



# SAFETY DATA SHEET

5401 EPOXY IMPREGNATION PRIMER - Base

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

### 1.1 Product identifier

**Product name** : 5401 EPOXY IMPREGNATION PRIMER - Base  
**Product description** : Paint  
**Product type** : Liquid.  
**UFI** : 2030-U0PX-400Q-Y7G3

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

Identified uses	
Industrial use Professional use	
Uses advised against	Reason
Consumer use	Product is not intended for consumer use.

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

RUST-OLEUM EUROPE  
Martin Mathys NV, Kolenbergstraat 23, B-3545 Zelem, Belgium  
Telephone no.: +32 (0) 13 460 200  
Fax no.: +32 (0) 13 460 201

Tor Coatings Limited  
Unit 21, White Rose Way, Follingsby Park, Gateshead, Tyne & Wear, NE10 8YX United Kingdom  
Telephone no.: +44 (0) 191 4106611  
Fax no.: +44 (0) 191 4920125  
enquiries@tor-coatings.com

**e-mail address of person responsible for this SDS** : rpmeurohas@rustoleum.eu

### 1.4 Emergency telephone number

National advisory body/Poison Centre

Supplier

**Telephone number** : +44 870 8200418 / +44 2038073798

**Hours of operation** : 24 / 7

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

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

Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
Aquatic Chronic 2, H411

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

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

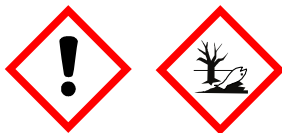
## SECTION 2: Hazards identification

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

### 2.2 Label elements

**Hazard pictograms**

:



**Signal word**

: Warning

**Hazard statements**

: Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Toxic to aquatic life with long lasting effects.

**Precautionary statements**

**General**

: Not applicable.

**Prevention**

: P280 - Wear protective gloves. Wear eye or face protection.  
P273 - Avoid release to the environment.

**Response**

: P391 - Collect spillage.

**Storage**

: Not applicable.

**Disposal**

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

**Hazardous ingredients**

: 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane  
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol  
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

**Supplemental label elements**

: Contains epoxy constituents. May produce an allergic reaction.

**Supplemental label elements : Detergents - Regulation (EC) No 907/2006**

: Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

: Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings**

: Not applicable.

**Tactile warning of danger**

: Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification**

: None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures : Mixture

United Kingdom: Great Britain

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	≥50 - ≤75	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	REACH #: 01-2119454392-40 EC: 500-006-8 CAS: 9003-36-5	≥10 - ≤25	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	REACH #: 01-2119485289-22 EC: 271-846-8 CAS: 68609-97-2 Index: 603-103-00-4	≥10 - ≤25	Skin Irrit. 2, H315 Skin Sens. 1, H317	[1]
See Section 16 for the full text of the H statements declared above.				

#### 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
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

<b>SCL (Specific Concentration Limits)</b> Not applicable.	Not applicable.
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<b>ATE (acute toxicity estimates)</b> Not applicable.	Not applicable.
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<b>Nanoform</b> <b>Particle characteristics</b> This product does not contains nanomaterials.	<b>Particle Size</b> Not applicable.
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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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit 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** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

### 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

## SECTION 5: Firefighting measures

<b>Hazards from the substance or mixture</b>	: 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.
<b>Hazardous combustion products</b>	: Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds
<b>5.3 Advice for firefighters</b>	
<b>Special protective actions for fire-fighters</b>	: 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.
<b>Special protective equipment for fire-fighters</b>	: 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.
<b>Additional information</b>	: No unusual hazard if involved in a fire.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

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

### 6.3 Methods and material for containment and cleaning up

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

### 6.4 Reference to other sections

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. 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.

