storage

P405 - Store locked up
P403 - Store in a well-ventilated place
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Disposal

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazard(s) Not Otherwise Classified (HNOC)

None known.

Physical Hazards Not Otherwise Classified (PHNOC)

None known.

Unknown acute toxicity

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Mixture.

Chemical name	CAS-No	Weight %
Trichloroethylene	79-01-6	35-45
Tetrachloroethylene	127-18-4	35-45
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	1-5
Carbon dioxide	124-38-9	1-5
Calcium salt of oxidized petroleum	68425-34-3	1-5

4. FIRST-AID MEASURES

Necessary first-aid measures

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

Ingestion Rinse mouth with water. Do NOT induce vomiting. Seek medical attention. Never give anything by mouth to an unconscious person.

Skin contact Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Seek medical attention.

Most important symptoms (acute) Eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Causes skin irritation. redness. burning. Repeated exposure may cause skin dryness or cracking. Respiratory irritation. Inhalation can cause central nervous system (CNS) depression. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Most important symptoms (over-exposure) Possible cancer causing agent and overexposure may also include damage to skin, kidneys, liver, dizziness, headache, nausea, mental confusion, visual disturbances, lungs, blood, or central nervous system.

Indication of any immediate medical attention and special treatment needed Do not administer adrenaline or epinephrine to a victim of chlorinated solvent poisoning. This product contains ingredients that may be anticipated to be a carcinogen.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Dry chemical, carbon dioxide, or Foam.

Unsuitable extinguishing media Water spray may be ineffective. Do not use water jet.

Specific hazards Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause containers to burst. Exposure to temperatures above 120F may cause bursting.

Special protective equipment for fire-fighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Use personal protection recommended in Section 8. Remove all sources of ignition.

Methods and materials for containment and cleaning up Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. This material and its container must be disposed of as hazardous waste.

7. HANDLING AND STORAGE

Precautions for safe handling

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Store locked up. Wear appropriate personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapor. Wash hands after handling the product. Keep out of reach of children. Do not handle until all safety precautions have been read and understood.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from direct sunlight in dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store away from oxidizers. Do not expose to temperatures exceeding 122 °F (50 °C). See section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	California - PELs	ACGIH OEL (TWA)	NIOSH - TWA
Trichloroethylene	100 ppm TWA	25 ppm PEL; 135 mg/m³ PEL	10 ppm TWA	
Tetrachloroethylene	100 ppm TWA	25 ppm PEL; 170 mg/m³ PEL	25 ppm TWA	
Solvent naphtha (petroleum), medium aliphatic	-			
Carbon dioxide	5000 ppm TWA 9000 mg/m³ TWA	5000 ppm PEL; 9000 mg/m³ PEL	5000 ppm TWA	5000 ppm TWA 9000 mg/m³ TWA
Calcium salt of oxidized petroleum	-			

Appropriate engineering controls

Concentrated vapors of this product are heavier than air and will collect in low areas, pits, storage tanks and other confined spaces. Do not enter those areas. Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Local exhaust and general ventilation must be adequate to meet exposure standards.

Individual protection measures, such as personal protective equipment

Eye protection

ANSI approved safety glasses are recommended to prevent accidental eye contact.

Skin and body protection

Chemical resistant gloves. Apron.

Respiratory protection

Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate. Do not breathe gas/fumes/vapor/spray.

Hygiene measures

Wash hands after handling the product. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing.

Canadian Province Occupational Exposure Limits

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
Trichloroethylene	50 ppm TWA 269 mg/m³ TWA	10 ppm TWA	10 ppm TWA	50 ppm TWA 269 mg/m³ TWA	10 ppm TWA	10 ppm TWA	10 ppm TWA	10 ppm TWA	50 ppm TWAEV 269 mg/m³ TWAEV	50 ppm TWA
Tetrachloroethylene	25 ppm TWA 170 mg/m³ TWA	25 ppm TWA	25 ppm TWA	25 ppm TWA 170 mg/m³ TWA	25 ppm TWA	25 ppm TWA	25 ppm TWA	25 ppm TWA	25 ppm TWAEV 170 mg/m³ TWAEV	25 ppm TWA
Solvent naphtha (petroleum), medium aliphatic	-	-	-	-	-	-	-	-	-	-

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
Carbon dioxide	5000 ppm TWA 9000 mg/m³ TWA	5000 ppm TWA	5000 ppm TWA	5000 ppm TWA 9000 mg/m³ TWA	5000 ppm TWA	5000 ppm TWA	5000 ppm TWA	5000 ppm TWA	5000 ppm TWAEV 9000 mg/m³ TWAEV	5000 ppm TWA
Calcium salt of oxidized petroleum	-	-	-	-	-	-	-	-	-	-

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Aerosol
Color	Clear, Dark brown
Odor	Solvent
Odor threshold	Not available
pH	Not available
Melting point/range °C	Not available
Melting point/range °F	Not available
Boiling point/range °C	No data available
Boiling point/range °F	No data available
Flash point °C / °F	No data available
Evaporation rate	0.8-3 (Medium)
Flammability (Solid, Gas)	Not considered a flammable aerosol or an extremely flammable aerosol by OSHA (29CFR 1910.1200).
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	1.36
Solubility	No data available
Partition coefficient (n-octanol/water)	Not available
Autoignition temperature °C	Not available
Autoignition temperature °F	Not available
Decomposition temperature °C	Not available
Decomposition temperature °F	Not available
Viscosity	No data available

10. STABILITY AND REACTIVITY

Reactivity chemically active metals:. Bases.

Chemical stability Stable.

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

Conditions to avoid Avoid heat, sparks, and other sources of ignition. Exposure to temperatures above 120F may cause bursting.

Incompatible materials Incompatible with strong acids and bases. May attack certain plastics, rubber, & coatings. Incompatible w/ strong oxidizers & caustics, chemically active metal, such as Aluminum, magnesium powder, sodium, potassium, and lithium.

Hazardous decomposition products carbon oxides. Chlorine. Phosgene. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure Dermal. Inhalation. Eyes.

Symptoms Causes serious eye irritation. eye pain, redness, and watering. Ingestion may result in nausea, vomiting, diarrhea and pain. Skin irritation. Redness. Prolonged skin contact may defat the skin and produce dermatitis. Causes respiratory tract irritation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Prolonged exposure may cause unconsciousness, heart effects, liver effects, kidney effects and death.

Delayed and immediate effects as well as chronic effects from short and long-term exposure Excessive exposure will aggravate pre-existing skin disorders, respiratory, liver, kidney, cardiovascular or pulmonary illnesses. Possible cancer causing agent and overexposure may also include damage to skin, kidneys, liver, dizziness, headache, nausea, mental confusion, visual disturbances, lungs, blood, or central nervous system.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Trichloroethylene	26 mg/L Rat	= 4920 mg/kg Rat 29000 mg/kg Rabbit	4920 mg/kg Rat = 29000 mg/kg Rabbit
Tetrachloroethylene	27.8 mg/L Rat	> 3228 mg/kg (Rabbit)	2629 mg/kg Rat
Solvent naphtha (petroleum), medium aliphatic	>5.28 mg/L Rat	> 25 mL/kg Rat >4000 mg/kg Rabbit	>25 mL/kg Rat > 4000 mg/kg Rabbit
Carbon dioxide	-	-	-
Calcium salt of oxidized petroleum	-	-	-

ATEmix (dermal) Not available

ATEmix (oral) Not available

ATEmix (inhalation-gas) Not available

ATEmix (inhalation-vapor) Not available

ATEmix (inhalation-dust/mist) Not available

Carcinogenicity

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA Carcinogens	NTP
Trichloroethylene	A2	Group 1 Group 3	Present	Known carcinogen
Tetrachloroethylene	A3	Group 2A	Present	Reasonably Anticipated Carcinogen
Solvent naphtha (petroleum), medium aliphatic	-	-	-	-
Carbon dioxide	-	-	-	-
Calcium salt of oxidized petroleum	-	-	-	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Trichloroethylene	-	IARC 1 ACGIH A2	ACGIH A2	-	ACGIH A2	-
Tetrachloroethylene	-	IARC 2A	ACGIH A3	ACGIH A3	ACGIH A3	C3 Carcinogen
Solvent naphtha (petroleum), medium aliphatic	-	-	-	-	-	-
Carbon dioxide	-	-	-	-	-	-
Calcium salt of oxidized petroleum	-	-	-	-	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish LC50
Trichloroethylene	=175mg/L Pseudokirchneriella subcapitata 96h =450mg/L Desmodesmus subspicatus 96h	31.4 - 71.8mg/L Pimephales promelas 96h 39 - 54mg/L Lepomis macrochirus 96h
Tetrachloroethylene	>500mg/L Pseudokirchneriella subcapitata 96h	11.0 - 15.0mg/L Lepomis macrochirus 96h 12.4 - 14.4mg/L Pimephales promelas 96h 4.73 - 5.27mg/L Oncorhynchus mykiss 96h 8.6 - 13.5mg/L Pimephales promelas 96h
Solvent naphtha (petroleum), medium aliphatic	=450mg/L Pseudokirchneriella subcapitata 96h	= 800mg/L Pimephales promelas 96h
Carbon dioxide	-	-
Calcium salt of oxidized petroleum	-	-

Persistence and degradability Component(s) of this product are not biodegradable.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)	Bioconcentration factor (BCF)
Trichloroethylene 79-01-6	79-01-6	2.53 at 20 °C (at pH 7, ECHA_API)	17 - 90 dimensionless species: fish
Tetrachloroethylene 127-18-4	127-18-4	2.53 at 23 °C (at pH 7, ECHA_API)	25.8 - 77.1 dimensionless BCF method: OECD Guideline 305 C
Solvent naphtha (petroleum), medium	64742-88-7	-	bioaccumulation expected

Chemical name	CAS-No	Partition coefficient (log Kow)	Bioconcentration factor (BCF)
aliphatic 64742-88-7			
Carbon dioxide 124-38-9	124-38-9	-	no bioaccumulation
Calcium salt of oxidized petroleum 68425-34-3	68425-34-3	-	-

Mobility in soil This product is mobile in soil.

