

# SAFETY DATA SHEET

CALDOFIX-2 RESIN

## Section 1. Identification

**GHS product identifier** : CALDOFIX-2 RESIN  
**Cat. No.** : 40200085, 50209126  
**Container size** : 1 l  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

**Product use** : For embedding and impregnation of materialographic specimens  
**Area of application** : Professional applications.

**Supplier's details** : Struers Inc.  
24766 Detroit Rd. Westlake  
Cleveland, OH 44145  
United States  
Telephone: +1 (440) 871 0071

**e-mail address of person responsible for this SDS** : struers@struers.dk

**Emergency telephone number (with hours of operation)** : National Capital Poison Center: 1-800-222-1222  
Infotrac: 1-800-535-5053  
Struers US:  
1-440-871-0071

## 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** : H315 SKIN IRRITATION - Category 2  
H318 SERIOUS EYE DAMAGE - Category 1  
H317 SKIN SENSITIZATION - Category 1  
H341 GERM CELL MUTAGENICITY - Category 2  
H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger



## Section 2. Hazards identification

<b>Hazard statements</b>	: H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H335 - May cause respiratory irritation. H341 - Suspected of causing genetic defects.
<b>Precautionary statements</b>	
<b>Prevention</b>	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves, protective clothing and eye or face protection. P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapor. P264 - Wash thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace.
<b>Response</b>	: P308 + P313 - IF exposed or concerned: Get medical advice or attention. P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P362 + P364 - Take off contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing before reuse. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
<b>Storage</b>	: P405 - Store locked up. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazards not otherwise classified</b>	: None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Mixture
<b>Other means of identification</b>	: Not available.

Ingredient name	Other names	%	Identifiers
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	-	≥50 - ≤75	CAS: 1675-54-3
2,3-epoxypropyl neodecanoate	-	≥25 - ≤50	CAS: 26761-45-5
2-Propenoic acid, reaction products with pentaerythritol	-	≤5	CAS: 1245638-61-2
hexamethylene diacrylate	-	≤1.5	CAS: 13048-33-4

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

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



## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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



## Section 4. First aid measures

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>. Cool closed containers exposed to fire with water.
- Unsuitable extinguishing media** : Do not use water jet.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dispose of via a licensed waste disposal contractor. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container.



## Section 6. Accidental release measures

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

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	None.
2,3-epoxypropyl neodecanoate	None.
2-Propenoic acid, reaction products with pentaerythritol	None.
hexamethylene diacrylate	<b>OARS WEEL (United States, 4/2022)</b> Skin sensitizer. TWA 8 hours: 1 mg/m <sup>3</sup> .

#### Biological exposure indices

None known.

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



## Section 8. Exposure controls/personal protection

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

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. 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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### 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. Recommended: Butyl rubber gloves. The breakthrough time must be greater than the end use time of the product.

**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 and safety characteristics

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

### Appearance

**Physical state** : Liquid.  
**Color** : Clear. Yellowish.  
**Odor** : Slight  
**Odor threshold** : Not available.  
**pH** : Not applicable.  
**Melting point/freezing point** : Not available.  
**Boiling point or initial boiling point and boiling range** : Not available.



## Section 9. Physical and chemical properties and safety characteristics

Flash point : Closed cup: 110°C (230°F)  
 Evaporation rate : Not available.  
 Flammability : Not available.  
 Lower and upper explosion limit/flammability limit : Not available.  
 Vapor pressure :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2,3-epoxypropyl neodecanoate	0.11251	0.015				

Relative vapor density : Not available.  
 Relative density : 1.13  
 Density : Not available.  
 Solubility(ies) :

Media	Result
water	Not soluble

Miscible with water : No.  
 Partition coefficient: n-octanol/water : Not applicable.  
 Auto-ignition temperature : Not available.  
 Decomposition temperature : Not available.  
 SADT : Not available.  
 Viscosity : Dynamic (room temperature): Not available.  
 Kinematic (room temperature): 628 to 673 mm<sup>2</sup>/s (628 to 673 cSt)  
 Kinematic (40°C (104°F)): Not available.  
 Flow time (ISO 2431) : Not available.

