

# SAFETY DATA SHEET



WEICON B4-AS Epoxy Hardener

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

### 1.1 Product identifier

**Product name** : WEICON B4-AS Epoxy Hardener  
**UFI** : 17VE-E0GH-X00N-JGY2  
**Product code** : 171002  
**Color** : Yellow. [Dark]

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

Identified uses
Hardener for resins.

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

WEICON GmbH & Co. KG  
Königsberger Str. 255  
48157 Münster  
Germany  
Phone: +49 251 93220  
Fax: +49(0)251 / 9322 - 244  
Internet: www.weicon.de

**e-mail address of person responsible for this SDS** : msds@weicon.de

### 1.4 Emergency telephone number

**Telephone number** : EMERGENCY CONTACT – UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)  
TRANSPORT EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)

## 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]

Acute Tox. 4, H302  
Skin Corr. 1B, H314  
Eye Dam. 1, H318  
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.

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

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Danger

## SECTION 2: Hazards identification

<b>Hazard statements</b>	: H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H411 - Toxic to aquatic life with long lasting effects.
<b><u>Precautionary statements</u></b>	
<b>Prevention</b>	: P280 - Wear protective gloves, protective clothing and eye or face protection. P273 - Avoid release to the environment. P261 - Avoid breathing vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash thoroughly after handling.
<b>Response</b>	: P391 - Collect spillage. P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P363 - Wash contaminated clothing before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
<b>Storage</b>	: P405 - Store locked up.
<b>Disposal</b>	: P501 - Dispose of waste according to applicable legislation.
<b>Hazardous ingredients</b>	: Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine benzyl alcohol 3-aminomethyl-3,5,5-trimethylcyclohexylamine 3-aminopropyldimethylamine Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 3-aminopropyltriethoxysilane 2,4,6-tris(dimethylaminomethyl)phenol m-phenylenebis(methylamine) Phenol, styrenated polyethylenepolyamines 3-aminopropyltriethoxysilane
<b>Supplemental label elements</b>	: Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: Not applicable.
<b>2.3 Other hazards</b>	
<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
<b>Other hazards which do not result in classification</b>	: None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	REACH #: 01-2119983521-35 EC: 606-078-8 CAS: 186321-96-0	≥10 - <25	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
benzyl alcohol	EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≥10 - ≤23	Acute Tox. 4, H302 Acute Tox. 4, H332	ATE [Oral] = 500 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1] [2]
3-aminomethyl-3,5,5-trimethylcyclohexylamine	EC: 220-666-8 CAS: 2855-13-2	≤10	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	ATE [Oral] = 500 mg/kg ATE [Dermal] = 1100 mg/kg	[1] [2]
3-aminopropyldimethylamine	REACH #: 01-2119486842-27 EC: 203-680-9 CAS: 109-55-7 Index: 612-061-00-6	≤10	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	ATE [Oral] = 500 mg/kg	[1]
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	CAS: 68410-23-1	≤10	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411	-	[1]
3-aminopropyltriethoxysilane	EC: 213-048-4 CAS: 919-30-2	≤10	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	ATE [Oral] = 500 mg/kg	[1]
2,4,6-tris(dimethylaminomethyl)phenol	EC: 202-013-9 CAS: 90-72-2	≤5	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318	ATE [Oral] = 500 mg/kg	[1]
m-phenylenebis(methylamine)	EC: 216-032-5 CAS: 1477-55-0	≤5	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412	ATE [Oral] = 500 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1] [2]
Phenol, styrenated	EC: 262-975-0 CAS: 61788-44-1	≤5	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411	-	[1]
polyethylenepolyamines	REACH #: 01-2119487919-13 EC: 292-588-2 CAS: 90640-67-8	≤3	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318	ATE [Oral] = 500 mg/kg ATE [Dermal] = 1100 mg/kg	[1]

## SECTION 3: Composition/information on ingredients

3-aminopropyltriethoxysilane	Index: 612-065-00-8  REACH #: 01-2119480479-24 EC: 213-048-4 CAS: 919-30-2	<1	Skin Sens. 1, H317 Aquatic Chronic 3, H412  Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 <b>See Section 16 for the full text of the H statements declared above.</b>	ATE [Inhalation (vapours)] = 11 mg/l	[1]
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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.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

## SECTION 4: First aid measures

### Over-exposure signs/symptoms

<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

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

<b>Notes to physician</b>	: 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.
<b>Specific treatments</b>	: No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: None known.

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

<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 nitrogen oxides metal oxide/oxides

### 5.3 Advice for firefighters

<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.

## 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 spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
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## SECTION 6: Accidental release measures

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**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. Collect spillage.