Other adverse effects None known

13. DISPOSAL CONSIDERATIONS

Disposal information Dispose of all product, residues and clean-up materials in accordance with local, state, and federal regulations.

Contaminated packaging Waste likely considered hazardous under RCRA, however, product should be fully characterized prior to disposal(40 CFR 261).

14. TRANSPORTATION INFORMATION

Shipping Descriptions

DOT

ID-No	UN1950
Proper shipping name	Aerosols
Hazard Class(es)	2.2(6.1)
Subsidiary Risk	
Packing group	
Special Provisions	LTD QTY

TDG

ID-No	UN1950
Proper shipping name	Aerosols
Hazard Class(es)	2.2(6.1)
Packing group	
Special Provisions	LTD QTY

IATA

ID-No	UN1950
Proper shipping name	Aerosols, non-flammable, toxic, containing substances in division 6.1 packing group III
Hazard Class(es)	2.2(6.1)
Subsidiary Risk	
Packing group	
ERG Code	126
Special Provisions	LTD QTY

IMDG/IMO

ID-No	UN1950
Proper shipping name	Aerosols, Toxic
Hazard Class(es)	2.2(6.1)
Packing group	
EmS No	F-D, S-U
Special Provisions	LTD QTY

Marine Pollutants

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Trichloroethylene	79-01-6	-	-	-
Tetrachloroethylene	127-18-4	X	X	X
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	-	-	-
Carbon dioxide	124-38-9	-	-	-
Calcium salt of oxidized petroleum	68425-34-3	-	-	-

Special Precautions

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

15. REGULATORY INFORMATION

State regulations

U.S. state Right-to-Know regulations

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Trichloroethylene	79-01-6	X	X	X
Tetrachloroethylene	127-18-4	X	X	X
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	-	-	-
Carbon dioxide	124-38-9	X	X	X
Calcium salt of oxidized petroleum	68425-34-3	-	-	-

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Trichloroethylene	79-01-6	Carcinogen Developmental Male Reproductive
Tetrachloroethylene	127-18-4	Carcinogen
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	-
Carbon dioxide	124-38-9	-
Calcium salt of oxidized petroleum	68425-34-3	-

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Trichloroethylene	79-01-6	100 lb 45.4 kg 1 lb 0.454 kg	0.1 %
Tetrachloroethylene	127-18-4	100 lb 45.4 kg 1 lb	0.1 %

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
		0.454 kg	
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	-	-
Carbon dioxide	124-38-9	-	-
Calcium salt of oxidized petroleum	68425-34-3	-	-

US EPA SARA 311/312 hazardous categorization
Acute Health Hazard
Chronic Health Hazard

TSCA and Canadian Inventories

Chemical name	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification	DSL	NDSL
Trichloroethylene	X	X	X	-
Tetrachloroethylene	X	-	X	-
Solvent naphtha (petroleum), medium aliphatic	X	-	X	-
Carbon dioxide	X	-	X	-
Calcium salt of oxidized petroleum	X	-	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health 2
Flammability 1
Instability 0

HMIS

Health 2
Flammability 1
Physical hazards 0
Personal protection C

Notice: 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).

Prepared by Regulatory Affairs

Issue date 17-Mar-2021

Revision date 26-Sep-2022

Revision note

Key to abbreviations
ACGIH (American Conference of Governmental Industrial Hygienists)

ATE (Average Toxicity Estimate)
DSL/NDSL (Domestic Substance List/Non-Domestic Substance List)
HMIS (Hazardous Materials Identification System)
IARC (International Agency for Research on Cancer)
IATA (International Air Transport Association)
IMDG/IMO (International Maritime Dangerous Goods/International Maritime Orgnaization)
NFPA (National Fire Protection Association)
NTP (National Toxicology Program)
OEL (Occupational Exposure Level)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
TSCA (Toxic Substance Control Act)
USEPA (United States Environmental Protection Agency)

Disclaimer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

End of Safety Data Sheet

SAFETY DATA SHEET

1. Identification

Product identifier	**Hercules Plastic Poxy™**
Other means of identification	
Product code	7394E
Synonyms	Part Numbers: 25531
Recommended use	Epoxy based sealant.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	HCC Holdings, Inc. an Oatey Affiliate
Address	4700 West 160th Street Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Not Classified.	
Health hazards	Skin sensitization	Cat 1
OSHA defined hazards	Not Classified	
Label elements		

Signal word	Warning!
Hazard statement	May cause an allergic skin reaction.
Precautionary statement	
Prevention	Wear protective gloves. Avoid breathing dust. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Response	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN
Storage	Not applicable.
Disposal	Dispose of contents and container in accordance with all local, regional, national and International regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	25068-38-6	10 – 30
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	1 – 5
crystalline silica non-respirable	14808-60-7	0.1 - 1

*Designates that a specific chemical identity and or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Most important symptoms/effects, acute and delayed	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Irritating to mouth, throat and stomach.
Indication of immediate medical attention and special treatment Needed	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
General information	None

5. Fire-fighting measures

Suitable extinguishing media	Use an existing agent suitable for surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	No specific fire or explosion hazard.
Special protective equipment and precautions for firefighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Fire-fighting equipment/instructions	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.
Specific methods	None
General fire hazards	None

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	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 nonemergency personnel".
Methods and materials for containment and cleaning up	Large Spills: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Small Spills: Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
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).

7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
crystalline silica non-respirable (CAS 14808-60-7)	PEL	10 mg/M3

US. ACGIH Threshold Limit Values

Components	Type	Value
crystalline silica non-respirable (CAS 14808-60-7)	Ceiling	0.025 mg/m^3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
crystalline silica non-respirable (CAS 14808-60-7)	Ceiling	0.05 mg.m^3

Biological limit values

No Biological limits.

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures, such as personal protective equipment

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand

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.

Other

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

Respiratory protection

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

Thermal hazards

None.

General hygiene considerations	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Rod
Color	Blue/White
Odor	Pungent
Odor threshold	Not available.
pH	Not Applicable
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not determined
Flash point	Closed cup: >93.3°C (>199.9°F) [Setaflash.]
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	1.96
Solubility(ies)	Insoluble in the following materials: cold water and hot water.
Solubility (water)	Not applicable
Partition coefficient (n-octanol/water)	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	>200°C (>392°F)
Viscosity	Not Available
Other information	
VOC (Weight %)	< 0.1% by weight

10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reaction	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Irritating to mouth, throat and stomach.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation, pain or redness

Information on likely routes of exposure
Acute Toxicity

Components	Species	Results
2,4,6-tris (dimethylaminomethyl)phenol		
LD50 Dermal	Rat	1280 mg/kg
LD50 Oral	Rat	1200 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation
Serious eye damage/eye irritation	Direct contact in the eye may cause temporary irritation
Respiratory or skin sensitization	
Respiratory sensitization	Not considered a respiratory irritant
Skin sensitization	This product is not expected to cause skin irritation.
Germ cell mutagenicity	No specific data
Carcinogenicity	No known significant effects or critical hazards.
Reproductive toxicity	No known significant effects or critical hazards.
Specific target organ toxicity	
Single exposure	Not Classified.
Repeated exposure	Not Classified.
Aspiration Hazard	Not an aspiration hazard.
Chronic effects	Not Classified.
Further information	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

12. Ecological information

Ecotoxicity	No Specific Data.
Persistence and degradability	No Specific Data.
Bio accumulative potential	

Product/ingredient name	LogPow	BCF	Potential
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	2.64 – 3.78	31	low
2,4,6-tris(dimethylaminomethyl)phenol	.219	-	low

Mobility in soil	Not available
Other adverse effects	No known significant effects or critical hazards.

13. Disposal considerations

Disposal instructions	
Local disposal regulations	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.
Hazardous waste code	Not available
Waste from residues / unused products	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.
Contaminated packaging	Waste packaging should be recylcled.

14. Transportation information

DOT	
UN number	Not Regulated
UN Proper Shipping Name	-
Transportation Hazard classes	-
Packing group	-
IATA	Not Regulated
UN number	-
UN Proper Shipping Name	-
Transportation Hazard classes	-
Packing group	-
IMDG	
UN number	Not regulated
UN Proper Shipping Name	-
Transportation Hazard	-

classes

Packing group -

Environmental hazards

Marine polluntant

15. Regulatory information

U.S. Federal regulations

TSCA 8(a) PAIR: Siloxanes and Silicones, di-Me, reaction products with silica
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: zinc sulphide

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not Listed

Clean Air Act Section 602 Class I Substances Not Listed

Clean Air Act Section 602 Class II Substances Not Listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

SARA 311/312

Classification Immediate (acute) health hazard

Name	wt %	Fire Hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (Chronic) health hazard
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	10 – 30	No	No	No	Yes	No
2,4,6-tris(dimethylaminomethyl)phenol	1 – 5	No	No	No	Yes	No
crystalline silica non-respirable	0.1 - 1	No	No	No	No	Yes

Sara 313

	Product Name	CAS Number	Wt%
Form R- Reporting requirements	**Zinc sulphide**	**1314-98-3**	**1-5**

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.

