

# SAFETY DATA SHEET



## Tankguard Type III Comp B

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

#### 1.1 Product identifier

<b>Product name</b>	: Tankguard Type III Comp B
<b>Product code</b>	: 27301
<b>Product description</b>	: Hardener.
<b>Product type</b>	: Liquid.
<b>Other means of identification</b>	: Not available.

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

##### Identified uses

Use in coatings - Industrial use

Use in coatings - Professional use

##### Uses advised against

Not applicable.

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

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P.O. Box 2021  
3202 Sandefjord Norway

Tel: + 47 33 45 70 00  
Fax: +47 33 45 72 42  
sdsjotun@jotun.no

##### National contact

Jotun Italia S.r.l.  
Via Oliviero Petronio, 8  
34015 Muggia (TS)  
Italy

Tel: +39 040 23 98 111/23 98 203  
Fax: +39 040 4606968  
SDSJotun@jotun.com  
info@jotun.it

#### 1.4 Emergency telephone number

CAV "Ospedale Pediatrico Bambino Gesù" – Roma - Tel. (+39) 06.6859.3726  
CAV "Azienda Ospedaliera Università di Foggia" – Foggia - Tel. 800.183.459  
CAV "Azienda Ospedaliera A. Cardarelli" – Napoli - Tel. (+39) 081.545.3333  
CAV Policlinico "Umberto I" – Roma - Tel. (+39) 06.4997.8000  
CAV Policlinico "A. Gemelli" – Roma - Tel. (+39) 06.305.4343  
CAV Azienda Ospedaliera "Careggi" U.O. Tossicologia Medica – Firenze - Tel. (+39) 055.794.7819  
CAV Centro Nazionale di Informazione Tossicologica – Pavia - Tel. (+39) 0382.24.444  
CAV Ospedale Niguarda – Milano - Tel. (+39) 02.66.1010.29  
CAV Azienda Ospedaliera Papa Giovanni XXIII – Bergamo - Tel. 800.88.33.00  
CAV Centro Antiveneni Veneto – Verona - Tel. 800.011.858

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## 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. 1, H314

Eye Dam. 1, H318

Skin Sens. 1, H317

STOT RE 2, H373 (heart, kidneys, liver)

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.

**Hazard statements** :

- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H317 - May cause an allergic skin reaction.
- H373 - May cause damage to organs through prolonged or repeated exposure. (heart, kidneys, liver)
- H411 - Toxic to aquatic life with long lasting effects.

#### Precautionary statements

**General** : Not applicable.

**Prevention** :

- P280 - Wear protective gloves, protective clothing and eye or face protection.
- P273 - Avoid release to the environment.
- P260 - Do not breathe vapour.
- P270 - Do not eat, drink or smoke when using this product.

**Response** :

- P391 - Collect spillage.
- 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.
- P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
- P363 - Wash contaminated clothing before reuse.
- P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

**Storage** : Not applicable.

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

**Supplemental label elements** : 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

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**SECTION 2: Hazards identification**

**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

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
cyclohexanamine, 4,4'-methylenebis-	REACH #: 01-2119541673-38 EC: 217-168-8 CAS: 1761-71-3	≤69	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373 (liver) Aquatic Chronic 3, H412	ATE [Oral] = 350 mg/kg ATE [Dermal] = 1390 mg/kg	[1]
formaldehyde, polymer with benzenamine, hydrogenated	REACH #: 01-2119983522-33 EC: 603-894-6 CAS: 135108-88-2	≤19	Acute Tox. 3, H301 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373 (kidneys) (oral) Aquatic Chronic 3, H412	ATE [Oral] = 300 mg/kg	[1]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≤13	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317	ATE [Oral] = 1200 mg/kg	[1]
benzenedimethanamine, n-(2-phenylethyl) derivs.	REACH #: 01-0000018826-60 EC: 445-790-1 CAS: 404362-22-7	≤13	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373 (heart) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1000 mg/kg M [Acute] = 1 M [Chronic] = 1	[1]
3-aminopropyltriethoxysilane	REACH #: 01-2119480479-24 EC: 213-048-4 CAS: 919-30-2 Index: 612-108-00-0	≤6.8	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317	ATE [Oral] = 1780 mg/kg	[1]

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

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

Type

[1] Substance classified with a health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- 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**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.

See toxicological information (Section 11)

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO<sub>2</sub>, powders, water spray.

**Unsuitable extinguishing media** : Do not use water jet.

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

**Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

**Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

**Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

**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

: Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

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

: 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 (see Section 13). Preferably clean with a detergent. Avoid using solvents.