### Particle characteristics

Median particle size : Not applicable.

### Additional information

Physical/chemical properties comments : No additional information.

## Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.  
 Chemical stability : The product is stable.  
 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.  
 Under normal conditions of storage and use, hazardous polymerization will not occur.  
 Conditions to avoid : No specific data.  
 Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and alkalis.



## Section 10. Stability and reactivity

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

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	LD50 Dermal	Rabbit	20 g/kg	-
	LD50 Oral	Rat	11400 mg/kg	-
2,3-epoxypropyl neodecanoate	LD50 Dermal	Rat	>3900 mg/kg	-
	LD50 Oral	Rat - Male, Female	>9700 mg/kg	-
2-Propenoic acid, reaction products with pentaerythritol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	540 mg/kg	-
hexamethylene diacrylate	LC50 Inhalation Dusts and mists	Rat	0.41 mg/l	7 hours
	LD50 Dermal	Rabbit	3650 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	Eyes - Irritant	Rabbit	-	-	-
	Eyes - Redness of the conjunctivae	Rabbit	0.7	-	-
	Skin - Edema	Rabbit	1 to 1.5	-	-
	Skin - Erythema/Eschar	Rabbit	1.5 to 2	-	-
2,3-epoxypropyl neodecanoate	Skin - Moderate irritant	Rabbit	-	24 hours	-
	Skin - Severe irritant	Rabbit	-	24 hours	-
	Eyes - Redness of the conjunctivae	Rabbit	0.7	-	72 hours
	Skin - Primary dermal irritation index (PDII)	Rabbit	0.7	4 hours	72 hours
2-Propenoic acid, reaction products with pentaerythritol	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Irritant	Rabbit	-	-	-
hexamethylene diacrylate	Eyes - Irritant	Rabbit	-	-	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 mg	-

#### Conclusion/Summary

**Skin** : Not available.

**Eyes** : Not available.

**Respiratory** : Not available.

#### Respiratory or skin sensitization





## Section 11. Toxicological information

Product/ingredient name	Route of exposure	Species	Result
bis-[4-(2,3-epoxipropoxy)phenyl]propane	skin	Guinea pig	Sensitizing
	skin	Mouse	Sensitizing
2,3-epoxypropyl neodecanoate	skin	Guinea pig	Sensitizing
	skin	Guinea pig	Sensitizing
hexamethylene diacrylate	skin	Guinea pig	Sensitizing

### Conclusion/Summary

**Skin** : Not available.

**Respiratory** : Not available.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
bis-[4-(2,3-epoxipropoxy)phenyl]propane	-	Subject: Mammalian-Animal	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Positive
2,3-epoxypropyl neodecanoate	OECD Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
hexamethylene diacrylate	OECD Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

**Conclusion/Summary** : Not available.

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Negative - Dermal - TC	Mouse - Male	100 mg/kg	24 hours
	Negative - Dermal - TC	Rat - Female	1000 mg/kg	24 hours
	Negative - Oral - TC	Rat	100 mg/kg	24 hours

**Conclusion/Summary** : Not available.

### Classification

Product/ingredient name	OSHA	IARC	NTP
bis-[4-(2,3-epoxipropoxy)phenyl]propane	-	3	-

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
2-Propenoic acid, reaction products with pentaerythritol	Negative	-	Negative	Rabbit	Oral: 75 mg/kg NOAEL	-
	-	Negative	-	Rat	Oral: 200 mg/kg NOAEL	-
hexamethylene diacrylate	Negative	-	Negative	Rat	Oral: <750 mg/	-



## Section 11. Toxicological information

	-	Negative	-	Rat	kg NOAEL Oral: 750 mg/kg NOAEL	-
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**Conclusion/Summary** : Not available.

