

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name RHODOLINE® 581B
- Synonyms DEFOAMER

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Defoamer

1.3 Details of the supplier of the safety data sheet**Company**

Solvay USA LLC.,
504 CARNEGIE CENTER PRINCETON NJ 08540, USA
Tel. : +1 609 860 4000

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 for international collect calls.

Disclaimer

The ® indicates a Registered Trademark in the United States and the ™ indicates a trademark in the United States. The mark may also be registered, subject of an application for registration, or a trademark in other countries.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.2 Label elements**HCS 2012 (29 CFR 1910.1200)**

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.3 Other hazards which do not result in classification

- H401: Toxic to aquatic life.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture

- Synonyms DEFOAMER

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Petroleum Distillate	64742-47-8	>= 80 - < 90
Aluminum Distearate	300-92-5	>= 5 - < 10
Stearic Acid	57-11-4	>= 1 - < 5

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1 Description of first-aid measures****General advice**

- First responder needs to protect himself.
- Show this material safety data sheet to the doctor in attendance.
- Place affected apparel in a sealed bag for subsequent decontamination.
- When symptoms persist or in all cases of doubt seek medical advice.

In case of inhalation

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with soap and plenty of water.
- Use a mild soap if available.
- If skin irritation occurs, seek medical advice/attention.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician.

In case of ingestion

- Do not induce vomiting without medical advice.
- Rinse mouth with water.
- Do not give anything to drink.
- Keep at rest.
- Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed**Effects**

- Skin contact may aggravate existing skin disease
- Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- There is no specific antidote available.
- Aspiration of the swallowed or vomited product can cause severe pulmonary complications.
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5: Firefighting measures

Flash point 248 °F (120 °C)
Pensky-Martens closed cup

Flammability class: Will burn

Autoignition temperature No data available

Flammability / Explosive limit No data available

5.1 Extinguishing media**Suitable extinguishing media**

- Extinguishing media - small fires
- Multipurpose powders
- Carbon dioxide (CO₂)
- Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)
- Extinguishing media - large fires
- Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)

Unsuitable extinguishing media

- If this product is on fire, do not use water to extinguish.
- (Combustible material can be ejected into the fire and hence momentary enlarging the fire plume greatly)

5.2 Special hazards arising from the substance or mixture**Specific hazards during fire fighting**

- The pressure in sealed containers can increase under the influence of heat.
- Combustible. However, does not present any particular risk in the event of a fire.
- Hazardous decomposition products formed under fire conditions.
- High concentrations of toxic or harmful products may remain in the residual liquid once the fire has been extinguished.

Hazardous combustion products:

- On combustion or on thermal decomposition (pyrolysis), releases:
- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Oxide of aluminum

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Specific fire fighting methods

- Stay upwind.
- Fight fire with normal precautions from a reasonable distance.
- Use appropriate means for fighting adjacent fires.
- Cool down the containers / equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product.

Further information

- Evacuate personnel to safe areas.
- If this product is on fire, do not use water to extinguish.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear chemical resistant personal protective equipment
- Wear suitable gloves.
- Wear suitable protective clothing.
- Safety glasses with side-shields
- In the case of dust or aerosol formation use respirator with an approved filter.
- In the case of vapor formation use a respirator with an approved filter.
- Stop leak if safe to do so.
- For further information refer to section 8 "Exposure controls / personal protection."

6.2 Environmental precautions

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by diking.
- The product should not be allowed to enter drains, water courses or the soil.
- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

6.3 Methods and materials for containment and cleaning up

- Stop leak if safe to do so.
- Dam up with sand or inert earth (do not use combustible materials).

- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
- Shovel or sweep up.
- Keep in suitable, closed containers for disposal.
- Never return spills in original containers for re-use.
- Wash with plenty of water and detergent.
- Clean contaminated surface thoroughly.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.

Additional advice

- Material can create slippery conditions.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Do not use sparking tools.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Mix thoroughly before use.
- Handle in accordance with good industrial hygiene and safety practice.
- Wear personal protective equipment.
- Wear suitable protective clothing.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Avoid splashes.
- Avoid formation of aerosol.
- Ethylene oxide may collect in container head space.
- Provide adequate ventilation.
- For personal protection see section 8.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer
- Keep away from: Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity").