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

### 7.1 Precautions for safe handling

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.

In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.

Keep away from heat, sparks and flame. No sparking tools should be used.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

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## SECTION 7: Handling and storage

Put on appropriate personal protective equipment (see Section 8).  
 Never use pressure to empty. Container is not a pressure vessel.  
 Always keep in containers made from the same material as the original one.  
 Comply with the health and safety at work laws.  
 Do not allow to enter drains or watercourses.

### Information on fire and explosion protection

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

Liquid paint and washing water with paint residues must not be emptied into drains or watercourses. It must be delivered to an approved local environmental protection station.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

#### Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

#### Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

### Seveso Directive - Reporting thresholds

#### Danger criteria

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

See Technical Data Sheet / packaging for further information.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

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

## SECTION 8: Exposure controls/personal protection

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

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : 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.

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## SECTION 8: Exposure controls/personal protection

### DNELs/DMELs

#### Product/ingredient name

cyclohexanamine, 4,4'-methylenebis-

#### Result

**DNEL - Workers - Short term - Dermal**

0.63 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Short term - Inhalation**

1.5 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

0.21 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Long term - Inhalation**

0.5 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

0.125 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Consumers - Long term - Oral**

0.125 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

0.053 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Long term - Inhalation**

0.13 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Inhalation**

0.2 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

2 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Short term - Inhalation**

2 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Short term - Dermal**

6 mg/kg bw/day

Effects: Systemic

formaldehyde, polymer with benzenamine, hydrogenated

**DNEL - General population - Long term - Oral**

4 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Long term - Dermal**

4 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Long term - Inhalation**

5.4 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

8 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Short term - Oral**

20 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Short term - Dermal**

20 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Long term - Inhalation**

22 mg/m<sup>3</sup>

Effects: Systemic

benzyl alcohol

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## SECTION 8: Exposure controls/personal protection

benzenedimethanamine, n-(2-phenylethyl)  
derivs.

**DNEL - General population - Short term - Inhalation**

27 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Short term - Dermal**

40 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Short term - Inhalation**

110 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - General population - Long term - Inhalation**

0.002 mg/m<sup>3</sup>

Effects: Local

**DNEL - Workers - Long term - Inhalation**

0.004 mg/m<sup>3</sup>

Effects: Local

**DNEL - General population - Long term - Oral**

0.03 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Long term - Dermal**

0.03 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Long term - Inhalation**

0.04 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

0.05 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Long term - Inhalation**

0.18 mg/m<sup>3</sup>

Effects: Systemic

3-aminopropyltriethoxysilane

**DNEL - Workers - Short term - Dermal**

8.3 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Short term - Inhalation**

59 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - Workers - Long term - Dermal**

8.3 mg/kg bw/day

Effects: Systemic

**DNEL - Workers - Long term - Inhalation**

59 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - General population - Consumers - Short term - Dermal**

5 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Consumers - Short term - Inhalation**

17.4 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - General population - Consumers - Long term - Dermal**

5 mg/kg bw/day

Effects: Systemic

**DNEL - General population - Consumers - Long term - Inhalation**

17.4 mg/m<sup>3</sup>

Effects: Systemic

**DNEL - General population - Long term - Oral**

1 mg/kg bw/day

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## SECTION 8: Exposure controls/personal protection

Effects: Systemic  
**DNEL - General population - Long term - Dermal**  
 1 mg/kg bw/day  
 Effects: Systemic  
**DNEL - Workers - Long term - Dermal**  
 2 mg/kg bw/day  
 Effects: Systemic  
**DNEL - General population - Long term - Inhalation**  
 3.5 mg/m<sup>3</sup>  
 Effects: Systemic  
**DNEL - Workers - Long term - Inhalation**  
 14 mg/m<sup>3</sup>  
 Effects: Systemic

### PNECs

#### Product/ingredient name

cyclohexanamine, 4,4'-methylenebis-

#### Result

**Fresh water**  
 0.008 mg/l  
**Marine**  
 0.0008 mg/l  
**Sewage Treatment Plant**  
 80 mg/l  
**Fresh water sediment**  
 0.39 mg/kg dwt  
**Marine water sediment**  
 0.039 mg/kg dwt

benzyl alcohol

**Soil**  
 0.072 mg/kg dwt  
**Fresh water**  
 1 mg/l  
**Marine**  
 0.1 mg/l  
**Sewage Treatment Plant**  
 39 mg/l  
**Fresh water sediment**  
 5.27 mg/kg dwt  
**Marine water sediment**  
 0.527 mg/kg dwt