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Negative - Dermal	Rabbit	300 mg/kg	24 hours
	Negative - Oral	Rat	180 mg/kg	24 hours

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Category 3	-	Respiratory tract irritation
2,3-epoxypropyl neodecanoate	Category 3	-	Respiratory tract irritation
2-Propenoic acid, reaction products with pentaerythritol	Category 3	-	Respiratory tract irritation
hexamethylene diacrylate	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

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

### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : May cause respiratory irritation.  
**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

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

**Inhalation** : Adverse symptoms may include the following:  
 respiratory tract irritation  
 coughing

**Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur



## Section 11. Toxicological information

**Ingestion** : Adverse symptoms may include the following:  
stomach pains

### 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

Product/ingredient name	Result	Species	Dose	Exposure
2,3-epoxypropyl neodecanoate	Chronic NOAEL Oral	Rat	100 mg/kg	90 days; 7 days per week
2-Propenoic acid, reaction products with pentaerythritol	Chronic LOAEL Oral	Rat	200 mg/kg	4 weeks
hexamethylene diacrylate	Chronic NOAEL Dermal	Rabbit	12 mg/kg	3 months
	Chronic NOAEL Oral	Rat	75 mg/kg	4 weeks
	Chronic NOAEL Oral	Rat	250 mg/kg	7 weeks

**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** : Suspected of causing genetic defects.

**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
CALDOFIX-2 RESIN	14970.0	5881.4	N/A	N/A	N/A
bis-[4-(2,3-epoxypropoxy)phenyl]propane	11400	20000	N/A	N/A	N/A
2,3-epoxypropyl neodecanoate	N/A	2500	N/A	N/A	N/A
2-Propenoic acid, reaction products with pentaerythritol	540	2500	N/A	N/A	N/A
hexamethylene diacrylate	N/A	3650	N/A	N/A	N/A



## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Acute EC50 >11 mg/l	Algae	72 hours
	Acute EC50 2.1 mg/l Acute LC50 1.3 mg/l Chronic NOEC 0.3 mg/l	Daphnia - <i>water Flea</i> Fish Daphnia - <i>water Flea</i>	48 hours 96 hours 21 days
2,3-epoxypropyl neodecanoate	Acute EC50 3.5 mg/l	Algae	96 hours
2-Propenoic acid, reaction products with pentaerythritol	Acute EC50 4.8 mg/l Fresh water Acute LC50 9.6 mg/l Acute EC50 12 mg/l	Daphnia - <i>Daphnia magna</i> Fish - <i>Rainbow trout</i> Algae - <i>Pseudokirchneriella subcapitata</i>	48 hours 96 hours 96 hours
	Acute EC50 13 mg/l Fresh water Acute EC50 >100 mg/l Acute LC50 3.2 mg/l Fresh water Acute NOEC 0.31 mg/l	Daphnia - <i>Daphnia magna</i> Micro-organism Fish - <i>Cyprinus carpio</i> Algae - <i>Pseudokirchneriella subcapitata</i>	48 hours 3 hours 96 hours 96 hours
	hexamethylene diacrylate	Acute EC50 2.33 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>
hexamethylene diacrylate	Acute EC50 2.7 mg/l Fresh water Acute EC50 270 mg/l Acute LC50 0.38 mg/l Acute NOEC 0.9 mg/l Acute NOEC 1.8 mg/l Fresh water Chronic NOEC 0.072 mg/l	Daphnia - <i>Daphnia magna</i> Micro-organism Fish - <i>Oryzias latipes</i> Algae Daphnia - <i>Daphnia magna</i> Fish - <i>Oryzias latipes</i>	48 hours 30 minutes 96 hours 72 hours 48 hours 39 days