Packaging material**Suitable material**

- Plastic materials.
- Coated metals.
- Stainless steel

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters**Components with workplace occupational exposure limits**

Components	Value type	Value	Basis
Petroleum Distillate	TWA	200 mg/m3	American Conference of Governmental Industrial Hygienists
Danger of cutaneous absorption Expressed as :total hydrocarbon vapor			
Petroleum Distillate	TWA	500 ppm 2,000 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate.			
Petroleum Distillate	TWA	5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

	Form of exposure : Mist		
Petroleum Distillate	TWA	5 mg/m3	National Institute for Occupational Safety and Health
	Form of exposure : Mist		
Petroleum Distillate	ST	10 mg/m3	National Institute for Occupational Safety and Health
	Form of exposure : Mist		
Aluminum Distearate	TWA	1 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Respirable particulate matter Expressed as :Aluminum		
Aluminum Distearate	TWA	10 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Inhalable particulate matter		
Aluminum Distearate	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Respirable particulate matter		
Stearic Acid	TWA	10 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Inhalable particulate matter		
Stearic Acid	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Respirable particulate matter		

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Petroleum Distillate	64742-47-8	2500 mg/m ³

8.2 Exposure controls**Control measures****Engineering measures**

- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :
- Effective exhaust ventilation system
- Ensure adequate ventilation.
- Extract at emission point.
- Ensure that extracted air cannot be returned to the workplace through the ventilation system.
- Avoid splashes.
- Avoid formation of aerosol.

Individual protection measures**Respiratory protection**

- Recommended Filter type: Combined particulates and organic vapor type
- This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- Use a respirator with an approved filter if a risk assessment indicates this is necessary.

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves
- Gloves must be inspected prior to use.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Suitable material

- Nitrile rubber

Eye protection

- Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
- Eye contact should be prevented through the use of:
- Safety glasses with side-shields

Skin and body protection

- Full protective suit
- Footwear protecting against chemicals
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

Protective measures

- Emergency equipment immediately accessible, with instructions for use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.
- The protective equipment must be selected in accordance with current local regulations and in cooperation with the supplier of the protective equipment.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Physical state</u>	liquid
<u>Form</u>	thin
<u>Color</u>	off-white
<u>Odor</u>	slight
<u>Odor Threshold</u>	No data available
<u>Melting point/freezing point</u>	No data available
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range</u> : 199 - 403 °F (93 - 206 °C) (760 mmHg (1,013.25 hPa))
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	No data available
<u>Flash point</u>	248 °F (120 °C) Pensky-Martens closed cup Flammability class: Will burn
<u>Autoignition temperature</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>pH</u>	4.5 - 6.5 (2 % (m/v))
<u>Viscosity</u>	<u>Viscosity, dynamic</u> : < 10 P (77 °F (25 °C))

Viscosity, kinematic : > 20.5 mm²/s (104 °F (40 °C))

Solubility

Water solubility:
dispersible

Partition coefficient: n-octanol/water

No data available

Vapor pressure

< 2 mmHg (2.67 hPa) (68 °F (20 °C))

Density

No data available

Relative density

0.81 (77 °F (25 °C))

Relative vapor density

No data available

Particle characteristics

No data available

Evaporation rate (Butylacetate = 1)

< 1

9.2 Other information

Non Volatiles by Weight

16 %

SECTION 10: Stability and reactivity

10.1 Reactivity

- Stable at normal ambient temperature and pressure.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.
- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Keep away from open flames, hot surfaces and sources of ignition.
- Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

- Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.

- On combustion or on thermal decomposition (pyrolysis), releases:
- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Oxide of aluminum

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity**Acute oral toxicity**

Not classified as hazardous for acute oral toxicity according to GHS.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute inhalation toxicity

Not classified as hazardous for acute inhalation toxicity according to GHS.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute dermal toxicity

Not classified as hazardous for acute dermal toxicity according to GHS.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute toxicity (other routes of administration)

Not applicable

Skin corrosion/irritation

Mild skin irritation

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Serious eye damage/eye irritation

Not classified as irritating to eyes

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Respiratory or skin sensitization

Does not cause skin sensitization.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Mutagenicity**Genotoxicity in vitro**

Product is not considered to be genotoxic

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Genotoxicity in vivo

Product is not considered to be genotoxic

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Carcinogenicity

The product is not considered to be carcinogenic.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility

The product is not considered to affect fertility.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Developmental Toxicity/Teratogenicity

The product is not considered to be toxic for development.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

STOT

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

The product itself has not been tested.

Experience with human exposure

No data available

CMR effects

Carcinogenicity

Stearic Acid

Not classified as a carcinogen according to GHS criteria

Mutagenicity

Stearic Acid

Not classified as mutagen according to GHS criteria.

Teratogenicity

Stearic Acid

Not classified as toxic for the reproduction (development) according to GHS criteria

Reproductive toxicity

Stearic Acid

Not classified as toxic for the reproduction (fertility and/or development) according to GHS criteria

Aspiration toxicity

Not classified for aspiration toxicity according to GHS criteria

Aspiration toxicity

According to the available data on the components, According to the classification criteria for mixtures., internal evaluation

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment****Acute toxicity to fish**

The product itself has not been tested. Global ecotoxicity assessment available below.

