

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

# SAFETY DATA SHEET

FOR PROFESSIONAL and/or INDUSTRIAL USE ONLY

EPIKURE™ Curing Agent MGS LH 286

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

### 1.1 Product identifier

**Product name** : EPIKURE™ Curing Agent MGS LH 286  
**SDS Number** : 16S-00026  
**Product type** : Curing Agent  
**Other means of identification** : UFI: WW85-F7SK-FCCM-QSUC

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

**Product use** Epoxy Resin Systems

**Identified uses**  
Not applicable.

**Uses advised against**  
Not applicable.

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

**Manufacturer/Supplier/Importer** : Westlake Epoxy B.V.  
Seattleweg 17  
3195 ND Pernis - Rotterdam  
The Netherlands

**Contact person** : epoxy@westlake.com  
**Telephone** : General information  
+31 (0) 10 295 4011

### 1.4

**Emergency telephone number**  
**Supplier** : CARECHEM24  
**Telephone number** : +44 (0) 1235 239 670

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture


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

Acute Tox. 4 H302  
Acute Tox. 3 H311

Acute Tox. 3 H331  
Skin Corr./Irrit. 1A H314  
Eye Dam./Irrit. 1 H318  
Skin Sens. 1 H317  
STOT RE 2 H373  
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>	:	Harmful if swallowed. Toxic in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

### Precautionary statements

<b>Prevention</b>	:	Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
<b>Response</b>	:	Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
<b>Storage</b>	:	Not applicable.
<b>Disposal</b>	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)  
 3-aminomethyl-3,5,5-trimethylcyclohexylamine  
 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine  
 3-aminopropyltriethoxysilane  
 4-nonylphenol, branched

**Supplemental label elements** : Not applicable.

### 2.3 Other hazards

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

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

**Other hazards which do not result in classification** : May cause endocrine disruption.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	RRN : 01-2119497829-12 EC : 229-962-1 CAS : 6864-37-5 Index : 612-110-00-1	>= 50 - <= 75	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 2, H373 (adrenal, blood system, heart, kidneys, liver) Aquatic Chronic 2, H411	ATE [Oral] = 320 mg/kg ATE [Dermal] = 300 mg/kg ATE [Inhalation (dusts and mists)] = 0.42 mg/l STOT RE 2, H373: >= 10 %	[1]
3-aminomethyl-3,5,5-trimethylcyclohexylamine	RRN : 01-2119514687-32 EC : 220-666-8 CAS : 2855-13-2 Index : 612-067-00-9	>= 25 - <= 45	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317	ATE [Oral] = 1,030 mg/kg	[1] [2]
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	RRN : 01-2119965165-33 CAS : 38294-64-3	> 0 - <= 5	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	-	[1]
benzyl alcohol	RRN : 01-	> 0 - <= 5	Acute Tox. 4, H302 Acute Tox. 4, H332	ATE [Oral] = 1,620 mg/kg ATE [Inhalation (dusts and mists)] = 0.42 mg/l	[1] [2]

	2119492630-38 EC : 202-859-9 CAS : 100-51-6 Index : 603-057-00-5		Eye Irrit. 2, H319	mists)] = 1.5 mg/l	
3-aminopropyltriethoxysilane	RRN : 01-2119480479-24 EC : 213-048-4 CAS : 919-30-2 Index : 612-108-00-0	> 0 - < 1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	ATE [Oral] = 1,570 mg/kg	[1]
salicylic acid	RRN : 01-2119486984-17 EC : 200-712-3 CAS : 69-72-7	> 0 - < 1	Acute Tox. 4, H302 Eye Dam. 1, H318 Repr. 2, H361d	ATE [Oral] = 891 mg/kg	[1]
4-nonylphenol, branched	RRN : 01-2119510715-45 EC : 284-325-5 CAS : 84852-15-3 Index : 601-053-00-8	> 0 - < 1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361fd Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1,300 mg/kg M [Acute] = 10 M [Chronic] = 10	[1] [3]

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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

#### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance of equivalent concern

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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before

- removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- 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** : Toxic if inhaled.  
**Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.  
**Ingestion** : Harmful if swallowed.