**Conclusion/Summary** : Not available.

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
bis-[4-(2,3-epoxipropoxy)phenyl]propane	OECD Ready Biodegradability - CO <sub>2</sub> Evolution Test	6 to 12 % - Not readily - 28 days	-	-
	OECD Ready Biodegradability - Manometric Respirometry Test	5 % - Not readily - 28 days	-	-
2,3-epoxypropyl neodecanoate	OECD Ready Biodegradability - Closed Bottle Test	7 to 8 % - Not readily - 28 days	-	-
2-Propenoic acid, reaction products with pentaerythritol	OECD Ready Biodegradability - Closed Bottle Test	72 % - 60 days	-	-
	OECD Ready Biodegradability - Closed Bottle Test	50 % - 28 days	-	-
	OECD Ready Biodegradability - CO <sub>2</sub> Evolution	14 % - Not readily - 28 days	21 mg/l	Activated sludge

Date of issue/Date of revision

: 01/13/2025

Date of previous issue

: 02/22/2024

Version : 1

12/17



## Section 12. Ecological information

hexamethylene diacrylate	Test OECD Ready Biodegradability - CO <sub>2</sub> in Sealed Vessels (Headspace Test)	60 to 70 % - Readily - 28 days	-	Activated sludge
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Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	-	-	Not readily
2,3-epoxypropyl neodecanoate	-	-	Not readily
2-Propenoic acid, reaction products with pentaerythritol	-	-	Not readily
hexamethylene diacrylate	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	2.64 to 3.78	3 to 31	Low
2,3-epoxypropyl neodecanoate	4.4	-	High
2-Propenoic acid, reaction products with pentaerythritol	1.45	-	Low
hexamethylene diacrylate	2.81	-	Low

### Mobility in soil

**Soil/Water partition coefficient** : Not available.







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

## Section 13. Disposal considerations

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



## Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (2,3-epoxypropyl neodecanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxypropoxy)phenyl] propane, 2,3-epoxypropyl neodecanoate)	Environmentally hazardous substance, liquid, n.o.s. (bis-[4-(2,3-epoxypropoxy)phenyl] propane, 2,3-epoxypropyl neodecanoate)
Transport hazard class(es)	9  	9  	9  
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.

### Additional information

- DOT Classification** : **Non-bulk packages** of this product are not regulated as hazardous materials unless transported by inland waterway. This product is not regulated as a hazardous material when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.  
**Limited quantity** Yes.  
**Packaging instruction** Exceptions: 155. Non-bulk: 203. Bulk: 241.  
**Special provisions** 8, 146, 173, 335, 441, IB3, T4, TP1, TP29
- IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Emergency schedules** F-A, S-F  
**Special provisions** 274, 335, 969
- IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.  
**Quantity limitation** Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.  
**Special provisions** A97, A158, A197, A215
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- Transport in bulk according to IMO instruments** : Not available.



## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
 United States inventory (TSCA 8b): All components are active or exempted.

### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : SKIN IRRITATION - Category 2  
 SERIOUS EYE DAMAGE - Category 1  
 SKIN SENSITIZATION - Category 1  
 GERM CELL MUTAGENICITY - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

#### Composition/information on ingredients

Name	%	Classification
Diis-[4-(2,3-epoxypropoxy)phenyl] propane	≥50 - ≤75	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
2,3-epoxypropyl neodecanoate	≥25 - ≤50	SKIN SENSITIZATION - Category 1 GERM CELL MUTAGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
2-Propenoic acid, reaction products with pentaerythritol	≤5	ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
hexamethylene diacrylate	≤1.5	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### SARA 313

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## Section 15. Regulatory information

Not applicable.

### State regulations

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : None of the components are listed.

**Pennsylvania** : None of the components are listed.

### California Prop. 65

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

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### 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.

## Section 16. Other information

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

Health	*	3
Flammability		1
Physical hazards		0

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

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

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



### Procedure used to derive the classification





## Section 16. Other information

Classification	Justification
SKIN IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
GERM CELL MUTAGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method

### History

<b>Date of issue/Date of revision</b>	: 01/13/2025
<b>Date of previous issue</b>	: 02/22/2024
<b>Version</b>	: 1
<b>Prepared by</b>	: Sphera Solutions
<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate AMP = Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations
<b>References</b>	: HCS (U.S.A.)- Hazard Communication Standard International transport regulations

▣ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