US state regulations

Massachusetts The following components are listed: soapstone, mineral wool fiber

New York None of the components are listed

New Jersey The following components are listed: soapstone; silica quartz, quartz (SiO2); zinc compounds

Pennsylvania The following components are listed: soapstone dust; quartz (SiO2); zinc compounds

California Prop 65 This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. (Talc, not containing asbestiform fibers and crystalline silica, non-repirable)

International regulations

Country(s) or region	Inventory Name	On inventory list (yes/no)*
Canada	Domestic Substance List (DSL)	Yes

Australia	Australian Inventory of Chemical Substances (AICS)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	Yes

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

Issue Date	11-May-2015
Revision Date	-
Version #	01
HMIS Rating	Health: Flammability: Physical Hazards:
Disclaimer	HCC Holdings Inc. an Oatey Affiliate cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier	**Hercules Plumber's Caulk White, Almond/Bone, Biscuit/Linen**
Other means of identification	
Product code	7354E
Synonyms	Part Numbers: 25605, 25615, 25631, 25636, 25641, 25641R, 35646
Recommended use	Caulk and sealant for use around tubs, sinks and other plumbing applications.
Recommended restrictions	Do not us on applications where product will be submerged under water.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	HCC Holdings, Inc. an Oatey Affiliate
Address	4700 West 160th Street Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Not Classified.
Health hazards	Not Classfiied.
OSHA defined hazards	Not Classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	This material does not meet the criteria for classification
Precautionary statement	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Hazard(s) not otherwise classified (HNOC)	Uncured product is irritating to eyes, skin and respiratory system.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Plasticizer Polymer Additive	Trade Secret*	5 - 10
Distillates (petroleum), hydrotreated light	64742-47-8	1 – 5

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.

*Designates that a specific chemical identity and or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
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.
Ingestion	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Skin or eye irritation.
Indication of immediate medical attention and special treatment needed.	Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
General information	Note to physician, treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Use dry chemical, CO2, alcohol-resistant foam or water spray (fog).
Unsuitable extinguishing media	water jet
Specific hazards arising from the chemical	No specific fire or explosion hazard.
Special protective equipment and precautions for firefighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Fire fighting equipment/instructions	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. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Specific methods	None
General fire hazards	None

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. 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".
Methods and materials for containment and cleaning up	Large Spills: 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 of SDS for emergency contact information and section 13 of SDS for waste disposal. Small Spills: 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. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.
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).

7. Handling and storage

Precautions for safe handling	Put on appropriate personal protective equipment (see section 8 of SDS). 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.
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 of SDS) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Distillates (petroleum), hydrotreated light	TWA	200 mg/m3

Biological limit values No Biological limits.

Appropriate engineering controls No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

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.

Skin protection

Hand 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.

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

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

Thermal hazards None.

General hygiene considerations Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Paste

Color White or Off-White.

Odor Ammonia.

Odor threshold Not available.

pH 7.7

Melting point/freezing point Not applicable.

Initial boiling point and boiling range Not determined

Flash point > 199 °F (> 93.3 °C)

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 applicable

Vapor density Not applicable

Relative density 1.50

Solubility(ies)

Solubility (water) Not available

Partition coefficient (n-octanol/water) Not available

Auto-ignition temperature Not applicable

Decomposition temperature Not available

Viscosity Not available

Other information

VOC (Weight %) 1.4% or 37 g/L

10. Stability and reactivity

Reactivity	Stable under normal conditions.
Chemical stability	The product is stable.
Possibility of hazardous reaction	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Symptoms related to the physical, chemical and toxicological characteristics	No specific data.

Information on likely routes of exposure
Acute Toxicity

Components	Species	Results

Skin corrosion/irritation	Not determined.
Serious eye damage/eye irritation	Not determined.
Respiratory or skin sensitization	
Respiratory sensitization	Not considered a respiratory irritant
Skin sensitization	This product is not expected to cause skin irritation.
Germ cell mutagenicity	No specific data
Carcinogenicity	No known significant effects or critical hazards.
Reproductive toxicity	No known significant effects or critical hazards.
Specific target organ toxicity	
Single exposure	Not Classified.
Repeated exposure	Not Classified.
Aspiration Hazard	Contains Distillates (petroleum), hydrotreated – Which is a category 1 Aspiration Hazard. The likely hood of aspirating the product in this form is very low due to the high viscosity.
Chronic effects	Not Classified.
Further information	

12. Ecological information

Ecotoxicity

Product/ingredient name	Results	Species	Exposure
Distillates (petroleum), hydrotreated light			
	Acute LC50 2,900 µg/l Fresh water	Fish - Rainbow trout,Donaldson trout	96 h
	Acute LC50 2,200 µg/l Fresh water	Fish - Bluegill	96 h

Persistence and degradability	Not Available.
Bio accumulative potential	Not Available.
Mobility in soil	Not available.
Other adverse effects	No known significant effects of critical hazards.

13. Disposal considerations

Disposal instructions	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.
Local disposal regulations	Not Applicable
Hazardous waste code	Not Applicable

14. Transportation information

DOT	Not Regulated
UN number	
UN Proper Shipping Name	
Transportation Hazard classes	
Packing group	
IATA	Not Regulated
UN number	
UN Proper Shipping Name	
Transportation Hazard classes	
Packing group	
IMDG	Not Regulated
UN number	
UN Proper Shipping Name	
Transportation Hazard classes	
Packing group	
Environmental hazards	
Marine polluntant	

15. Regulatory information

U.S. Federal regulations	**TSCA 12(b) - Chemical export notification:** None required. **TSCA 5(a)2 - Final significant new use rules:** Not listed **TSCA 5(a)2 - Proposed significant new use rules:** Not listed **TSCA 5(e) - Substances consent order:** Not listed
SARA 311/312	
Classification	Not applicable
US state regulations	
California Prop 65	This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.
Canada	
WHMIS (Canada)	Class D-2A: Material causing other toxic effects (Very toxic).
International regulations	

Country(s) or region	Inventory Name	On inventory list (yes/no)*
Canada	At least one component not listed in DSL, but all such components are listed in NDSLDomestic Substance List	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Not Determined
China	Inventory of Existing Chemical Substances in China (IECSC)	Not Determined
United States & Puerto Rico	Toxic Substances Control Act (TSCA 8b)	Yes

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

Issue Date	12-May-2015
Revision Date	-
Version #	01
HMIS Rating	Health: 1 Flammability: 1 Physical Hazards: 0
Disclaimer	HCC Holdings Inc. an Oatey Affiliate cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Safety Data Sheet

24 Hour Emergency Phone Numbers
Medical/Poison Control:
In U.S.: Call 1-800-222-1222

Outside U.S.: Call your local poison control center

Transportation/National Response Center:

1-800-535-5053
1-352-323-3500

NOTE: The National ResponseCenter emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this SDS are further described in Section 16.

1. Identification

Product Name: PROFLO Plumbers Siliconized Acrylic Latex Caulk Clear (PFC401CLR)

Product UPC Number: 781889149690

Manufacturer: DAP Products Inc.
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non - emergency matters)

SDS Coordinator: MSDS@dap.com

Emergency Telephone: 1-800-535-5053, 1-352-323-3500, 1-800-222-1222

Revision Date: 2/8/2021

Supercedes Date: 12/31/2020

Product Use/Class: Caulking Compound

SDS No: 6200562

Preparer: Regulatory and Environmental Affairs

2. Hazards Identification

GHS Classification
Not a hazardous substance or mixture.

Symbol(s) of Product

None

Signal Word
Not a hazardous substance or mixture.

Possible Hazards
43% of the mixture consists of ingredients of unknown acute toxicity

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Proprietary Acrylic Polymer	68133-44-8	30-60	No Information	No Information
White mineral oil	8042-47-5	5-10	GHS07-GHS08	H304-312
Ethylene glycol	107-21-1	1-5	GHS07	H332

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

4. First-aid Measures

FIRST AID - INHALATION: Material is not likely to present an inhalation hazard at ambient conditions. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

FIRST AID - SKIN CONTACT: In case of contact, wash skin immediately with soap and water.

FIRST AID - EYE CONTACT: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

FIRST AID - INGESTION: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

5. Fire-fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: None Known.

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

EXTINGUISHING MEDIA: Alcohol Foam, Carbon Dioxide, Dry Chemical, Foam, Water Spray or Fog, Water

6. Accidental Release Measures

ENVIRONMENTAL MEASURES: Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate. Dispose of saturated absorbent or cleaning materials appropriately. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Scrape up dried material and place into containers.

7. Handling and Storage

HANDLING: KEEP OUT OF REACH OF CHILDREN!DO NOT TAKE INTERNALLY. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Wash thoroughly after handling.

STORAGE: Avoid excessive heat and freezing. Do not store at temperatures above 120 °F (49 °C). Store away from caustics and oxidizers.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Proprietary Acrylic Polymer	N.E.	N.E.	N.E.	N.E.
White mineral oil	N.E.	N.E.	N.E.	N.E.
Ethylene glycol	25 ppm TWA vapor fraction	50 ppm STEL vapor fraction, 10 mg/m3 STEL inhalable particulate matter, aerosol only	N.E.	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required.