##### Over-exposure signs/symptoms

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

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

## 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog).  
**Unsuitable extinguishing media** : Do not use water jet.

## 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  
nitrogen oxides

## 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.
- Additional information** : Not available

# 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

- Large spill** : appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- : 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 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

Product/ingredient name	Exposure limit values
3-aminomethyl-3,5,5-trimethylcyclohexylamine	<b>DFG MAK-Werte Liste (2014-06-23)</b>  Notes: Skin sensitizer
benzyl alcohol	<b>TRGS900 AGW (2017-09-01)</b> <b>PEAK</b> 44 mg/m <sup>3</sup> 10 ppm Notes: Absorbed through skin. <b>TWA</b> 22 mg/m <sup>3</sup> 5 ppm Notes: Absorbed through skin. <b>DFG MAK-Werte Liste (2016-07-08)</b> <b>TWA - TLV and PEL</b> 22 mg/m <sup>3</sup> 5 ppm Notes: Absorbed through skin. <b>PEAK</b> 44 mg/m <sup>3</sup> 10 ppm Notes: Absorbed through skin.

**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
benzyl alcohol	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
benzyl alcohol	DNEL	Long term Inhalation	22 mg/m <sup>3</sup>	Workers	Systemic
benzyl alcohol	DNEL	Short term Inhalation	110 mg/m <sup>3</sup>	Workers	Systemic
benzyl alcohol	DNEL	Long term Dermal	8 mg/kg bw/day	Workers	Systemic
benzyl alcohol	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
benzyl alcohol	DNEL	Long term Inhalation	5.4 mg/m <sup>3</sup>	General population	Systemic
benzyl alcohol	DNEL	Short term Inhalation	27 mg/m <sup>3</sup>	General population	Systemic
benzyl alcohol	DNEL	Long term Dermal	4 mg/kg bw/day	General population	Systemic
benzyl alcohol	DNEL	Short term Dermal	20 mg/kg bw/day	General population	Systemic
benzyl alcohol	DNEL	Long term Oral	4 mg/kg bw/day	General population	Systemic



**DNEL/DMEL Summary** : Not available

**PNECs**

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
benzyl alcohol	PNEC	Fresh water	1 mg/l	
benzyl alcohol	PNEC	Marine	0.1 mg/l	
benzyl alcohol	PNEC	Sewage Treatment Plant	39 mg/l	
benzyl alcohol	PNEC	Sediment (freshwater)	5.27 mg/kg dw	
benzyl alcohol	PNEC	Marine water sediment	0.527 mg/kg dw	
benzyl alcohol	PNEC	Soil	0.456 mg/kg dw	

**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** : Use only with adequate ventilation. 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).

- |  |   |  |
|--|---|--|
| <b>Body protection</b>                 | : | 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.  |
| <b>Other skin protection</b>           | : | 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.  |
| <b>Respiratory protection</b>          | : | 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.   |
| <b>Environmental exposure controls</b> | : | 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. |
| <b>General protective measures</b>     | : | 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

- |   |   |  |
|---|---|--|
| <b>Physical state</b>                               | : | Liquid   |
| <b>Color</b>  | : | Blue.  |
| <b>Odor</b>   | : | amine.   |
| <b>Odor threshold</b>                               | : | Not available (not measured)   |
| <b>pH</b>   | : | Not available (not measured)   |
| <b>Melting point/freezing point</b>                 | : | Not available (not measured)   |
| <b>Initial boiling point and boiling range</b>      | : | Greater than 200 °C  |
| <b>Flash point</b>                                  | : | Greater than 120 °C  |
| <b>Evaporation rate</b>                             | : | Not available (not measured)   |
| <b>Upper/lower flammability or explosive limits</b> | : | <b>Lower:</b> Not available (not measured)<br><b>Upper:</b> Not available (not measured) |
| <b>Vapor pressure</b>                               | : | Not available (not measured)   |

