

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

# SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

EPIKOTE™ Resin MGS RIMR 935

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

### 1.1 Product identifier

**Product name** : EPIKOTE™ Resin MGS RIMR 935  
**SDS Number** : 16S-00150  
**Product type** : Epoxy Resin

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

**Product use** Epoxy Resin Systems

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier/Importer** Suter Kunststoffe AG  
Aefligenstrasse 3  
3312 Fraubrunnen  
Switzerland

**Contact person** info@swiss-composite.ch

**Telephone** General information  
+41 (0)31 763 60 60

#### 1.4

**Emergency telephone number**

**Supplier**

**Telephone number**

TOX Info Suisse  
Emergency number: 145  
(from abroad: +41 44 251 51 51) non  
urgent inquiry: +41 44 251 66 66

## SECTION 2: Hazards identification


### 2.1 Classification of the substance or mixture

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

Skin Corr./Irrit. 1C H314  
Eye Dam./Irrit. 1 H318  
Skin Sens. 1 H317  
Repr. 1B H360FD  
Aquatic Chronic 2 H411

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

## 2.2 Label elements

<b>Hazard pictograms</b>	:	
<b>Signal word</b>	:	Danger
<b>Hazard statements</b>	:	Causes severe skin burns and eye damage. May cause an allergic skin reaction. May damage fertility. May damage the unborn child. Toxic to aquatic life with long lasting effects.

### Precautionary statements

<b>Prevention</b>	:	Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid release to the environment.
<b>Response</b>	:	<b>IF INHALED:</b> Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. <b>IF SWALLOWED:</b> Immediately call a POISON CENTER or physician. Do NOT induce vomiting. <b>IF ON SKIN (or hair):</b> Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician. <b>IF IN EYES:</b> Immediately call a POISON CENTER or physician.
<b>Storage</b>	:	Store locked up.
<b>Disposal</b>	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazardous ingredients</b>	:	1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤ 700 1,4-bis(2,3 epoxypropoxy)butane
<b>Supplemental label elements</b>	:	Not applicable.

## 2.3 Other hazards

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

**(EC) No. 1907/2006, Annex XIII**

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

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

**Substance/mixture** : Mixture

Product/ingredient name	Identifiers	% by weight	Classification	Type
			Regulation (EC) No. 1272/2008 [CLP]	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	RRN : 01-2119456619-26 EC:500-033-5 CAS : 25068-38-6 Index:603-074-00-8	>=25 - <=50	Skin Corr./Irrit. 2, H315 Eye Dam./Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane	EC: CAS : 30499-70-8 Index:	>=10 - <=25	Skin Corr./Irrit. 1C, H314 Eye Dam./Irrit. 1, H318 Skin Sens. 1B, H317 Repr. 1B, H360F Aquatic Chronic 2, H411	[1]
1,4-bis(2,3 epoxypropoxy)butane	RRN : 01-2119494060-45-XXXX EC:219-371-7 CAS : 2425-79-8 Index:603-072-00-7	>=10 - <=25	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr./Irrit. 2, H315 Eye Dam./Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700	RRN : 01-2119454392-40 EC:500-006-8 CAS : 9003-36-5 Index:	>=10 - <=25	Skin Corr./Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]

Type

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

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

There are no additional ingredients present which, within the current knowledge of the supplier 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**

**4.1 Description of 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. 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. 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.
- Protection of first aid personnel** : 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.

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

##### Potential acute health effects

- Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes severe burns. 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:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

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

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

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

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds

### 5.3 Advice for firefighters

**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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 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 specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- 6.3 Methods and material for containment and cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see section 8 of SDS). 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. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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** : Eating, drinking and smoking should be prohibited in areas where

**hygiene** 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.

## 7.2 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. 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.

## 7.3 Specific end use(s)

**Recommendations** : Not available  
**Industrial sector specific solutions** : Not available

# SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

### Occupational exposure limits

No exposure limit value known.