PRIMARY ROUTE(S) OF ENTRY: Skin Contact, Inhalation

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
68133-44-8	Proprietary Acrylic Polymer	N.I.	N.I.	N.I.
8042-47-5	White mineral oil	>5000 mg/kg Rat	2000 mg/kg Rabbit	>20 mg/L
107-21-1	Ethylene glycol	4700 mg/kg Rat	9530 mg/kg Rabbit	N.I.

N.I. = No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Ecological injuries are not known or expected under normal use.

13. Disposal Information

DISPOSAL INFORMATION: This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261. Dispose as hazardous waste according to all local, state, federal and provincial regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Scrape up dried material and place into containers.

14. Transport Information

DOT UN/NA Number: N.A.
DOT Proper Shipping Name: Not Regulated
DOT Technical Name: N.A.
DOT Hazard Class: N.A.
Hazard SubClass: 0
Packing Group: N.A.

15. Regulatory 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:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.
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

Revision Date: 2/8/2021 **Supersedes Date:** 12/31/2020

Reason for revision: Substance and/or Product Properties Changed in Section(s):
01 - Product Information
05 - Flammability Information
08 - Exposure Controls/Personal Protection
09 - Physical & Chemical Information
11 - Toxicological Information
14 - Transportation Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	Flammability:	Reactivity:	Personal Protection:
1	0	0	X

VOC Less Water Less Exempt Solvent, g/L: 45.5
VOC Material, g/L: 25
VOC as Defined by California Consumer Product Regulation, Wt/Wt%: 0.20
VOC Actual, Wt/Wt%: 2.4

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS07

GHS08

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	PRO 1-GL 2PK GLOSS LT MACHINE GRAY	**Revision Date:**	7/24/2019
Product Identifier:	7781402	**Supercedes Date:**	5/23/2019
Recommended Use:	Topcoat/Alkyd		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	**Manufacturer:**	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
8% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Carcinogenicity, category 1B	H350	May cause cancer.
Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	For specific treatment see label
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing. Avoid contact with eyes.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Keep away from heat, sparks, flame and sources of ignition. Keep container closed when not in use. Avoid excess heat.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Hydrotreated Light Distillate	64742-47-8	45.0	N.E.	N.E.	N.E.	N.E.
Nanoscale Titanium Dioxide	1317-80-2	10.0	N.E.	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	5.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Methyl Ethyl Ketoxime	96-29-7	1.0	10 ppm	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	N.E.	100 ppm	N.E.
Naphtha, Hydrotreated Heavy	64742-48-9	1.0	N.E.	N.E.	N.E.	N.E.
Cobalt 2-Ethylhexanoate	136-52-7	1.0	N.E.	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Specific Gravity:	0.967	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	None	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	136 - 1,649	**Explosive Limits, vol%:**	0.5 - 6.6
Flammability:	Supports Combustion	**Flash Point, °C:**	40
Evaporation Rate:	Slower than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes eye irritation. Substance causes moderate eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. May cause headaches and dizziness. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Irritating to the nose, throat and respiratory tract. Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-47-8	Hydrotreated Light Distillate	>5000 mg/kg Rat	>2000 mg/kg Rabbit	>5000 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	2500 mg/kg	N.E.
96-29-7	Methyl Ethyl Ketoxime	930 mg/kg Rat	1100 mg/kg Rabbit	>4.83 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
64742-48-9	Naphtha, Hydrotreated Heavy	>6000 mg/kg Rat	>3160 mg/kg Rabbit	N.E.
136-52-7	Cobalt 2-Ethylhexanoate	N.E.	>5000 mg/kg Rabbit	N.E.

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Do not incinerate closed containers. Dispose of material in accordance to local, state, and federal regulations and ordinances.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Not Regulated	Paint	Paint	Not Regulated
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	No	Yes	Yes	No

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Flammable (gases, aerosols, liquids, or solids), Carcinogenicity, Respiratory or Skin Sensitization, Germ cell mutagenicity

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Ethylbenzene	100-41-4
Cobalt 2-Ethylhexanoate	136-52-7

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations:

California Proposition 65:

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

16. Other Information

HMIS RATINGS

Health:	2*	Flammability:	2	Physical Hazard:	0	Personal Protection:	X

NFPA RATINGS

Health:	2	Flammability:	2	Instability	0

Volatile Organic Compounds 442 g/L

SDS REVISION DATE: 7/24/2019

REASON FOR REVISION: Product Composition Changed
Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	PRO 1-GL 2PK SAFETY YELLOW	**Revision Date:**	10/14/2022
Product Identifier:	7543402	**Supercedes Date:**	10/15/2019
Recommended Use:	Topcoat/Alkyd		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	**Manufacturer:**	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazards Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
12% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Carcinogenicity, category 1B	H350	May cause cancer.
Flammable Liquid, category 3	H226	Flammable liquid and vapor.
Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. NO SMOKING.
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	For specific treatment see label.

P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P370+P378	In case of fire: Use alcohol film forming foam, carbon dioxide, dry chemical, dry sand to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local, regional and national regulations.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P363	Wash contaminated clothing before reuse.

3. Composition / Information on Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Hydrotreated Light Distillate	64742-47-8	25-50	GHS08	H304
Titanium Dioxide	13463-67-7	2.5-10	Not Available	Not Available
Pigment Yellow 74	6358-31-2	2.5-10	Not Available	Not Available
Yellow Iron Oxide	51274-00-1	1.0-2.5	Not Available	Not Available
Xylenes (o-, m-, p- Isomers)	1330-20-7	0.1-1.0	GHS02-GHS07	H226-315-319-332
Methyl Ethyl Ketoxime	96-29-7	0.1-1.0	GHS05-GHS06-GHS07-GHS08	H302-312-315-317-318-331-336-370-373
Ethylbenzene	100-41-4	0.1-1.0	GHS02-GHS07-GHS08	H225-304-332-351-373
Naphtha, Hydrotreated Heavy	64742-48-9	0.1-1.0	GHS08	H304-340-350
Cobalt 2-Ethylhexanoate	136-52-7	0.1-1.0	Not Available	Not Available
Zirconium Acetate	5153-24-2	<0.1	Not Available	Not Available

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat due to buildup of steam. Keep containers tightly closed. Combustible liquid and vapor. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: 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: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Avoid excess heat.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Hydrotreated Light Distillate	64742-47-8	45.0	N.E.	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	10.0	0.2 mg/m3	N.E.	15 mg/m3	N.E.
Pigment Yellow 74	6358-31-2	5.0	N.E.	N.E.	N.E.	N.E.
Yellow Iron Oxide	51274-00-1	5.0	N.E.	N.E.	N.E.	N.E.
Xylenes (o-, m-, p- Isomers)	1330-20-7	1.0	20 ppm	N.E.	100 ppm	N.E.
Methyl Ethyl Ketoxime	96-29-7	1.0	10 ppm	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	N.E.	100 ppm	N.E.
Naphtha, Hydrotreated Heavy	64742-48-9	1.0	N.E.	N.E.	N.E.	N.E.
Cobalt 2-Ethylhexanoate	136-52-7	1.0	N.E.	N.E.	N.E.	N.E.
Zirconium Acetate	5153-24-2	0.1	5 mg/m3	10 mg/m3	5 mg/m3	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. 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.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Specific Gravity:	0.972	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	None	**Partition Coefficient, n-octanol/ water:**	N.D.
Decomposition Temp., °C:	N.D.		
Boiling Range, °C:	136 - 537	**Explosive Limits, vol%:**	0.5 - 6.6
Flammability:	Supports Combustion	**Flash Point, °C:**	41
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: No Information

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: 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: Substance causes moderate eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Irritating to the nose, throat and respiratory tract. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES
The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-47-8	Hydrotreated Light Distillate	>5000 mg/kg Rat	>2000 mg/kg Rabbit	>5000 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	6000	N.E.
1330-20-7	Xylenes (o-, m-, p- Isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
96-29-7	Methyl Ethyl Ketoxime	930 mg/kg Rat	1100 mg/kg Rabbit	>4.83 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
64742-48-9	Naphtha, Hydrotreated Heavy	>6000 mg/kg Rat	>5000 mg/kg Rabbit	N.E.
136-52-7	Cobalt 2-Ethylhexanoate	N.E.	>5000 mg/kg Rabbit	N.E.

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components.

13. Disposal Information

DISPOSAL: Do not incinerate closed containers. Dispose of material in accordance to local, state, and federal regulations and ordinances.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Not Regulated	Paint	Paint	Not Regulated
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	No	Yes	Yes	No

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Flammable (gases, aerosols, liquids, or solids), Carcinogenicity, Respiratory or Skin Sensitization, Germ cell mutagenicity

SARA Section 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylenes (o-, m-, p- Isomers)	1330-20-7
Ethylbenzene	100-41-4
Cobalt 2-Ethylhexanoate	136-52-7

Toxic Substances Control Act

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations:

California Proposition 65

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	3	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	3	**Instability:**	0

Volatile Organic Compounds: 450 g/L

SDS REVISION DATE: 10/14/2022

REASON FOR REVISION:

Product Composition Changed
Substance and/or Product Properties Changed in Section(s):
02 - Hazard Identification
09 - Physical & Chemical Properties
16 - Other Information
Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.D. - Not Determined, N.E. - Not Established

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Hercules Pro Dope
HCC Holdings, Inc. an Oatey Affiliate

Version No: **1.3.6.8**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **07/21/2021**
Print Date: **07/21/2021**
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Hercules Pro Dope
Chemical Name	Not Applicable
Synonyms	Not Available
Other means of identification	15420, 15427, 15433, 15435, 15445, 15455, 15421

Recommended use of the chemical and restrictions on use

Relevant identified uses	Pipe thread sealant.