<b>Vapor density</b>	: Not available (not measured)
<b>Relative density</b>	: Not available (not measured)
<b>Density</b>	: Approx. 0.940 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	: Not available (not measured)
<b>Solubility in water</b>	: Insoluble
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Auto-ignition temperature</b>	: Not available (not measured)
<b>Decomposition temperature</b>	: Not available (not measured)
<b>Viscosity</b>	: <b>Dynamic:</b> Approx. 60 - 100 mPa·s @ 20 °C (ISO 9371)
	<b>Kinematic:</b> Not available (not measured)
<b>Explosive properties</b>	: Not available (not measured)
<b>Oxidizing properties</b>	: Not available (not measured)

#### Particle characteristics

<b>Median particle size</b>	: Not applicable.
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#### 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 hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)				
	LD50 Oral	Rat	> 320 - 460 mg/kg	-
	LD50 Oral	Rat	320 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	0.42 mg/l	4 h
	LD50 Dermal	Rabbit	> 200 - 400 mg/kg	-
	LD50 Dermal	Rabbit	200 mg/kg	-
3-aminomethyl-3,5,5-trimethylcyclohexylamine				

	LD50 Oral	Rat	1,030 mg/kg	-
	LD50 Oral	Rat	1,030 mg/kg	-
benzyl alcohol				
	LD50 Oral	Rat	1,620 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	> 4.178 mg/l	4 h
	LD50 Dermal	Rabbit	2,000 mg/kg	-
3-aminopropyltriethoxysilane				
	LD50 Oral	Rat	1,570 mg/kg	-
	LD50 Oral	Rat - Female	1,570 mg/kg	-
	LD50 Oral	Rat	4,000 mg/kg	-
	LD50 Oral	Rat	1,570 mg/kg	-
	LC50 Inhalation	Rat - Male	5 ppm	6 h
	LC50 Inhalation	Rat - Female	16 ppm	6 h
	LD50 Dermal	Rabbit	4,290 mg/kg	-
	LD50 Dermal	Rabbit	4,290 mg/kg	-
salicylic acid				
	LD50 Oral	Rat	891 mg/kg	-
	LD50 Oral	Rat	891 mg/kg	-
	LD50 Dermal	Rabbit	> 10,000 mg/kg	-
	LD50 Dermal	Rabbit	> 10,000 mg/kg	-
4-nonylphenol, branched				
	LD50 Oral	Rat	1,300 mg/kg	-
	LD50 Oral	Rat	1,300 mg/kg	-

**Conclusion/Summary** : Not available

**Acute toxicity estimates**

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
	456.6 mg/kg	500 mg/kg	N/A	N/A	0.69 mg/l
2,2'-dimethyl-4,4'- methylenebis(cyclohexylamine)	320 mg/kg	300 mg/kg	N/A	N/A	0.42 mg/l
3-aminomethyl-3,5,5- trimethylcyclohexylamine	1030 mg/kg	N/A	N/A	N/A	N/A
benzyl alcohol	1620 mg/kg	N/A	N/A	N/A	4.178 mg/l
3- aminopropyltriethoxysilane	1570 mg/kg	4290 mg/kg	N/A	N/A	N/A
salicylic acid	891 mg/kg	N/A	N/A	N/A	N/A
4-nonylphenol, branched	1300 mg/kg	N/A	N/A	N/A	N/A

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzyl alcohol	Skin - Not irritant	Rabbit	-	24 hrs	-
	eyes - Mild irritant	Rabbit	-	24 hrs	-
3- aminopropyltriethoxysilane	eyes - Severe irritant	Rabbit	-	24 hrs	-
	Skin - Severe	Rabbit	-	24 hrs	-

	irritant				
	eyes - Mild irritant	Rabbit	-		-
4-nonylphenol, branched	Skin - Severe irritant	Rabbit	-	24 hrs	-
	eyes - Severe irritant	Rabbit	-		-