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

### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
1,4-bis(2,3 epoxypropoxy)butane	DNEL	Long term Dermal	9,26 mg/kg bw/day	Workers	Systemic
1,4-bis(2,3 epoxypropoxy)butane	DNEL	Long term Inhalation	1,63 mg/m <sup>3</sup>	Workers	Systemic
1,4-bis(2,3 epoxypropoxy)butane	DNEL	Long term Dermal	5,56 mg/kg bw/day	General	Systemic
1,4-bis(2,3 epoxypropoxy)butane	DNEL	Long term Inhalation	0,48 mg/m <sup>3</sup>	General	Systemic

ane					
1,4-bis(2,3 epoxypropoxy)butane	DNEL	Long term Oral	0,56 mg/kg bw/day	General	Systemic
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	DNEL	Short term Dermal	8,3 µg/cm <sup>2</sup>	Workers	Local
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	DNEL	Long term Dermal	104,15 mg/kg bw/day	Workers	Systemic
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	DNEL	Long term Inhalation	29,39 mg/m <sup>3</sup>	Workers	Systemic
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	DNEL	Long term Dermal	62,5 mg/kg bw/day	General	Systemic
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	DNEL	Long term Inhalation	8,7 mg/m <sup>3</sup>	General	Systemic
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	DNEL	Long term Oral	6,25 mg/kg bw/day	General	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Dermal	8,3 mg/kg bw/day	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Inhalation	12,3 mg/m <sup>3</sup>	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Dermal	8,3 mg/kg bw/day	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average	DNEL	Long term Inhalation	12,3 mg/m <sup>3</sup>	Workers	Systemic



molecular weight ≤ 700)					
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Dermal	3,6 mg/kg bw/day	General	Systemic
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Inhalation	0,75 mg/m <sup>3</sup>	General	Systemic
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Oral	0,75 mg/kg bw/day	General	Systemic
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Dermal	3,6 mg/kg bw/day	General	Systemic
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Inhalation	0,75 mg/m <sup>3</sup>	General	Systemic
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Oral	0,75 mg/kg bw/day	General	Systemic

**DNEL/DMEL Summary** : Not available

### **PNECs**

<b>Product/ingredient name</b>	<b>Type</b>	<b>Compartment Detail</b>	<b>Value</b>	<b>Method Detail</b>
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Fresh water	24 µg/l	
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Marine	2,4 µg/l	
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Intermittent Releases	240 µg/l	
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Sewage Treatment Plant	100 mg/l	
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Fresh water sediment	84 µg/kg dwt	
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Marine water sediment	8,4 µg/kg dwt	

epoxypropoxy)butane				
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Soil	2,7 µg/kg dwt	
1,4-bis(2,3 epoxypropoxy)butane	PNEC	Secondary Poisoning	28 µg/kg dwt	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Fresh water	0,003 mg/l	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Marine	0,0003 mg/l	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Sewage Treatment Plant	10 mg/l	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Fresh water sediment	0,294 mg/kg dwt	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Marine water sediment	0,0294 mg/kg dwt	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Soil	0,237 mg/kg dwt	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	PNEC	Intermittent Releases	0,0254 mg/l	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Fresh water	3 µg/l	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Marine	0,3 µg/l	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Sewage Treatment Plant	10 mg/l	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Fresh water sediment	0,5 mg/kg dwt	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Marine water sediment	0,5 mg/kg dwt	
reaction product:	PNEC	Sediment	0,05 mg/kg dwt	

bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)				
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Intermittent Releases	0,013 mg/l	

**PNEC Summary** : Not available

### Derived No-Effect Levels' (DNEL's) and Predicted No-Effect Concentrations' (PNEC's)

#### Explanatory note:

REACH requires manufacturers and importers to establish and report 'Derived No-Effect Levels' (DNEL's) for humans by inhalation, ingestion and dermal routes of exposure and 'Predicted No-Effect Concentrations' (PNEC's) for environmental exposure. DNEL's and PNEC's are established by the registrant without an official consultation process, and are not intended to be directly used for setting workplace or general population exposure limits. They are primarily used as input values in running Quantitative Risk Assessment models (like the ECETOC-TRA model).

Due to differences in calculation methodology the DNEL will tend to be lower (sometimes significantly) than any corresponding health-based OEL for that chemical substance. Further although DNEL's (and PNEC's) are an indication for setting risk reduction measures, it should be recognized that these limits do not have the same regulatory application as officially endorsed governmental OEL's.

## 8.2 Exposure controls

**Appropriate engineering controls** : 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.

### 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.  
Material: 730 Camatril  
Minimum break through time: 480 min

Material: 898 Butoject  
Minimum break through time: 480 min  
Producer: This recommendation is valid only for our Product as delivered. If this product will be mixed with other substances you need to contact a supplier of CE approved protective gloves (e.g. KCL GmbH, D-36124 Eichenzell, Tel. 0049 (0) 6659 87300, Fax. 0049 (0) 6659 87155, email: vertrieb@kcl.de).