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

Registered company name	**HCC Holdings, Inc. an Oatey Affiliate**
Address	4700 West 160th Street Cleveland, OH 44135 United States
Telephone	216-267-7100
Fax	Not Available
Website	Not Available
Email	info@oatey.com

Emergency phone number

Association / Organisation	**Chemtrec**
Emergency telephone numbers	1-800-424-9300 (Outside the US 1-703-527-3887)
Other emergency telephone numbers	Emergency First Aid: 1-877-740-5015

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Classification	Skin Sensitizer Category 1

Label elements

Hazard pictogram(s)	

Page 1 continued...

Signal word **Warning**

Hazard statement(s)

May cause an allergic skin reaction.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Wear protective gloves.

Avoid breathing mist/vapours/spray.

Contaminated work clothing must not be allowed out of the workplace.

Precautionary statement(s) Response

Wash contaminated clothing before reuse.

If on skin: Wash with plenty of water and soap.

If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1317-65-3*	45-70	calcium carbonate
64741-88-4.	15-40	paraffinic distillate, heavy, solvent-refined (severe)
1332-58-7*	7-13	Kaolin
8002-50-4	2.24	fish oil
14808-60-7*	<2	silica crystalline - quartz
64742-88-7	0.1-1	solvent naphtha petroleum, medium aliphatic.
12001-26-2*	0.1-1	Mica
13463-67-7*	0.1-1	Titanium dioxide
67-56-1	0.1-1	methanol
14464-46-1	0.1-1	cristobalite

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact

If this product comes in contact with eyes:
- Wash out immediately with water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact

If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

Inhalation

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

Continued...

Ingestion	‣ Immediately give a glass of water. ‣ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility	‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting	‣ Alert Fire Department and tell them location and nature of hazard. ‣ Wear breathing apparatus plus protective gloves. ‣ Prevent, by any means available, spillage from entering drains or water courses. ‣ Use water delivered as a fine spray to control fire and cool adjacent area. ‣ **DO NOT** approach containers suspected to be hot. ‣ Cool fire exposed containers with water spray from a protected location. ‣ If safe to do so, remove containers from path of fire. ‣ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	Combustion products include: carbon monoxide (CO) carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. **CARE**: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	Slippery when spilt. ‣ Clean up all spills immediately. ‣ Avoid contact with skin and eyes. ‣ Wear impervious gloves and safety goggles. ‣ Trowel up/scrape up. ‣ Place spilled material in clean, dry, sealed container. ‣ Flush spill area with water.
Major Spills	Slippery when spilt. Minor hazard. ‣ Clear area of personnel. ‣ Alert Fire Department and tell them location and nature of hazard.

Continued...

- Control personal contact with the substance, by using protective equipment as required.
- Prevent spillage from entering drains or water ways.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
- Wash area and prevent runoff into drains or waterways.
- If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- **DO NOT** enter confined spaces until atmosphere has been checked.
- **DO NOT** allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Other information

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Storage incompatibility

CARE: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire.

- Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-3	calcium carbonate	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	calcium carbonate	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	calcium carbonate	Marble- Total dust	15 mg/m3	Not Available	Not Available	Not Available

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	calcium carbonate	Limestone- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	calcium carbonate	Calcium Carbonate- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	calcium carbonate	Limestone- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	calcium carbonate	Calcium Carbonate- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	calcium carbonate	Marble- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Calcium carbonate - respirable	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Marble - respirable	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Limestone - respirable	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Marble - total	10 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Limestone - total	10 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Calcium carbonate - total	10 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist, mineral	5 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	paraffinic distillate, heavy, solvent-refined (severe)	Mineral oil, excluding metal working fluids - Pure, highly and severely refined (Inhalable particulate matter)	5 mg/m3	Not Available	Not Available	A4
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Kaolin	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Kaolin	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Kaolin	Kaolin- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Kaolin	Kaolin- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	Kaolin	Kaolin - respirable	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	Kaolin	Kaolin - total	10 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Kaolin	Kaolin (Respirable particulate matter)	2 mg/m3	Not Available	Not Available	A4
US OSHA Permissible Exposure Limits (PELs) Table Z-3	silica crystalline - quartz	Silica: Crystalline: Quartz (Respirable)	10 (%SiO2+2) mg/m3 / 250 (%SiO2+5) mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	silica crystalline - quartz	Silica, crystalline (as respirable dust)	0.05 mg/m3	Not Available	Not Available	Ca; See Appendix A
US ACGIH Threshold Limit Values (TLV)	silica crystalline - quartz	Silica, crystalline - α-quartz and cristobalite (Respirable particulate matter)	0.025 mg/m3	Not Available	Not Available	A2

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	solvent naphtha petroleum, medium aliphatic.	Oil mist, mineral	5 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	solvent naphtha petroleum, medium aliphatic.	Mineral oil, excluding metal working fluids - Poorly and mildly refined	Not Available	Not Available	Not Available	A2
US ACGIH Threshold Limit Values (TLV)	solvent naphtha petroleum, medium aliphatic.	Mineral oil, excluding metal working fluids - Pure, highly and severely refined (Inhalable particulate matter)	5 mg/m3	Not Available	Not Available	A4
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Mica	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Mica	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Mica	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Mica	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	Mica	Mica (containing less than 1% quartz)	3 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Mica	Mica (Respirable particulate matter)	0.1 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Titanium dioxide	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Titanium dioxide	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Titanium dioxide	Titanium dioxide - Total dust	15 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	Titanium dioxide	Titanium dioxide	Not Available	Not Available	Not Available	Ca; See Appendix A
US ACGIH Threshold Limit Values (TLV)	Titanium dioxide	Titanium dioxide	10 mg/m3	Not Available	Not Available	(A4)
US OSHA Permissible Exposure Limits (PELs) Table Z-1	methanol	Methyl alcohol	200 ppm / 260 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	methanol	Methyl alcohol	200 ppm / 260 mg/m3	325 mg/m3 / 250 ppm	Not Available	[skin]
US ACGIH Threshold Limit Values (TLV)	methanol	Methanol	200 ppm	250 ppm	Not Available	Skin; BEI
US OSHA Permissible Exposure Limits (PELs) Table Z-3	cristobalite	Silica: Crystalline: Cristobalite	Not Available	Not Available	Not Available	Use ½ the value calculated from the count or mass formulae for quartz.
US OSHA Permissible Exposure Limits (PELs) Table Z-1	cristobalite	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	cristobalite	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	cristobalite	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D
US ACGIH Threshold Limit Values (TLV)	cristobalite	Silica, crystalline - α-quartz and cristobalite (Respirable particulate matter)	0.025 mg/m3	Not Available	Not Available	A2

Continued...

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying 'escape' velocities which, in turn, determine the 'capture velocities' of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25-0.5 m/s (50-100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood - local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal protection

Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Skin protection

See Hand protection below

Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

Body protection

See Other protection below

Continued...

Other protection	• Overalls. • P.V.C apron. • Barrier cream. • Skin cleansing cream. • Eye wash unit.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Grey paste

Physical state	Free-flowing Paste	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	30000
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	>100	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	11

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract. Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Continued...

Ingestion	The material has **NOT**been classified as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis. The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the material is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that 'carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.' (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✗	**Reproductivity**	✗
Serious Eye Damage/Irritation	✗	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✓	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

SECTION 12 Ecological Information

Toxicity

Hercules Pro Dope

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

calcium carbonate

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

paraffinic distillate, heavy, solvent-refined (severe)

Endpoint	Test Duration (hr)	Species	Value	Source
ErC50	72h	Algae or other aquatic plants	>1000mg/l	1
NOEC(ECx)	504h	Crustacea	>1mg/l	1
EC50	48h	Crustacea	>1000mg/l	1
EC50	96h	Algae or other aquatic plants	>1000mg/l	1

Kaolin

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

fish oil

Endpoint	Test Duration (hr)	Species	Value	Source
EC10(ECx)	96h	Algae or other aquatic plants	3.9mg/l	1
EC50	72h	Algae or other aquatic plants	>100mg/l	1
LC50	96h	Fish	>10000mg/l	1
EC50	48h	Crustacea	>100mg/l	1
EC50	96h	Algae or other aquatic plants	13.3mg/l	1

Continued

silica crystalline - quartz	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	Not Available	Not Available	Not Available	Not Available	Not Available

solvent naphtha petroleum, medium aliphatic.	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50(ECx)	48h	Crustacea	>100mg/l	1
	EC50	48h	Crustacea	>100mg/l	1
	EC50	96h	Algae or other aquatic plants	450mg/l	1

Mica	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	Not Available	Not Available	Not Available	Not Available	Not Available