**Conclusion/Summary**

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

**Sensitization**

Product/ingredient name	Route of exposure	Species	Result
3-aminopropyltriethoxysilane	Skin	Guinea pig	Sensitizing

**Conclusion/Summary**

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

**Mutagenicity**

**Conclusion/Summary** : Not available

**Carcinogenicity**

**Conclusion/Summary** : Not available

**Reproductive toxicity**

**Conclusion/Summary** : Not available

**Teratogenicity**

**Conclusion/Summary** : Not available

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

Not available

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

Product/ingredient name	Category	Route of exposure	Target organs
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Category 2	-	adrenal, blood system, heart, kidneys, liver

**Aspiration hazard**

Not available

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

**Potential acute health effects**

**Eye contact** : Causes serious eye damage.  
**Inhalation** : Toxic if inhaled.  
**Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.  
**Ingestion** : Harmful if swallowed.

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

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

### 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

<b>Conclusion/Summary</b>	:	Not available
<b>General</b>	:	May cause damage to organs through prolonged or repeated exposure. 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.

### 11.2. Information on other hazards

<b>11.2.1 Endocrine disrupting properties</b>	:	Not available
<b>11.2.2 Other information</b>	:	Not available

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
	Acute LC50 31.6 mg/l	Ide, Silver or Golden Orfe	96 h
	Acute EC50 4.6 mg/l	Water flea	48 h
	Acute EC50 > 5 mg/l	Green algae	72 h
3-aminomethyl-3,5,5-trimethylcyclohexylamine			
	Acute EC50 17.4 mg/l Fresh water	Daphnia - Daphnia magna	48 h
	Acute EC50 17.4 mg/l Fresh water	Daphnia - Daphnia magna	48 h
benzyl alcohol			
	Acute LC50 460,000 µg/l Fresh water	Fish - Pimephales promelas	96 h
	Acute LC50 10 mg/l Fresh water	Fish - Lepomis macrochirus	96 h
3-aminopropyltriethoxysilane			
	Acute LC50 > 934 mg/l - 203 Fish, Acute Toxicity Test	Zebra danio	96 h
	Acute EC50 331 mg/l - 202	Water flea	48 h

	Daphnia sp. Acute Immobilization Test and Reproduction Test		
	Acute EC50 > 1,000 mg/l -	Algae	72 h
	Chronic No-observable-effect-concentration 1.3 mg/l -	Algae	72 h
	Acute EC50 > 1,000 mg/l	Algae	72 h
	Chronic No-observable-effect-concentration 1.3 mg/l	Algae	72 h
salicylic acid			
	Acute EC50 870 mg/l Fresh water	Daphnia - Daphnia magna	48 h
	Acute EC50 870 mg/l Fresh water	Daphnia - Daphnia magna	48 h
	Chronic No-observable-effect-concentration 5.6 mg/l Fresh water	Daphnia - Daphnia magna	21 d
	Chronic No-observable-effect-concentration 5.6 mg/l Fresh water	Daphnia - Daphnia magna	21 d
	Acute LC50 138.25 µg/l Fresh water	Fathead minnow	96 h
	Acute LC50 135.1 µg/l Fresh water	Bluegill	96 h
	Acute EC50 0.33 mg/l Fresh water	Green algae	72 h
	Acute EC50 0.41 mg/l Fresh water	Green algae	96 h

**Conclusion/Summary** : Not available

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
3-aminopropyltriethoxysilane	-	67 % - No biodegradation - 28 d	-	-
<b>Remarks:</b>	Not readily			