- 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.
- 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.
- General protective measures** : Chemical splash goggles or face shield. Chemical-resistant gloves. Suitable protective footwear. Light protective clothing. Eyewash bottle with clean water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Liquid  
**Color** : Yellowish.
- Odor** : characteristic.  
**Odor threshold** : Not available  
**pH** : Not available  
**Melting point/freezing point** : Not available  
**Initial boiling point and boiling range** : Greater than 200 °C  
**Flash point** : Greater than 120 °C
- Evaporation rate** : Not available  
**Upper/lower flammability or explosive limits** : **Lower:** Not available  
**Upper:** Not available  
**Vapor pressure** : Approx. 4 hPa @ 20 °C
- Vapor density** : Not available  
**Relative density** : Not available  
**Density** : Approx. 1,140 g/cm<sup>3</sup>

<b>Solubility(ies)</b>	:	Not available
<b>Solubility in water</b>	:	Negligible
<b>Partition coefficient: n-octanol/water</b>	:	Not available
<b>Auto-ignition temperature</b>	:	Not available
<b>Decomposition temperature</b>	:	Not available
<b>Viscosity</b>	:	<b>Dynamic:</b> 150 - 450 mPa·s @ 25 °C (DIN 53015)
		<b>Kinematic:</b> Not available
<b>Explosive properties</b>	:	Not available
<b>Oxidizing properties</b>	:	Not available

## 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	:	Stable under normal conditions.
<b>10.2 Chemical stability</b>	:	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	:	No specific data.
<b>10.5 Incompatible materials</b>	:	No specific data.
<b>10.6 Hazardous decomposition products</b>	:	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

Product/ingredient name	Result	Species	Dose	Exposure
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane				
	LD50 Oral	Rat	> 2.000 mg/kg	-
	LD50 Dermal	Rat	> 2.000 mg/kg	-
1,4-bis(2,3 epoxypropoxy)butane				
	LD50 Oral	Rat	1.163 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)	-
	LC50 Inhalation	Rat	> 11,3 mg/l	4 h
	LD50 Dermal	Rabbit	1.130 mg/kg	-
<b>Remarks - Dermal:</b>	In a rat dermal study conducted in a manner similar to O.E.C.D. test guideline no. 402 the reported LD50 value was > 2150 mg/kg of body weight.			
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700				
	LD50 Oral	Rat	> 2.000 mg/kg	-
<b>Remarks - Oral:</b>	The acute oral median lethal dose (LD50) in the Fischer 344 strain rat was found to be greater than 2000 mg/kg bodyweight.			

<b>Remarks - Inhalation:</b>	REACH Ek VII'ye göre, akut soluma çalışmasının oral olarak yapılması gerekmez ve bu madde için dermal çalışmalar mevcuttur.			
	LD50 Dermal	Rabbit	> 2.000 mg/kg	-
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)				
	LD50 Oral	Rat	11.400 mg/kg	-
<b>Remarks - Oral:</b>	Not acutely toxic in multiple mouse and rat studies, LD50 > 2000 mg/kg of body weight.			
<b>Remarks - Inhalation:</b>	Due to the very low vapor pressure, saturated atmosphere = 0.008 ppb, meaningful acute inhalation studies could not be conducted.			
<b>Remarks - Dermal:</b>	In a rat OECD no. 402 study the dermal LD50 was > 2000 mg/kg. In multiple rabbit acute dermal studies the LD50 was > 2000 mg/kg. One rabbit study reported an LD50 value of 23 grams/kg.			
	LD50 Dermal	Rat	2.000 mg/kg	-

**Conclusion/Summary** : Not available

### Acute toxicity estimates

Not available

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
1,4-bis(2,3 epoxypropoxy)butane	Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	0		24 - 72 hrs
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	0		24 - 72 hrs
	Skin - Erythema/Eschar OPP 81-5 Acute Dermal Irritation	Rabbit	2,5		24 hrs
	Skin - Edema OPP 81-5 Acute Dermal Irritation	Rabbit	2,3		24 hrs
	eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion	Rabbit	1,22		24 - 72 hrs
	eyes - Iris lesion 405 Acute Eye Irritation/Corrosion	Rabbit	0,78		24 - 72 hrs
	eyes - Edema of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	2,33		24 - 72 hrs
	eyes - Redness of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	2,22		24 - 72 hrs
	eyes - Moderate irritant	Rabbit			-
	Skin - Moderate irritant	Rabbit		24 hrs	-
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	Skin - Erythema/Eschar 404 Acute Dermal	Rabbit	0,7	4 hrs	72 hrs