Titanium dioxide	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50	72h	Algae or other aquatic plants	3.75-7.58mg/l	4
	BCF	1008h	Fish	<1.1-9.6	7
	EC50	48h	Crustacea	1.9mg/l	2
	LC50	96h	Fish	1.85-3.06mg/l	4
	NOEC(ECx)	504h	Crustacea	0.02mg/l	4
	EC50	96h	Algae or other aquatic plants	179.05mg/l	2

methanol	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50(ECx)	96h	Algae or other aquatic plants	<0.001mg/L	4
	LC50	96h	Fish	>100mg/l	4
	EC50	48h	Crustacea	>10000mg/l	2
	EC50	96h	Algae or other aquatic plants	<0.001mg/L	4

cristobalite	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

DO NOTdischarge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Titanium dioxide	HIGH	HIGH
methanol	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
Titanium dioxide	LOW (BCF = 10)
methanol	LOW (BCF = 10)

Mobility in soil

Ingredient	Mobility
Titanium dioxide	LOW (KOC = 23.74)
methanol	HIGH (KOC = 1)

SECTION 13 Disposal considerations

Continued

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▸ Where possible retain label warnings and SDS and observe all notices pertaining to the product. ▸ **DO NOT**allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Where in doubt contact the responsible authority. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Authority for disposal. ▸ Bury or incinerate residue at an approved site. ▸ Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
calcium carbonate	Not Available
paraffinic distillate, heavy, solvent-refined (severe)	Not Available
Kaolin	Not Available
fish oil	Not Available
silica crystalline - quartz	Not Available
solvent naphtha petroleum, medium aliphatic.	Not Available
Mica	Not Available
Titanium dioxide	Not Available
methanol	Not Available
cristobalite	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
calcium carbonate	Not Available
paraffinic distillate, heavy, solvent-refined (severe)	Not Available
Kaolin	Not Available
fish oil	Not Available
silica crystalline - quartz	Not Available
solvent naphtha petroleum, medium aliphatic.	Not Available
Mica	Not Available
Titanium dioxide	Not Available
methanol	Not Available
cristobalite	Not Available

Continued...

SECTION 15 Regulatory information

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

calcium carbonate is found on the following regulatory lists

US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

paraffinic distillate, heavy, solvent-refined (severe) is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US DOE Temporary Emergency Exposure Limits (TEELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Kaolin is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

fish oil is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

silica crystalline - quartz is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US DOE Temporary Emergency Exposure Limits (TEELs)
US National Toxicology Program (NTP) 14th Report Part A Known to be Human Carcinogens
US NIOSH Carcinogen List
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Carcinogens Listing
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

solvent naphtha petroleum, medium aliphatic. is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US DOE Temporary Emergency Exposure Limits (TEELs)
US National Toxicology Program (NTP) 14th Report Part A Known to be Human Carcinogens
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Mica is found on the following regulatory lists

US ACGIH Threshold Limit Values (TLV)
US DOE Temporary Emergency Exposure Limits (TEELs)
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3

Titanium dioxide is found on the following regulatory lists

Continued...

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US ACGIH Threshold Limit Values (TLV) - Notice of Intended Changes
US DOE Temporary Emergency Exposure Limits (TEELs)
US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
US NIOSH Carcinogen List
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

methanol is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Reproductive Toxicity
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US Clean Air Act - Hazardous Air Pollutants
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Integrated Risk Information System (IRIS)
US EPCRA Section 313 Chemical List
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

cristobalite is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US DOE Temporary Emergency Exposure Limits (TEELs)
US NIOSH Carcinogen List
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Carcinogens Listing
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No

Continued...

Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
methanol	5000	2270

State Regulations

US. California Proposition 65

⚠ WARNING: This product can expose you to chemicals including silica, crystalline, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

National Inventory Status

National Inventory	Status
USA - TSCA	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	07/21/2021
Initial Date	07/19/2021

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances

Continued...

TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Safety Data Sheet

24 Hour Emergency Phone Numbers
Medical/Poison Control:
In U.S.: Call 1-800-222-1222

Outside U.S.: Call your local poison control center

Transportation/National Response Center:

1-800-535-5053
1-352-323-3500

NOTE: The National ResponseCenter emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this SDS are further described in Section 16.

1. Identification

Product Name: PROFLO Acrylic Latex Siliconized Sealant White (PFC200WHT)

Product UPC Number: 781889061909

Manufacturer: DAP Products Inc.
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non - emergency matters)

SDS Coordinator: MSDS@dap.com

Emergency Telephone: 1-800-535-5053, 1-352-323-3500, 1-800-222-1222

Revision Date: 2/8/2021

Supercedes Date: 12/31/2020

Product Use/Class: Caulking Compound

SDS No: 6200262

Preparer: Regulatory and Environmental Affairs

2. Hazards Identification

GHS Classification
Not a hazardous substance or mixture.

Symbol(s) of Product

None

Signal Word
Not a hazardous substance or mixture.

Possible Hazards
16% of the mixture consists of ingredients of unknown acute toxicity

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Lubricating petroleum oil	72623-86-0	5-10	GHS07	H332

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

4. First-aid Measures

FIRST AID - INHALATION: Material is not likely to present an inhalation hazard at ambient conditions. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

FIRST AID - SKIN CONTACT: In case of contact, wash skin immediately with soap and water.

FIRST AID - EYE CONTACT: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

FIRST AID - INGESTION: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

5. Fire-fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: None Known.

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

EXTINGUISHING MEDIA: Alcohol Foam, Carbon Dioxide, Dry Chemical, Foam, Water Spray or Fog, Water

6. Accidental Release Measures

ENVIRONMENTAL MEASURES: Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate. Dispose of saturated absorbent or cleaning materials appropriately. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Scrape up dried material and place into containers.

7. Handling and Storage

HANDLING: KEEP OUT OF REACH OF CHILDREN!DO NOT TAKE INTERNALLY. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Wash thoroughly after handling.

STORAGE: Avoid excessive heat and freezing. Do not store at temperatures above 120 °F (49 °C). Store away from caustics and oxidizers.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Lubricating petroleum oil	N.E.	N.E.	N.E.	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required.

SKIN PROTECTION: Rubber gloves.

EYE PROTECTION: Goggles or safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT: Not required under normal use.

HYGIENIC PRACTICES: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Appearance:	White to Off-White	**Physical State:**	Paste
Odor:	Very Slight Ammonia	**Odor Threshold:**	Not Established
Density, g/cm3:	1.58 - 1.58	**pH:**	Between 7.0 and 12.0
Freeze Point, °C:	Not Established	**Viscosity (mPa.s):**	N.E.
Solubility in Water:	No Information	**Partition Coeff., n-octanol/water:**	Not Established
Decomposition Temperature, °C:	Not Established	**Explosive Limits, %:**	Not Established - Not Established
Boiling Range, °C:	100 - 100	**Auto-Ignition Temperature, °C**	Not Established
Minimum Flash Point, °C:	100	**Vapor Pressure, mmHg:**	Not Established
Evaporation Rate:	Slower Than n-Butyl Acetate	**Flash Method:**	Seta Closed Cup
Vapor Density:	Heavier Than Air	**Flammability, NFPA:**	Non-Flammable
Combustible Dust:	Does not support combustion		

(See "Other information" Section for abbreviation legend)
(If product is an aerosol, the flash point stated above is that of the propellant.)

10. Stability and Reactivity

STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Excessive heat and freezing.

INCOMPATIBILITY: Incompatible with strong bases and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal decomposition products, i.e., COx, NOx.

11. Toxicological Information

EFFECT OF OVEREXPOSURE - INHALATION: Under normal use conditions, this product is not expected to cause adverse health effects. Inhalation of vapors in high concentration may cause mild irritation of respiratory system (nose, mouth, mucous membranes).

EFFECT OF OVEREXPOSURE - SKIN CONTACT: Under normal use conditions, this product is not expected to cause adverse health effects. Prolonged or repeated contact with skin may cause mild irritation.

EFFECT OF OVEREXPOSURE - EYE CONTACT: Under normal use conditions, this product is not expected to cause adverse health effects. Direct eye contact may cause irritation.

EFFECT OF OVEREXPOSURE - INGESTION: Under normal use conditions, this product is not expected to cause adverse health effects. Single dose oral toxicity is very low. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of large amounts may cause injury.

CARCINOGENICITY: No Information

EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS: Repeated or prolonged exposure may cause mild irritation of eyes and skin.

PRIMARY ROUTE(S) OF ENTRY: Skin Contact, Inhalation

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
72623-86-0	Lubricating petroleum oil	>5000 mg/kg Rat	>2000 mg/kg Rabbit	N.I.

N.I. = No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Ecological injuries are not known or expected under normal use.

13. Disposal Information

DISPOSAL INFORMATION: This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261. Dispose as hazardous waste according to all local, state, federal and provincial regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Scrape up dried material and place into containers.

14. Transport Information

DOT UN/NA Number:	N.A.
DOT Proper Shipping Name:	Not Regulated
DOT Technical Name:	N.A.
DOT Hazard Class:	N.A.
Hazard SubClass:	0
Packing Group:	N.A.