### 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) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

#### Seveso Directive - Reporting thresholds

##### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E2	200 tonne	500 tonne

### 7.3 Specific end use(s)

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

## SECTION 8: Exposure controls/personal protection

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

### 8.1 Control parameters

#### Occupational exposure limits

- 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

## SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	DNEL	Short term Dermal	83 mg/cm <sup>2</sup>	Workers	Local
	DNEL	Long term Dermal	104,15 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	29,39 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	62,5 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	8,7 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Oral	6,25 mg/kg bw/day	General population [Consumers]	Systemic
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	DNEL	Short term Dermal	17 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	68 mg/cm <sup>2</sup>	Workers	Local
	DNEL	Short term Inhalation	29 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	9,8 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Dermal	3,9 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	13,8 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	1,7 mg/cm <sup>2</sup>	Workers	Local
	DNEL	Long term Inhalation	0,98 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Dermal	10 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	7,6 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Short term Oral	1219 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Dermal	40 mg/cm <sup>2</sup>	General population [Consumers]	Local
	DNEL	Short term Inhalation	2,9 mg/m <sup>3</sup>	General population [Consumers]	Local
	DNEL	Long term Dermal	2,35 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	4,1 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Oral	1 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	1 mg/cm <sup>2</sup>	General population [Consumers]	Local
	DNEL	Long term Inhalation	1,46 mg/m <sup>3</sup>	General population	Local



## SECTION 8: Exposure controls/personal protection

[Consumers]

### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Fresh water	0,003 mg/l	-
	Marine water	0,0003 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0,294 mg/kg dwt	-
	Marine water sediment	0,0294 mg/kg dwt	-
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Soil	0,237 mg/kg dwt	-
	Fresh water	0,0072 mg/l	-
	Marine	0,00072 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	66,77 mg/kg dwt	-
	Marine water sediment	6,677 mg/kg dwt	-
	Soil	80,12 mg/kg dwt	-

### 8.2 Exposure controls

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

#### 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. Use eye protection according to EN 166. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

**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. > 8 hours (breakthrough time): neoprene (0.65mm)



## SECTION 8: Exposure controls/personal protection

The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear overalls or long sleeved shirt.
- 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. Recommended: A respirator is not needed under normal and intended conditions of product 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.

## SECTION 9: Physical and chemical properties

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

### 9.1 Information on basic physical and chemical properties

- Physical state** : Liquid.
- Colour** : Colourless. [Light]
- Odour** : Odourless. [Slight]
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : >200°C (>392°F) [Literature]
- Flammability (solid, gas)** : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.  
This material will not burn or burns with difficulty.
- Upper/lower flammability or explosive limits** : Not available.
- Flash point** : Closed cup: >130°C (>266°F) [ASTM D 93 (PM CC)]
- Auto-ignition temperature** : Not relevant due to nature of the product.
- Decomposition temperature** : >200°C
- pH** : Not applicable.
- pH : Justification** : Product is non-soluble (in water).
- Viscosity** : Dynamic: 800 to 1100 mPa·s
- Solubility(ies)** : Partially soluble in the following materials: acetone.  
Insoluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/ water** : Not applicable.
- Vapour pressure** : <0,067 kPa (<0,5 mm Hg) [calculated.]
- Evaporation rate** : <0,1 (Butyl acetate. = 1)
- Relative density** : 1,13 [DIN 51757]
- Density** : 1,13 g/cm³ [20°C (68°F)] [DIN 51757]

## SECTION 9: Physical and chemical properties

Vapour density	: >1 [Air = 1]
Explosive properties	: No unusual hazard if involved in a fire.
Oxidising properties	: Not available.
<u>Particle characteristics</u>	
Median particle size	: Not applicable.

## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	LD50 Dermal	Rabbit	20 g/kg	-
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	LC50 Inhalation Dusts and mists	Rat	>150 mg/m <sup>3</sup>	7 hours
	LD50 Oral	Rat	17100 mg/kg	-

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

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	N/A	20000	N/A	N/A	N/A
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	17100	N/A	N/A	N/A	N/A

#### Irritation/Corrosion

## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)] bisoxirane	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
	Skin - Erythema/Eschar	Rabbit	0,7	4 hours	72 hours
Oxirane, mono[ (C12-14-alkyloxy)methyl] derivs.	Skin - Moderate irritant	Rabbit	-	24 hours 500 microliters	-
	Skin - Primary dermal irritation index (PDII)	Rabbit	4,1	24 hours	-
	Skin - Primary dermal irritation index (PDII)	Rabbit	5,75	24 hours	-
	Eyes - Mild irritant	Rabbit	-	-	-

### Conclusion/Summary

- Skin** : Causes skin irritation.
- Eyes** : Causes serious eye irritation.
- Respiratory** : Based on available data, the classification criteria are not met.

### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)] bisoxirane	skin	Mouse	Sensitising
	skin	Guinea pig	Sensitising
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	skin	Guinea pig	Sensitising
	skin	Guinea pig	Sensitising
Oxirane, mono[ (C12-14-alkyloxy)methyl] derivs.	skin	Guinea pig	Sensitising
	skin	Guinea pig	Sensitising

### Conclusion/Summary

- Skin** : May cause an allergic skin reaction.
- Respiratory** : Based on available data, the classification criteria are not met.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD 471 OECD 474 OECD 471	Subject: Bacteria Subject: Mammalian-Animal Subject: Bacteria	Positive Negative Positive
Oxirane, mono[ (C12-14-alkyloxy)methyl] derivs.	OECD 476	Metabolic activation: with and without S9 metabolic activation Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

## SECTION 11: Toxicological information

	OECD 475	Experiment: In vivo Subject: Mammalian-Animal	Negative
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**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Carcinogenicity

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

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Negative	-	-	Rat	Oral: 540 mg/kg	-

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

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)] bisoxirane	Positive - Dermal	Rabbit	300 mg/kg	1 days per week
	Positive - Oral	Rat	180 mg/kg	1 days per week
	Positive - Oral	Rabbit	180 mg/kg	1 days per week
	Positive - Dermal	Rabbit	300 mg/kg	6 hours; 7 days per week
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Positive - Dermal	Rabbit	100 mg/kg	6 hours; 7 days per week
	Negative - Route of exposure unreported	Rabbit - Female	>300 mg/kg	-
Oxirane, mono[ (C12-14-alkyloxy)methyl] derivs.	Negative - Route of exposure unreported	Rat - Female	>200 mg/kg	-

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

### 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** : Routes of entry anticipated: Oral, Dermal.  
Routes of entry not anticipated: Inhalation.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : No known significant effects or critical hazards.  
**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

## SECTION 11: Toxicological information

<b>Eye contact</b>	: Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: No specific data.
<b>Skin contact</b>	: Adverse symptoms may include the following: irritation redness
<b>Ingestion</b>	: No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Potential chronic health effects

Not available.

<b>Conclusion/Summary</b>	: Based on available data, the classification criteria are not met.
<b>General</b>	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: No known significant effects or critical hazards.
<b>Endocrine disrupting properties</b>	: Not available.
<b>Other information</b>	: Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Acute EC50 1,8 mg/l	Algae	72 hours
	Acute EC50 2 mg/l	Daphnia spec.	24 hours
	Acute EC50 1,6 mg/l	Daphnia spec.	48 hours
	Acute IC50 >100 mg/l	Bacteria	3 hours
	Acute LC50 0,55 mg/l	Fish	96 hours
	Acute LC50 2 mg/l	Fish	96 hours
	Chronic NOEC 0,3 mg/l	Daphnia spec.	21 days
	Acute EC50 >100 mg/l	Bacteria	3 hours
	Acute EC50 7,2 mg/l	Daphnia spec.	48 hours
	Acute IC50 844 mg/l	Algae	72 hours
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Acute LC50 5000 mg/l	Fish	96 hours
	Acute LC50 1800 mg/l	Fish	96 hours

<b>Conclusion/Summary</b>	: Toxic to aquatic life with long lasting effects.
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## SECTION 12: Ecological information

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	OECD 301B	6 to 12 % - Not readily - 28 days	-	-
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	OECD 301B	16 % - Not readily - 28 days	-	-
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	-	0 % - Not readily - 28 days	-	-
	OECD 301F	57 to 65 % - Inherent - 7 days	-	-
	OECD 301D	35 % - Not readily - 28 days	-	-

**Conclusion/Summary** : This product is estimated to have a very slow rate of biodegradation of less than 30% degradation over a test period of more than 28 days.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	-	-	Not readily
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	-	-	Not readily
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	-	-	Not readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane	3,84	3 to 31	low
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	2,7	150	low
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3,77	160 to 263	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Non-volatile.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Endocrine disrupting properties** : No known significant effects or critical hazards.