	Irritation/Corrosion				
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	0	4 hrs	4 - 504 hrs
	eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	eyes - Iris lesion 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	eyes - Redness of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	eyes - Edema of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	Skin - Mild irritant	Rabbit		24 hrs	-
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	1,5 - 2		-
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	1,0 - 1,5		-
	eyes - - 405 Acute Eye Irritation/Corrosion	Rabbit	0		-
	eyes - Redness of the conjunctivae	Rabbit	0,7		-
	Skin - Moderate irritant	Rabbit		24 hrs	-
	Skin - Severe irritant	Rabbit		24 hrs	-
	eyes - Mild irritant	Rabbit			-

#### Conclusion/Summary

**Skin** : Not available  
**eyes** : Not available  
**Respiratory** : Not available

#### Sensitization

Product/ingredient name	Route of exposure	Species	Result
1,4-bis(2,3 epoxypropoxy)butane	Skin	-	-
<b>Remarks:</b>	In an O.E.C.D. test guideline no. 406 guinea pig Maximization GLP study, 75 - 85% of the animals had positive dermal reactions suggesting a strong skin sensitizer.		
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	Skin	-	-
<b>Remarks:</b>	The Buehler method was employed to evaluate the dermal sensitization potential of Liquid BPFDE Epoxy Resin. Ten male guinea pigs received 0.4 ml of test substance topically once a week for three weeks. A positive control of Liquid BPFDE Epoxy Resin was used on ten additional animals. The		



	challenge phase began two weeks later with an addition 5 animals exposed to 0.4 ml of Liquid BPFEDGE Epoxy Resin. The negative control had 0 positive reactions; the Liquid BPFEDGE Epoxy Resin had 4 of 10 with positive reactions and the positive control had 8 of ten positive reactions. Under the conditions of this study, the test material caused delayed hypersensitivity in guinea pigs.		
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Skin	-	-
<b>Remarks:</b>	In an OECD No. 429 mouse LLNA study the estimated EC3 was a concentration of 5.7% suggesting that BADGE is a moderate skin sensitizer in this test system. In an OECD No. 406 guinea pig Maximization study BADGE induced positive dermal reaction in 100% of the test animals at a 50% concentration challenge dose. Therefore, BADGE is an "Extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in an OECD No. 406 guinea pig Buehler method study.		

**Conclusion/Summary**

**Skin** : Not available  
**Respiratory** : Not available

**Mutagenicity**

Product/ingredient name	Test	Experiment	Result
1,4-bis(2,3 epoxypropoxy)butane	-	; -	-
<b>Remarks:</b>	In two independent Ames/Salmonella O.E.C.D. test guideline no. 471 bacterial mutation assays positive results were observed with and without S9 metabolic activation preparation. Positive in an O.E.C.D. test guideline no. 473 chromosome aberration study with Chinese hamster V79 cells with and without S9 metabolic activation. Positive in an O.E.C.D. test guideline no. 476 Chinese hamster V79 cell gene-mutation assay with and without S9 metabolic activation. Negative for the induction of micronuclei (chromosome damage) in an O.E.C.D. test guideline no. 474 study conducted by oral gavage in the mouse up to a high dose level of 750 mg/kg of body wt. Negative for the induction of SCEs in hamsters treated by oral gavage with up to 2400 mg/kg of body wt.		
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw ≤700	-	; -	-
<b>Remarks:</b>	Bisphenol F Diglycidylether induced gene-mutation in the Ames/Salmonella mutation test and chromosomal aberrations in human lymphocytes in multiple independent testing guideline GLP studies. Furthermore, the structural analog, Bisphenol A Diglycidylether (BPADGE) induce a significant increase of the mutant frequency in L5178Y mouse lymphoma cells in culture supporting the other findings. Therefore, BPFEDGE is genotoxic in vitro. When Bisphenol F Diglycidylether was evaluated for genotoxicity potential in multiple GLP in vivo assays including the mouse micronucleus, rat in vivo/in vitro UDS and MutaMouse tests no evidence of genotoxicity was observed. The results of other in vivo tests for genotoxicity also supported these negative findings for BPFEDGE. Therefore, Bisphenol F Diglycidylether is not genotoxic in vivo.		
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	-	; -	-
<b>Remarks:</b>	BADGE induced gene-mutation in Ames/Salmonella tester strains TA1535 and TA100 in multiple studies. Generally, mutagenic activity was greater without liver S9 metabolic activation. Induced gene-mutation in L5178Y mouse lymphoma cells. Induced gene-mutation and chromosome damage in Chinese hamster V79 cells. Induced cell transformation in Syrian hamster BHK cells based on clonal growth in soft agar. Did not induce evidence of chromosome		



	damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg/kg as measured by alkaline elution.
--	--

**Conclusion/Summary** : Not available

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
1,4-bis(2,3 epoxypropoxy)butane	-----	-		
<b>Remarks:</b>	No data required, not genotoxic in vivo.			
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700	-----	-		
<b>Remarks:</b>	Bisphenol F Diglycidylether (BPFGE) was evaluated for the potential to induce local and systemic tumors in a mouse skin-painting 24 month study. Dermal treatment of mice twice a week with up to a 10% solution of Bisphenol F Diglycidylether (BPFGE) did not induce any adverse findings of tumor incidence or local dermal effects. Therefore, BPFGE is not a mouse carcinogen under the conditions of this study. The NOAEL was estimated to be approximately 800 mg/kg/day.			
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	-----	-		
<b>Remarks:</b>	In a rat oral gavage OECD no. 453 study there was no evidence of carcinogenicity up to the high dose level of 100 mg/kg/day. OECD Test Guideline no. 453 dermal exposure studies were conducted on male mice and female rats. No evidence of carcinogenicity was observed in male mice treated up to the high dose of 100 mg/kg/day and female rats exposed up to a high dose level of 1000 mg/kg/day.			

**Conclusion/Summary** : Not available

### Reproductive toxicity

**Conclusion/Summary** : Not available

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700	---	-	-	-
<b>Remarks:</b>	Diglycidyl ether of bisphenol A (DGEBA) was tested for its embryo/fetal toxicity and teratogenicity in pregnant rabbits. DGEBA was applied daily to the backs (clipped free of hair) of New Zealand White rabbits at dose levels of 0 (polyethylene glycol, vehicle control), 30, 100 or 300 mg/kg body weight/day at a dose volume of 1 ml/kg body weight/day on days 6 through 18 of gestation. Twenty six inseminated rabbits were used per dose group resulting in a minimum of 20 pregnant rabbits per exposure level. An occlusive bandage of absorbent gauze and non-absorbent cotton was placed over the dosing area on the back of each rabbit. The bandage was held in place for a minimum of 6 hours/day using a lycra/spandex jacket. Following the occlusion period the bandage and jacket were removed.			

	Maternal toxicity was observed among pregnant rabbits in the 300 mg/kg dose group as evidenced by moderate to severe erythema, fissures, hemorrhage and slight edema at the exposure site. Similar, but less severe skin lesions were observed in pregnant rabbits in the 100 mg/kg/day exposure group. Skin effects (slight erythema) observed in pregnant rabbits in the 30 mg/kg/day dose group were not considered toxicologically significant. No evidence of embryo/fetal toxicity or teratogenicity was observed at any dose level resulting in a embryo/fetal no-observed-effect level of 300 mg/kg body weight/day.			
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	- - -	-	-	-
<b>Remarks:</b>	BADGE did not induce any evidence of development toxicity in rats and rabbits exposed by oral gavage or in rabbits treated by the dermal route in OECD Test Guideline no. 414 GLP studies. The oral gavage studies were conducted up to a high dose level of 180 mg/kg/day that produced maternal toxicity base on decreased body weight gain. The rabbit dermal study was conducted up to a high dose of 300 mg/kg/day that induced maternal toxicity based on reduced body weight gain.			