**Conclusion/Summary** : Not available

### 12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	2.3	< 60 ≤ 6	low
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99	-	low
benzyl alcohol	1.1	-	low
3-aminopropyltriethoxysilane	1.7	3.40	low
salicylic acid	2.21 - 2.26	-	low
4-nonylphenol, branched	5.4	2.4	low

### 12.4 Mobility in soil

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

**Mobility** : Not available

### 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** : May cause endocrine disruption.

**12.7 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	2922	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-DIMETHYL-4,4'METHYLENEBIS(CYCLOHEXYLAMINE), Isophorone Diamine)	8 (6.1)	II
RID	2922	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-DIMETHYL-4,4'METHYLENEBIS(CYCLOHEXYLAMINE), Isophorone Diamine)	8 (6.1)	II



<b>ICAO/IATA</b>	2922	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-DIMETHYL- 4,4'METHYLENEBIS(CYCLOHEX YLAMINE), Isophorone Diamine)	8 (6.1)	II
<b>IMO/IMDG</b>	2922	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-DIMETHYL- 4,4'METHYLENEBIS(CYCLOHEX YLAMINE), Isophorone Diamine)	8 (6.1)	II

#### 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.

**14.7 Maritime 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 authorization

##### Annex XIV

None required.

##### Substances of very high concern

The following components are listed:

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
4-nonylphenol, branched	Endocrine disrupting properties for environment	Candidate	ED/169/2012	2012-12-19

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

#### Other EU regulations

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

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

Product/ingredient name	Annex	Status
4-nonylphenol, branched	Annex I - Part 1	Listed
4-nonylphenol, branched	Annex I - Part 2	Listed

**Seveso Directive**

This product is controlled under the Seveso Directive.

**Danger criteria**

Category
H2
E2

**National regulations**

Product name	List name	Name on list	Classification	Notes
benzyl alcohol	DFG MAC-values list	Hydroxytoluene Benzyl alcohol	Listed	-

**Storage class (TRGS 510) :** 6.1C

**Hazardous incident ordinance**

This product is controlled under the Germany Hazardous Incident Ordinance.

**Danger criteria**

Category	Reference number
H2	1.1.2
E2	1.3.2

- Hazard class for water** : WGK 3
- Technical instruction on air quality control** : TA-Luft Number 5.2.5: Class I - 64.1 %  
TA-Luft Number 5.2.5: 35.3 %
- AOX** : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

**International regulations**

- International lists** : Australia inventory (AICS) Not determined.  
Canada inventory At least one component is not listed in DSL but all such components are listed in NDSL.  
Japan inventory Not determined.  
China inventory (IECSC) All components are listed or exempted.  
Korea inventory (KECI) All components are listed or exempted.  
New Zealand Inventory (NZIoC) Not determined.  
Philippines inventory (PICCS) All components are listed or exempted.  
United States inventory (TSCA 8b) All components are active or exempted.  
Taiwan inventory (TCSI) All components are listed or exempted.  
Thailand inventory Not determined.  
Vietnam inventory Not determined.

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

## SECTION 16: Other information

<b>Abbreviations and acronyms</b>	: 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
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### **Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Acute Tox. 4, H302	Calculation method
Acute Tox. 3, H311	Calculation method
Acute Tox. 3, H331	Calculation method
Skin Corr. 1A, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 2, H411	Calculation method

### **Full text of abbreviated H statements**

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2

Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Acute Tox. 4	ACUTE TOXICITY
Acute Tox. 3	ACUTE TOXICITY
Acute Tox. 4	ACUTE TOXICITY
Skin Corr. 1A	SKIN CORROSION/IRRITATION
Skin Corr. 1B	SKIN CORROSION/IRRITATION
Skin Sens. 1	SKIN SENSITISATION
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION
Acute Tox. 2	ACUTE TOXICITY
Acute Tox. 4	ACUTE TOXICITY
Repr. 2	REPRODUCTIVE TOXICITY
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM)
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM)
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM)
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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