15. Regulatory 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:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.
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

Revision Date: 2/8/2021 **Supersedes Date:** 12/31/2020

Reason for revision: Substance and/or Product Properties Changed in Section(s):
01 - Product Information
05 - Flammability Information
08 - Exposure Controls/Personal Protection
09 - Physical & Chemical Information
11 - Toxicological Information
14 - Transportation Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	Flammability:	Reactivity:	Personal Protection:
1	0	0	X

VOC Less Water Less Exempt Solvent, g/L: 9.7
VOC Material, g/L: 7
VOC as Defined by California Consumer Product Regulation, Wt/Wt%: 0.02
VOC Actual, Wt/Wt%: 0.4

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H332 Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS07

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

MATHESON
The Gas Professionals

Safety Data Sheet

Material Name: ≤0.5% each Acetylene, Butane, Ethane, Ethylene, Methane, Propane, Propylene, Propyne in Nitrogen **SDS ID: 00244775**

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
≤0.5% each Acetylene, Butane, Ethane, Ethylene, Methane, Propane, Propylene, Propyne in Nitrogen
Product Description
Classification determined in accordance with Compressed Gas Association standards.
Product Use
Industrial and Specialty Gas Applications
Restrictions on Use
None known
Details of the supplier of the safety data sheet
MATHESON TRI-GAS, INC.
909 Lake Carolyn Parkway
Suite 1300
Irving, TX 75039
General Information: 1-800-416-2505
Emergency #: 1-800-424-9300 (CHEMTREC)
Outside the US: 703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Gases Under Pressure - Compressed gas
Simple Asphyxiant
GHS Label Elements
Symbol(s)

Signal Word
Warning
Hazard Statement(s)
Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.
Precautionary Statement(s)
Prevention
None needed according to classification criteria.
Response
None needed according to classification criteria.
Storage
Protect from sunlight. Store in a well-ventilated place.
Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.
Other Hazards
Rapid release of compressed gas may cause frostbite.

Safety Data Sheet

Material Name: ≤0.5% each Acetylene, Butane, Ethane, Ethylene, Methane, Propane, Propylene, Propyne in Nitrogen **SDS ID: 00244775**

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7727-37-9	Nitrogen	0-100
74-86-2	Acetylene	≤0.5
106-97-8	Butane	≤0.5
74-84-0	Ethane	≤0.5
74-85-1	Ethylene	≤0.5
74-82-8	Methane	≤0.5
74-98-6	Propane	≤0.5
115-07-1	Propylene	≤0.5
74-99-7	Propyne	≤0.5

Section 4 - FIRST AID MEASURES

Inhalation
If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
Skin
If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.
Eyes
Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.
Ingestion
If swallowed, get medical attention.
Most Important Symptoms/Effects
Acute
Frostbite, suffocation
Delayed
No information on significant adverse effects.
Note to Physicians
For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media
regular dry chemical, carbon dioxide
Unsuitable Extinguishing Media
None known

Special Hazards Arising from the Chemical
Negligible fire hazard. Containers may rupture or explode if exposed to heat.
Hazardous Combustion Products
oxides of nitrogen
Fire Fighting Measures
Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Apply water from a protected location or from a safe distance. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.
Special Protective Equipment and Precautions for Firefighters
Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.
Methods and Materials for Containment and Cleaning Up
Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Allow substance to evaporate. Ventilate closed spaces before entering.
Environmental Precautions
Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Avoid breathing gas. Wash hands thoroughly after handling.
Conditions for Safe Storage, Including any Incompatibilities
Protect from sunlight. Store in a well-ventilated place.
Further information on storage conditions: Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.
Incompatible Materials
metals, oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Nitrogen	**7727-37-9**
ACGIH:	(See Appendix F: Minimal Oxygen Content)
Acetylene	**74-86-2**
ACGIH:	(See Appendix F: Minimal Oxygen Content, explosion hazard)
NIOSH:	2500 ppm Ceiling ; 2662 mg/m3 Ceiling
Butane	**106-97-8**

ACGIH:	1000 ppm STEL (explosion hazard)
NIOSH:	800 ppm TWA ; 1900 mg/m3 TWA
	1600 ppm IDLH (>10% LEL)
Mexico:	1000 ppm TWA [VLE-PPT]
Ethane	**74-84-0**
ACGIH:	(See Appendix F: Minimal Oxygen Content, explosion hazard)
Mexico:	1000 ppm TWA [VLE-PPT]
Ethylene	**74-85-1**
ACGIH:	200 ppm TWA
Mexico:	200 ppm TWA [VLE-PPT]
Methane	**74-82-8**
ACGIH:	(See Appendix F: Minimal Oxygen Content, explosion hazard)
Mexico:	1000 ppm TWA [VLE-PPT]
Propane	**74-98-6**
ACGIH:	(See Appendix F: Minimal Oxygen Content, explosion hazard)
NIOSH:	1000 ppm TWA ; 1800 mg/m3 TWA
	2100 ppm IDLH (10% LEL)
OSHA (US):	1000 ppm TWA ; 1800 mg/m3 TWA
Mexico:	1000 ppm TWA [VLE-PPT]
Propylene	**115-07-1**
ACGIH:	500 ppm TWA
Mexico:	500 ppm TWA [VLE-PPT]
Propyne	**74-99-7**
ACGIH:	1000 ppm TWA (explosion hazard)
NIOSH:	1000 ppm TWA ; 1650 mg/m3 TWA

	1700 ppm IDLH (10% LEL)
OSHA (US):	1000 ppm TWA ; 1650 mg/m3 TWA
Mexico:	1000 ppm TWA [VLE-PPT]

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)
There are no biological limit values for any of this product's components.
Engineering Controls
Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.
Individual Protection Measures, such as Personal Protective Equipment
Eye/face protection
For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin Protection
For the gas: Protective clothing is not required, but recommended. For the liquid: Wear appropriate protective, cold insulating clothing.
Respiratory Protection
Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. For Unknown Concentrations or Immediately Dangerous to Life or Health - Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
Glove Recommendations
For the gas: Protective gloves are not required, but recommended. For the liquid: Wear insulated gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	colorless gas	**Physical State**	gas
Odor	Not available	**Color**	colorless
Odor Threshold	Not available	**pH**	Not available
Melting Point	Not available	**Boiling Point**	Not available
Boiling Point Range	Not available	**Freezing point**	Not available
Evaporation Rate	Not available	**Flammability (solid, gas)**	Not Flammable
Autoignition Temperature	Not available	**Flash Point**	Not available
Lower Explosive Limit	Not available	**Decomposition temperature**	Not available
Upper Explosive Limit	Not available	**Vapor Pressure**	Not available
Vapor Density (air=1)	Not available	**Specific Gravity (water=1)**	Not available

Water Solubility	Not available	**Partition coefficient: n-octanol/water**	Not available
Viscosity	Not available	**Kinematic viscosity**	Not available
Solubility (Other)	Not available	**Density**	Not available
Physical Form	Compressed gas	**Molecular Weight**	Not available

Other Information
No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.
Chemical Stability
Stable at normal temperatures and pressure.
Possibility of Hazardous Reactions
Will not polymerize.
Conditions to Avoid
Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
Incompatible Materials
metals, oxidizing materials
Hazardous decomposition products
oxides of nitrogen

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Inhalation
Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma
Skin Contact
Frostbite
Eye Contact
Frostbite, irritation
Ingestion
Ingestion of a gas is unlikely.
Acute and Chronic Toxicity
Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Butane (106-97-8)
Inhalation LC50 Rat 658 g/m3 4 h
Ethane (74-84-0)
Inhalation LC50 Rat >800000 ppm 4 h
Ethylene (74-85-1)
Inhalation LC50 Rat >57000 ppm 4 h (no deaths occurred)
Methane (74-82-8)
Dermal LD50 Rat >2000 mg/kg
Inhalation LC50 Rat 539600 ppm 2 h

Propane (74-98-6)
Inhalation LC50 Rat >800000 ppm 15 min
Propylene (115-07-1)
Inhalation LC50 Rat >65000 ppm 4 h (pretreated by gavage with polychlorinated biphenyl)
Product Toxicity Data
Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Inhalation - Gas	> 20000 ppm

Immediate Effects
Frostbite, suffocation
Delayed Effects
No information on significant adverse effects.
Irritation/Corrosivity Data
No information on significant adverse effects.
Respiratory Sensitization
No information available for the product.
Dermal Sensitization
No information available for the product.
Component Carcinogenicity

Ethylene	**74-85-1**
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 60 [1994] ; Supplement 7 [1987] (Group 3 (not classifiable))
DFG:	Category 3 (could be carcinogenic for man)
Propylene	**115-07-1**
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 60 [1994] ; Supplement 7 [1987] (Group 3 (not classifiable))

Germ Cell Mutagenicity
No information available for the product.
Tumorigenic Data
No information available for the product.
Reproductive Toxicity
No information available for the product.
Specific Target Organ Toxicity - Single Exposure
No target organs identified.
Specific Target Organ Toxicity - Repeated Exposure
No target organs identified.
Aspiration hazard
No information available for the product.
Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity
No LOLI ecotoxicity data are available for this product's components.
Persistence and Degradability
No information available for the product.
Bioaccumulative Potential
No information available for the product.
Mobility
No information available for the product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose in accordance with all applicable regulations.
Component Waste Numbers
The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name: COMPRESSED GAS, N.O.S. , (Contains: highest concentration component, , second highest concentration component)
Hazard Class: 2.2
UN/NA #: UN1956
Required Label(s): 2.2

IMDG Information:
Shipping Name: COMPRESSED GAS, N.O.S. , (Contains: highest concentration component, , second highest concentration component)
Hazard Class: 2.2
UN#: UN1956
Required Label(s): 2.2
International Bulk Chemical Code
This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Ethylene	**74-85-1**
SARA 313:	1 % de minimis concentration
Propylene	**115-07-1**
SARA 313:	1 % de minimis concentration

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories
Gas Under Pressure; Simple Asphyxiant

U.S. State Regulations
The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Nitrogen	**7727-37-9**	No	Yes	Yes	Yes	Yes
Acetylene	**74-86-2**	Yes	Yes	Yes	Yes	Yes
Butane	**106-97-8**	Yes	Yes	Yes	Yes	Yes
Ethane	**74-84-0**	No	Yes	Yes	Yes	Yes
Ethylene	**74-85-1**	No	Yes	Yes	Yes	Yes
Methane	**74-82-8**	No	Yes	Yes	Yes	Yes
Propane	**74-98-6**	No	Yes	Yes	Yes	Yes
Propylene	**115-07-1**	Yes	Yes	Yes	Yes	Yes
Propyne	**74-99-7**	Yes	Yes	Yes	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)
Not listed under California Proposition 65.