**Conclusion/Summary** : Not available

**Specific target organ toxicity (single exposure)**

Not available

**Specific target organ toxicity (repeated exposure)**

Not available

**Aspiration hazard**

Not available

**Information on likely routes of exposure** : Not available

**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. 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:  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
 stomach pains

reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations

**Delayed and immediate effects as well as 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**

**Conclusion/Summary** : Not available

**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** : May damage the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : May damage fertility.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
1,4-bis(2,3 epoxypropoxy)butane			
	Acute LC50 24 mg/l - 203 Fish, Acute Toxicity Test	Fish - Zebra danio	96 h
	Acute EC50 76 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	24 h
	Acute EC50 110 mg/l - 201 Alga, Growth Inhibition Test	Aquatic plants - Algae	72 h
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700			
	Acute LC50 2,54 mg/l -	Fish - Fish	96 h
	Acute EC50 2,55 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute EC50 > 1.000 mg/l - 201 Alga, Growth Inhibition Test	Aquatic plants - Algae	72 h
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)			
	Acute LC50 1,3 mg/l - 203 Fish, Acute Toxicity Test	Fish - Fish	96 h
	Acute EC50 2,1 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute LC50 > 11 mg/l -	Aquatic plants - Algae	72 h
	Chronic No-observable-effect- concentration 0,3 mg/l semi-static test 211 Daphnia Magna Reproduction	Aquatic invertebrates. Water flea	21 d

	Test		
<b>Conclusion/Summary</b>	:	Not available	

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
1,4-bis(2,3 epoxypropoxy)butane		-		
<b>Remarks:</b>	The results of two independent Modified O.E.C.D. test guideline no. 301F studies demonstrated that biodegradation was 38 - 43% within 28 days and reached 98% within 60 days of contact.			
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700		-		
<b>Remarks:</b>	Bisphenol F Diglycidylether was not readily biodegradable under the conditions of the O.E.C.D. 301 B and 301 D screening studies. The maximum percent biodegradation observed in one of the O.E.C.D. 301 B studies was 16% for 10 mg/L at 28 days of contact.			
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)		-		
<b>Remarks:</b>	The level of biodegradation in an "enhanced" OECD 301F study was 5% within the 28 day contact period. Biodegradation reached 6 - 12 % after 28 days of contact in an OECD test guideline no. 301B study. Therefore, BADGE is not readily biodegradable under the conditions of the studies.			

**Conclusion/Summary** : Not available

### 12.3 Bioaccumulative potential

Not available

### 12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
1,4-bis(2,3 epoxypropoxy)butane	-0,269-0,15	-	low
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700	3,3	150 150,00	low
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	2,64 - 3,78	3 - 31 31,00	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (KOC)** : Not available

**Mobility** : Not available

### 12.5 Results of PBT and vPvB assessment

**PBT** : P: Not available  
 B: Not available

T: Not available

**vPvB** : vP: Not available  
 vB: Not available

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

- Methods of disposal** : 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.
- Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group
ADR/ADN	1760	CORROSIVE LIQUID, N.O.S. (1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane)	8	III
ICAO/IATA	1760	CORROSIVE LIQUID, N.O.S. (1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane)	8	III
IMO/IMDG	1760	CORROSIVE LIQUID, N.O.S. (1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane)	8	III

#### 14.5. Environmental hazards

Environmentally hazardous and/or Marine Pollutant : Yes.



**14.6 Special precautions for user** : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## SECTION 15: Regulatory information

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

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

#### Annex XIV - List of substances subject to authorization

#### Substances of very high concern

**Carcinogen:** Not listed

**Mutagen:** Not listed

**Toxic to reproduction:** Not listed

**PBT:** Not listed

**vPvB:** Not listed

#### Other EU regulations

**REACH Status** : The substance(s) in this product has (have) been Pre-Registered and/or Registered, or are exempted from registration, according to Regulation (EC) No. 1907/2006 (REACH).

**Aerosol dispensers** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Restricted to professional users.

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 1)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 2)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)** : Not listed

**EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)** : Not listed

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-,	-	-	-	-

polymer with (chloromethyl)oxirane				
---------------------------------------	--	--	--	--

### Seveso Directive

This product is controlled under the Seveso Directive.