Acute toxicity to daphnia and other aquatic invertebrates

The product itself has not been tested. Global ecotoxicity assessment available below.

Toxicity to aquatic plants

The product itself has not been tested. Global ecotoxicity assessment available below.

Toxicity to microorganisms

The product itself has not been tested.

Chronic toxicity to fish

The product itself has not been tested. Global ecotoxicity assessment available below.

Chronic toxicity to daphnia and other aquatic invertebrates

The product itself has not been tested. Global ecotoxicity assessment available below.

Sediment compartment**Toxicity to benthic organisms**

The product itself has not been tested.

Terrestrial Compartment**Toxicity to soil dwelling organisms**

The product itself has not been tested.

Toxicity to terrestrial plants

The product itself has not been tested.

Toxicity to above ground organisms

The product itself has not been tested.

12.2 Persistence and degradability**Abiotic degradation****Stability in water**

Conclusion is not possible for a mixture as a whole.

Photodegradation

Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination**Physico-chemical removability**

Conclusion is not possible for a mixture as a whole.

Biodegradation**Biodegradability**

As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually (rapid degradability assessment available below).

Degradability assessment

Conclusion is not possible due to incomplete or heterogeneous data on the components
 Unpublished reports
 Published data

12.3 Bioaccumulative potential**Partition coefficient: n-octanol/water**

Conclusion is not possible for a mixture as a whole.

Bioconcentration factor (BCF)

As bioaccumulation is not relevant for mixtures, all the components of the mixture were assessed individually.
 Conclusion is not possible due to incomplete or heterogeneous data on the components
 Unpublished reports
 Published data

12.4 Mobility in soil**Adsorption potential (Koc)**

Conclusion is not possible for a mixture as a whole.

Known distribution to environmental compartments

No data available

12.5 Results of PBT and vPvB assessment

According to the available data on the components
 Product does not contain substances which are persistent, bioaccumulative, and toxic (PBT) at levels of 0.1% or higher.
 Product does not contain substances which are very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects**Ecotoxicity assessment****Short-term (acute) aquatic hazard**

Toxic to aquatic life.
 According to the available data on the components.
 According to the classification criteria for mixtures.
 Unpublished reports and/or published data.

Long-term (chronic) aquatic hazard

No chronic environmental hazard identified.
 According to the available data on the components.
 According to the classification criteria for mixtures.
 Unpublished reports and/or published data.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal*****Prohibition***

- Do not discharge directly into the environment.
- Dispose of in accordance with local regulations.
- Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging***Prohibition***

- Do NOT dispose of untreated packaging with industrial waste.
- Do not dispose of with domestic refuse.
- Empty remaining contents.
- Clean using steam.
- Clean with the help of detergent. Avoid using any solvent.
- Monitor the residual vapors.
- Dispose of rinse water in accordance with local and national regulations.
- Containers that cannot be cleaned must be treated as waste.
- Dispose of contents/ container to an approved waste disposal plant.
- Dispose of in accordance with local regulations.
- Where possible recycling is preferred to disposal or incineration.
- The recycled material must be completely dry and free of pollutants.

SECTION 14: Transport information**49 CFR**

not regulated

TDG

not regulated

NOM

not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory

Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory: Listed introduction
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Syensqo legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, please contact your local representative for additional information.

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

No SARA Hazards

Section 313 Toxic Chemicals (40 CFR 372.65)

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.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Ethylene Oxide	75-21-8	10 lb

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Ethylene Oxide	75-21-8	10 lb

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Components	CAS-No.	Reportable quantity
Ethylene Oxide	75-21-8	10 lb
1,4-Dioxane	123-91-1	100 lb

15.3 State Regulations**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

This product can expose you to chemicals including 1,4-Dioxane (CAS # 123-91-1), Ethylene Oxide (CAS # 75-21-8) , which is/are known to the State of California to cause cancer, and

This product can expose you to chemicals including Ethylene Oxide (CAS # 75-21-8) , which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information**NFPA (National Fire Protection Association) - Classification**

Health	1 slight
Flammability	1 slight
Instability or Reactivity	0 minimal

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	1 slight
Flammability	1 slight
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Product evaluated under the US GHS format.
- This sheet was updated (refer to the date at the top of this page). Subheadings and text which have been modified since the previous version are indicated with two vertical bars.

Date Prepared: 02/28/2024

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

- PEL: Permissible exposure limit
- ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- TWA: 8-hour, time-weighted average
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer

- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

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