**6.3 Methods and materials for containment and cleaning up** : 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.

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

#### 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

Product/ingredient name	Exposure limit values
benzyl alcohol	<b>DFG MAC-values list (Germany, 10/2021). Absorbed through skin.</b> PEAK: 44 mg/m <sup>3</sup> , 4 times per shift, 15 minutes. PEAK: 10 ppm, 4 times per shift, 15 minutes. TWA: 22 mg/m <sup>3</sup> 8 hours. TWA: 5 ppm 8 hours. <b>TRGS 900 OEL (Germany, 7/2021). Absorbed through skin.</b> PEAK: 10 ppm 15 minutes. PEAK: 44 mg/m <sup>3</sup> 15 minutes. TWA: 22 mg/m <sup>3</sup> 8 hours. TWA: 5 ppm 8 hours.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	<b>DFG MAC-values list (Germany, 10/2021). Skin sensitizer.</b>
m-phenylenebis(methylamine)	<b>DFG MAC-values list (Germany, 10/2021). Skin sensitizer.</b>

**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
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.74 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	7.05 mg/m <sup>3</sup>	Workers	Systemic
benzyl alcohol	DNEL	Long term Oral	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term	5.4 mg/m <sup>3</sup>	General	Systemic

## SECTION 8: Exposure controls/personal protection

		Inhalation		population	
	DNEL	Long term Dermal	8 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	20 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	22 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	27 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	110 mg/m <sup>3</sup>	Workers	Systemic
3-aminomethyl-3,5,5-trimethylcyclohexylamine	DNEL	Short term Inhalation	0.073 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	0.073 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Oral	0.526 mg/kg bw/day	General population	Systemic
3-aminopropyl dimethylamine	DNEL	Short term Inhalation	9.8 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	1.2 mg/m <sup>3</sup>	Workers	Systemic
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	DNEL	Long term Oral	0.56 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.56 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.97 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	1.1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3.9 mg/m <sup>3</sup>	Workers	Systemic
3-aminopropyltriethoxysilane	DNEL	Short term Dermal	5 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	8.3 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	17.4 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	59 mg/m <sup>3</sup>	Workers	Systemic



## SECTION 8: Exposure controls/personal protection

2,4,6-tris(dimethylaminomethyl) phenol	DNEL	Long term Oral	1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	2 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3.5 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	14 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Oral	0.075 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.075 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.075 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	0.13 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	0.13 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	0.15 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.53 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Dermal	0.6 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	2.1 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	0.2 mg/m <sup>3</sup>	Workers	Local
m-phenylenebis(methylamine)	DNEL	Long term Dermal	0.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.2 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Oral	0.29 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	1.01 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	1.46 mg/kg bw/day	General population	Systemic
Phenol, styrenated	DNEL	Long term Dermal	2.92 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	4.11 mg/m <sup>3</sup>	Workers	Systemic

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polyethylenepolyamines	DNEL	Long term Dermal	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.57 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	8 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	1600 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	5380 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	0.028 mg/cm <sup>2</sup>	Workers	Local
	DNEL	Long term Dermal	0.43 mg/cm <sup>2</sup>	General population	Local
	DNEL	Short term Dermal	1 mg/cm <sup>2</sup>	General population	Local
	DNEL	Long term Inhalation	0.096 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Oral	0.14 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.54 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Dermal	5 mg/kg bw/day	General population	Systemic
3-aminopropyltriethoxysilane	DNEL	Short term Dermal	8.3 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	17.4 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	59 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Oral	1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	2 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3.5 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	14 mg/m <sup>3</sup>	Workers	Systemic

### PNECs

No PNECs available.

## SECTION 8: Exposure controls/personal protection

### 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. Recommended : 1 - 4 hours (breakthrough time): nitrile rubber ; 4 - 8 hours (breakthrough time): Viton®/butyl rubber

**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. Recommended : organic vapor (Type AX) and particulate filter

**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

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state** : Liquid.

**Color** : Yellow. [Dark]

**Odor** : Characteristic.

**Odor threshold** : Not available.

**Melting point/freezing point** : Not available.

**Initial boiling point and boiling range** : Not available.

**Flammability** : Not available.

**Upper/lower flammability or explosive limits** : Not available.

**Flash point** : Closed cup: >94°C (>201.2°F)

## SECTION 9: Physical and chemical properties

**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
3-aminopropyldimethylamine	215	419	EU A.15
2,4,6-tris(dimethylaminomethyl)phenol	382	719.6	
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	398	748.4	
benzyl alcohol	436	816.8	

**Decomposition temperature** : Not available.

**pH** : Not applicable.

**Viscosity** : Not available.

**Solubility(ies)** :

Not available.