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

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

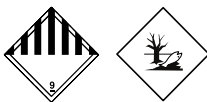
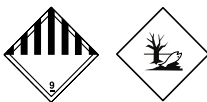
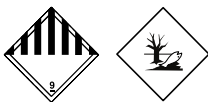
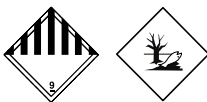
**Hazardous waste** : Yes.

#### European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

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

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number or ID number</b>	UN3082	UN3082	UN3082	UN3082
<b>14.2 UN proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s. (2,2'-(1-methylethylidene)bis(4,1-phenyleneoxymethylene)) bisoxirane, Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)	Environmentally hazardous substance, liquid, n.o.s. (2,2'-(1-methylethylidene)bis(4,1-phenyleneoxymethylene)) bisoxirane, Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)	Environmentally hazardous substance, liquid, n.o.s.. Marine pollutant (Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol, Oxirane, mono [(C12-C16-alkyloxy) methyl] derivatives)	Environmentally hazardous substance, liquid, n.o.s. (Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol, Oxirane, mono [(C12-C16-alkyloxy) methyl] derivatives)
<b>14.3 Transport hazard class(es)</b>	9 	9 	9 	9 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes.	Yes.
<b>Additional information</b>	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the



## SECTION 14: Transport information

	general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. <b>Tunnel code</b> (-)	general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. <b>Emergency schedules</b> F-A ; S-F	general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. <b>Quantity limitation</b> 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.
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**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.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

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

**Other EU regulations**

**VOC for Ready-for-Use Mixture** : 2004/42/EC - IIA/j: 500g/l (2010). <= 254g/l VOC.

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**Ozone depleting substances (1005/2009/EC)**

Not listed.

**Prior Informed Consent (PIC) (649/2012/EC)**

Not listed.

## SECTION 15: Regulatory information

### Persistent Organic Pollutants (850/2004/EC)

Not listed.

### Seveso Directive

This product is controlled under the Seveso Directive.

### Danger criteria

Category
E2

### United Kingdom: Great Britain

**References** : EH40/2005 Workplace exposure limits  
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878  
REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC

### International regulations

#### Stockholm Convention on Persistent Organic Pollutants

List name	Ingredient name	Status
Not listed.		

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

List name	Ingredient name	Status
Not listed.		

**CN code** : 3824 99 70 00

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: All components are listed or exempted.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

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

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Skin Sens. 1, H317	Expert judgment
Aquatic Chronic 2, H411	Expert judgment

### Full text of abbreviated H statements

#### United Kingdom: Great Britain

#### Full text of abbreviated H statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

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

Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1

**Date of printing** : 21/05/2021

**Date of issue/ Date of revision** : 20/04/2021

**Date of previous issue** : 20/04/2021

**Version** : 5

#### Notice to reader

**IMPORTANT NOTE:** The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The information contained in this data sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and believed to be correct as of the date on which it is prepared. It is the user's responsibility to verify that this data sheet is current prior to using the product to which it relates. Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to use. Where those purposes are other than as specifically recommended in this safety data sheet, then the user uses the product at their own risk.

**MANUFACTURER'S DISCLAIMER:** the conditions, methods and factors affecting the handling, storage, application, use and disposal of the product are not under the control and knowledge of the manufacturer. Therefore the manufacturer does not assume responsibility for any adverse events which may occur in the handling, storage, application, use, misuse or disposal of the product and, so far as permitted by applicable law, the manufacturer expressly disclaims liability for any and all loss, damages and/or expenses arising out of or in any way connected to the storage, handling, use or disposal of the product. Safe handling, storage, use and disposal are the responsibility of the users. Users must comply with all applicable health and safety laws.

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878 - United Kingdom (UK)

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## SECTION 16: Other information

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.