#### Danger criteria

<b>Category</b>
E2: Hazardous to the aquatic environment - Chronic 2 C9ii: Toxic for the environment

### National regulations

#### International regulations

**International lists** :

- Australia inventory (AICS) All components are listed or exempted.
- Canada inventory All components are listed or exempted.
- Japan inventory All components are listed or exempted.
- China inventory (IECSC) All components are listed or exempted.
- Korea inventory All components are listed or exempted.
- New Zealand Inventory (NZIoC) All components are listed or exempted.
- Philippines inventory (PICCS) All components are listed or exempted.
- United States inventory (TSCA 8b) All components are listed or exempted.
- Taiwan inventory (CSNN) All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

: Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

: Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

: Not listed

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

## **SECTION 16: Other information**

**Abbreviations and acronyms** :

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

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

Classification	Justification
----------------	---------------

Skin Corr./Irrit. 1C, H314	Calculation method
Eye Dam./Irrit. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Repr. 1B, H360FD (Fertility, Unborn child)	Calculation method
Aquatic Chronic 2, H411	Calculation method

**Full text of abbreviated H statements**

<b>H302 (oral)</b>	Harmful if swallowed.
<b>H312 (dermal)</b>	Harmful in contact with skin.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H317</b>	May cause an allergic skin reaction.
<b>H318</b>	Causes serious eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H332 (inhalation)</b>	Harmful if inhaled.
<b>H360FD (Fertility, Unborn child)</b>	May damage fertility. May damage the unborn child.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H412</b>	Harmful to aquatic life with long lasting effects.
<b>H302 (oral)</b>	Harmful if swallowed.
<b>H312 (dermal)</b>	Harmful in contact with skin.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H317</b>	May cause an allergic skin reaction.
<b>H318</b>	Causes serious eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H332 (inhalation)</b>	Harmful if inhaled.
<b>H360FD (Fertility, Unborn child)</b>	May damage fertility. May damage the unborn child.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H412</b>	Harmful to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]**

<b>Acute Tox. 4, H302</b>	ACUTE TOXICITY (oral) - Category 4
<b>Acute Tox. 4, H312</b>	ACUTE TOXICITY (dermal) - Category 4
<b>Skin Corr./Irrit. 1C, H314</b>	SKIN CORROSION/IRRITATION - Category 1C
<b>Skin Corr./Irrit. 2, H315</b>	SKIN CORROSION/IRRITATION - Category 2
<b>Skin Sens. 1, H317</b>	SKIN SENSITIZATION - Category 1
<b>Skin Sens. 1B, H317</b>	SKIN SENSITIZATION - Category 1B



<b>Eye Dam./Irrit. 1, H318</b>	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
<b>Eye Dam./Irrit. 2, H319</b>	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
<b>Acute Tox. 4, H332</b>	ACUTE TOXICITY (inhalation) - Category 4
<b>Repr. 1B, H360FD (Fertility, Unborn child)</b>	TOXIC TO REPRODUCTION (Fertility, Unborn child) - Category 1B
<b>Aquatic Chronic 2, H411</b>	AQUATIC HAZARD (LONG- TERM) - Category 2
<b>Aquatic Chronic 3, H412</b>	AQUATIC HAZARD (LONG- TERM) - Category 3
<b>Acute Tox. 4, H302</b>	ACUTE TOXICITY (oral) - Category 4
<b>Acute Tox. 4, H312</b>	ACUTE TOXICITY (dermal) - Category 4
<b>Skin Corr./Irrit. 1C, H314</b>	SKIN CORROSION/IRRITATION - Category 1C
<b>Skin Corr./Irrit. 2, H315</b>	SKIN CORROSION/IRRITATION - Category 2
<b>Skin Sens. 1, H317</b>	SKIN SENSITIZATION - Category 1
<b>Skin Sens. 1B, H317</b>	SKIN SENSITIZATION - Category 1B
<b>Eye Dam./Irrit. 1, H318</b>	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
<b>Eye Dam./Irrit. 2, H319</b>	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
<b>Acute Tox. 4, H332</b>	ACUTE TOXICITY (inhalation) - Category 4
<b>Repr. 1B, H360FD (Fertility, Unborn child)</b>	TOXIC TO REPRODUCTION (Fertility, Unborn child) - Category 1B
<b>Aquatic Chronic 2, H411</b>	AQUATIC HAZARD (LONG- TERM) - Category 2
<b>Aquatic Chronic 3, H412</b>	AQUATIC HAZARD (LONG- TERM) - Category 3

**Date of printing** : 25.01.2018  
**Date of issue/ Date of revision** : 06.07.2017  
**Date of previous issue** : 00.00.0000  
**Version** : 1.0

### **Notice to reader**

The information provided herein was believed by Hexion Inc. ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. HEXION MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION, except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.

® and ™ Licensed trademarks of Hexion Inc.

**This page left intentionally blank.**