**Solubility in water** : Not available.

**Partition coefficient: n-octanol/ water** : Not applicable.

**Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
3-aminopropyldimethylamine	4.43	0.59	EU A.4			
2,4,6-tris(dimethylaminomethyl)phenol	0.06	0.008				
benzyl alcohol	0.05	0.0067				
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.01	0.0013	OECD 104			
m-phenylenebis(methylamine)	0.01	0.0013	OECD 104			
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	0	0	OECD 104			
polyethylenepolyamines	0	0				

**Relative density** : Not available.

**Density** : 1 g/cm³ [23°C (73.4°F)]

**Vapor density** : Not available.

**Explosive properties** : Not available.

**Oxidizing properties** : Not available.

### Particle characteristics

**Median particle size** : Not applicable.

### 9.2 Other information

**SADT** : Not available.

**SAPT** : Not available.

## 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** : Slightly reactive or incompatible with the following materials: oxidizing materials and acids.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl alcohol	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Mouse	1360 mg/kg	-
	LD50 Oral	Mouse	1360 mg/kg	-
	LD50 Oral	Rabbit	1040 mg/kg	-
	LD50 Oral	Rabbit	1040 mg/kg	-
	LD50 Oral	Rat	1.5 mL/kg	-
	LD50 Oral	Rat	1230 mg/kg	-
	LD50 Oral	Rat	1660 mg/kg	-
3-aminopropyltriethoxysilane	LD50 Dermal	Rabbit	4.29 g/kg	-
	LD50 Dermal	Rabbit	4 mL/kg	-
	LD50 Oral	Mouse	4 g/kg	-
	LD50 Oral	Mouse	4000 mg/kg	-
	LD50 Oral	Mouse	4000 mg/kg	-
	LD50 Oral	Rat	1.57 g/kg	-
	LD50 Oral	Rat	2.83 g/kg	-
	LD50 Oral	Rat	1780 mg/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
	LDLo Oral	Mouse	4000 mg/kg	-
	LDLo Oral	Rat	4000 mg/kg	-
	TDLo Oral	Mouse	500 mg/kg	-

## SECTION 11: Toxicological information

	TDLo Oral	Rat	500 mg/kg	-
3-aminopropyltriethoxysilane	LD50 Oral	Rat	1.57 g/kg	-

**Conclusion/Summary** : Not available.

### Acute toxicity estimates

Route	
Oral	1119.11 mg/kg
Dermal	11228.71 mg/kg
Inhalation (dusts and mists)	8.28 mg/l

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzyl alcohol	Skin - Mild irritant	Man	-	48 hours 16 mg	-
	Skin - Moderate irritant	Pig	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
3-aminopropyltriethoxysilane	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 750 ug	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 mg	-
3-aminopropyltriethoxysilane	Skin - Severe irritant	Rabbit	-	24 hours 5 mg	-

**Conclusion/Summary** : Not available.

### Sensitization

**Conclusion/Summary** : 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)

Not available.

### Aspiration hazard

Not available.

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

### Potential acute health effects

**Eye contact** : Causes serious eye damage.

## SECTION 11: Toxicological information

<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Skin contact</b>	: Causes severe burns. May cause an allergic skin reaction.
<b>Ingestion</b>	: 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 and also 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>	: Not available.
<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>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

Not available.

#### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

## SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
benzyl alcohol	Acute LC50 10000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 15000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute LC50 460000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
benzyl alcohol	0.87	-	low
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99	-	low
3-aminopropyldimethylamine	-0.352	-	low
3-aminopropyltriethoxysilane	1.7	3.4	low
2,4,6-tris(dimethylaminomethyl)phenol	0.219	-	low
m-phenylenebis(methylamine)	0.18	2.69	low
polyethylenepolyamines	-2.65	-	low
3-aminopropyltriethoxysilane	1.7	3.4	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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

Not available.

### 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. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 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.

#### European waste catalogue (EWC)

Waste code	Waste designation
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances






#### 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.

Type of packaging	European waste catalogue (EWC)
15 01 10*	packaging containing residues of or contaminated by 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN1760	UN1760	UN1760
<b>14.2 UN proper shipping name</b>	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, 3-aminopropyl dimethylamine)	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, 3-aminopropyl dimethylamine)	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, 3-aminopropyl dimethylamine)
<b>14.3 Transport hazard class(es)</b>	8  	8  	8 
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	Yes.  Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine, Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	Yes.  Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine, Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	Yes. The environmentally hazardous substance mark is not required.

## SECTION 14: Transport information

### Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Tunnel code (E)**
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**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 authorization

###### 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.

#### Restrictions on Manufacture, Marketing and Use

Country	Product name	Conc.	Designation	Usage
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### Other EU regulations

**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/EU)

Not listed.

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

Not listed.

#### Persistent Organic Pollutants

Not listed.

#### Seveso Directive

This product is controlled under the Seveso Directive.

## SECTION 15: Regulatory information

### Danger criteria

#### Category

E2

### National regulations

**Storage class (TRGS 510)** : 8A

#### Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

### Danger criteria

Category	Reference number
E2	1.3.2

**Hazard class for water** : 2

**Technical instruction on air quality control** : TA-Luft Number 5.2.5: 43.1-78.5%  
TA-Luft Class I - Number 5.2.5: 11.7-16.8%

### International regulations

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

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

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

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</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>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<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
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

### Full text of abbreviated H statements

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
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. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - 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
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
Skin Sens. 1A	SKIN SENSITIZATION - Category 1A
Skin Sens. 1B	SKIN SENSITIZATION - Category 1B

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### Notice to reader

## SECTION 16: Other information

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

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