Component Analysis - Inventory

Nitrogen (7727-37-9)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	No	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Acetylene (74-86-2)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Butane (106-97-8)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Ethane (74-84-0)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Ethylene (74-85-1)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Methane (74-82-8)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Propane (74-98-6)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Propylene (115-07-1)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Propyne (74-99-7)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	No	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 0 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

New SDS: 03/29/2016

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC – European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA -

Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

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SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: Propylene Glycol Industrial Grade

Issue Date: 11/03/2023
Print Date: 11/04/2023

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: Propylene Glycol Industrial Grade

Recommended use of the chemical and restrictions on use
Identified uses: Manufacture of substance, industrial Distribution of substance, industrial Formulation & (re)packing of substances and mixtures, industrial Uses in Coatings, industrial Use as binders and release agents: Industrial (SU3) Functional Fluids, industrial Use in laboratories, industrial Polymer production: Industrial (SU10) Rubber production and processing, industrial Water treatment chemicals For industrial use. Mining Chemicals Use in laboratories, professional Use as binders and release agents, professional Professional use in cleaning agents. professional use Uses in Coatings, professional Functional Fluids, professional De-icing and anti-icing applications, professional Professional use in agrochemicals. Uses in Coatings, consumer Use in Cleaning Agents, consumer Functional Fluids, consumer Other Consumer Uses Consumer use in agrochemicals. De-icing and anti-icing applications, consumer

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2211 H.H. DOW WAY
MIDLAND MI 48674
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

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

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Not a hazardous substance or mixture.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: propane-1,2-diol
This product is a substance.
Substance name: Propane-1,2-diol
CASRN: 57-55-6

Component	CASRN	Concentration
Propane-1,2-diol	57-55-6	>= 99.5 - <= 100.0 %

4. FIRST AID MEASURES

Description of first aid measures
General advice:
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: Rinse mouth with water. No emergency medical treatment necessary.

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

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical. Water spray.

Unsuitable extinguishing media: None known..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides.

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health..

Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.. Use personal protective equipment..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.
Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: Keep in properly labelled containers. Store in the following material(s): Aluminum. Opaque HDPE plastic container. Stainless steel Container lined with phenolic or epoxy-phenolic coating. Store in accordance with the particular national regulations. Protect from atmospheric moisture. Store away from direct sunlight or ultraviolet light. Store in a dry place. Keep container tightly closed when not in use.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers: Aluminium Carbon steel Copper Galvanized containers. Zinc

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

Component	Regulation	Type of listing	Value
Propane-1,2-diol	US WEEL	TWA	10 mg/m3

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Examples of acceptable glove barrier materials include: Neoprene. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Colorless
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable

Melting point/range	< -20 °C (< -4 °F) *EU Method A.1 (Melting / Freezing Temperature)*
Freezing point	< -20 °C (< -4 °F) *EC Method A1*
Boiling point (760 mmHg)	184 °C (363 °F) at 752.46 mmHg *Literature*
Flash point	**closed cup** 104 °C (219 °F) at 1,000.1 hPa *EC Method A9* (PMCC)
Evaporation Rate (Butyl Acetate = 1)	0.01 *Estimated.*
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	2.6 % vol *Estimated.*
Upper explosion limit	12.5 % vol *Estimated.*
Vapor Pressure	20 Pa at 25 °C (77 °F) *EC Method A4*
Relative Vapor Density (air = 1)	2.62 *Literature*
Relative Density (water = 1)	1.03 at 20 °C (68 °F) / 20 °C *EU Method A.3 (Relative Density)*
Water solubility	1,000 g/L at 20 °C (68 °F) *Regulation (EC) No. 440/2008, Annex, A.6*
Partition coefficient: n-octanol/water	log Pow: -1.07 *Measured*
Auto-ignition temperature	> 400 °C (> 752 °F) at 100.01 kPa *EC Method A15*
Decomposition temperature	No data available
Dynamic Viscosity	43.4 mPa.s at 25 °C (77 °F) *Literature*
Kinematic Viscosity	No test data available
Explosive properties	Not explosive
Oxidizing properties	No
Liquid Density	1.03 g/cm3 at 20 °C (68 °F) *Literature*
Molecular weight	No data available
Pour point	< -57 °C (< -71 °F) *Literature*

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

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents.

Conditions to avoid: Avoid direct sunlight or ultraviolet sources. Protect from moisture.

Incompatible materials: Avoid contact with oxidizing materials.

Hazardous decomposition products
No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure
Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute Toxicity Endpoints:
Not classified based on available information.

Acute oral toxicity

Information for the Product:

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Based on product testing:
LD50, Rat, > 20,000 mg/kg

Information for components:

Propane-1,2-diol
LD50, Rat, > 20,000 mg/kg

Acute dermal toxicity

Information for the Product:

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Based on product testing:
LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Information for components:

Propane-1,2-diol
LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

Information for the Product:

At room temperature, exposure to vapor is minimal due to low volatility.

Based on product testing:
LC50, Rabbit, 2 Hour, dust/mist, 317.042 mg/l No deaths occurred at this concentration.
Information for components:

Propane-1,2-diol
LC50, Rabbit, 2 Hour, dust/mist, 317.042 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Not classified based on available information.

Information for the Product:

Based on product testing:
Prolonged contact is essentially nonirritating to skin.
Repeated contact may cause flaking and softening of skin.

Information for components:

Propane-1,2-diol
Prolonged contact is essentially nonirritating to skin.
Repeated contact may cause flaking and softening of skin.

Serious eye damage/eye irritation

Not classified based on available information.

Information for the Product:

Based on product testing:
May cause slight temporary eye irritation.
Corneal injury is unlikely.
Mist may cause eye irritation.

Information for components:

Propane-1,2-diol
May cause slight temporary eye irritation.
Corneal injury is unlikely.
Mist may cause eye irritation.

Sensitization

For skin sensitization:
Not classified based on available information.

For respiratory sensitization:
Not classified based on available information.

Information for the Product:

For skin sensitization:
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Information for components:

Propane-1,2-diol
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Not classified based on available information.

Information for the Product:

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Propane-1,2-diol
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration Hazard

Not classified based on available information.

Information for the Product:

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

Propane-1,2-diol
Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Not classified based on available information.

Information for the Product:

Based on product testing:
In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Information for components:

Propane-1,2-diol
In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Carcinogenicity

Not classified based on available information.

Information for the Product:

Based on product testing: Did not cause cancer in laboratory animals.

Information for components:

Propane-1,2-diol
Did not cause cancer in laboratory animals.

Teratogenicity

Not classified based on available information.

Information for the Product:

Based on product testing: Did not cause birth defects or any other fetal effects in laboratory animals.

Information for components:

Propane-1,2-diol
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

Not classified based on available information.

Information for the Product:

Based on product testing: In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Information for components:

Propane-1,2-diol
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

Not classified based on available information.

Information for the Product:

Based on product testing: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Information for components:

Propane-1,2-diol
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

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

Toxicity

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
LC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201

Toxicity to bacteria
NOEC, Pseudomonas putida, 18 Hour, > 20,000 mg/l, Method Not Specified.

Long-term (chronic) aquatic hazard
Chronic toxicity to aquatic invertebrates
NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

Persistence and degradability

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
10-day Window: Pass
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg

Chemical Oxygen Demand: 1.53 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	69.000 %
10 d	70.000 %
20 d	86.000 %

Photodegradation
Atmospheric half-life: 10 Hour
Method: Estimated.

Bioaccumulative potential

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -1.07 Measured
Bioconcentration factor (BCF): 0.09 Estimated.

Mobility in soil

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): < 1 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Waste characterizations and compliance with applicable laws are the responsibility of the waste generator. FOR UNUSED & UNCONTAMINATED PRODUCT, dispose the product in a permitted industrial waste facility per applicable regulations. Consult the local waste disposal expert about the appropriate waste disposal method. Mechanical and chemical recycling or energy recovery are the preferred options. If not possible, consult with the respective regulating authorities to determine the available treatment and disposal facilities.

Contaminated packaging: Empty containers may retain product residues and should be disposed of by an approved waste management facility. Label warnings should be followed even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Consultwith the respective regulating authorities to determine the available treatment and disposal facilities. All disposal practices must be in compliance with Federal, State/Provincial and local regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
No SARA Hazards

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
Propane-1,2-diol	57-55-6

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.

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

16. OTHER INFORMATION

Product Literature
Additional information on this and other products may be obtained by visiting our web page.

Hazard Rating System
NFPA

Health	Flammability	Instability
1	1	0

Revision
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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

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

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-

specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.
US