3-aminopropyltriethoxysilane

**Soil**  
 0.456 mg/kg dwt  
**Fresh water**  
 0.33 mg/l  
**Marine**  
 0.033 mg/l  
**Sewage Treatment Plant**  
 13 mg/l  
**Fresh water sediment**  
 1.2 mg/kg dwt  
**Marine water sediment**  
 0.12 mg/kg dwt  
**Soil**  
 0.05 mg/kg dwt

### 8.2 Exposure controls

#### Appropriate engineering controls

: Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

#### Individual protection measures

## SECTION 8: Exposure controls/personal protection

**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 to EN 166 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

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.

#### Gloves

Wear suitable gloves tested to EN 374.

Recommended, gloves(breakthrough time) > 8 hours: neoprene (> 0.35 mm), 4H/Silver Shield® (> 0.07 mm), Viton® (> 0.7 mm)

May be used, gloves(breakthrough time) 4 - 8 hours: nitrile rubber (> 0.75 mm), butyl rubber (> 0.4 mm)

Not recommended, gloves(breakthrough time) < 1 hour: PVC (> 0.5 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

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** : Use chemical-resistant protective suit / disposable overall.

Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

**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** : If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. Use respiratory mask with charcoal and dust filter when spraying this product, according to EN 14387 (as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoalfilter.

**Environmental exposure controls** : Do not allow to enter drains or watercourses.

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**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****Appearance**

<b>Physical state</b>	: Liquid.
<b>Colour</b>	: Clear.
<b>Odour</b>	: Characteristic.
<b>Odour threshold</b>	: Not applicable.
<b>Melting point/freezing point</b>	: Not applicable.
<b>Boiling point or initial boiling point and boiling range</b>	: Not available.
<b>Flammability</b>	: Not applicable.
<b>Lower and upper explosion limit</b>	: Not available.
<b>Flash point</b>	: Closed cup: 90°C
<b>Auto-ignition temperature</b>	: Not available.

Ingredient name	°C	°F	Method
cyclohexanamine, 4,4'-methylenebis-benzyl alcohol	300 436	572 816.8	EU A.15

<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>Viscosity</b>	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.

**Solubility** :

Media	Result
cold water	Not soluble
hot water	Not soluble

**Solubility in water** : Not available.**Partition coefficient: n-octanol/ water** : Not applicable.**Vapour pressure** : Not available.

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
benzyl alcohol	0.05	0.0067	OECD 104			
cyclohexanamine, 4,4'-methylenebis-	0.00041	0.000055				
formaldehyde, polymer with benzenamine, hydrogenated	0.00041	0.000055				

**Density** : 0.984 g/cm<sup>3</sup>**Vapour density** : Not available.**Particle characteristics****Median particle size** : Not applicable.**9.2 Other information****9.2.1 Information with regard to physical hazard classes****Explosive properties** : Not available.**Oxidising properties** : Not available.**9.2.2 Other safety characteristics**

No additional information.

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## 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** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- 10.6 Hazardous decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

## SECTION 11: Toxicological information

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

#### Acute toxicity

##### Product/ingredient name

cyclohexanamine, 4,4'-methylenebis-

##### Result

**Rat - Oral - LD50**

350 mg/kg

**Rat - Dermal - LD50**

1390 mg/kg

formaldehyde, polymer with benzenamine, hydrogenated

**Rat - Oral - LD50**

300 mg/kg

benzyl alcohol

**Rat - Oral - LD50**

1230 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Behavioral - Excitement Behavioral - Coma

3-aminopropyltriethoxysilane

**Rat - Oral - LD50**

1780 mg/kg

**Conclusion/Summary [Product]** : Not available.

#### 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)
Tankguard Type III Comp B	412.9	2288.1	N/A	N/A	N/A
cyclohexanamine, 4,4'-methylenebis-	350	1390	N/A	N/A	N/A
formaldehyde, polymer with benzenamine, hydrogenated	300	N/A	N/A	N/A	N/A
benzyl alcohol	1200	N/A	N/A	N/A	N/A
benzenedimethanamine, n-(2-phenylethyl) derivs.	1000	N/A	N/A	N/A	N/A
3-aminopropyltriethoxysilane	1780	N/A	N/A	N/A	N/A

#### Skin corrosion/irritation

Not available.

**Conclusion/Summary [Product]** : Not available.

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## SECTION 11: Toxicological information

### Serious eye damage/eye irritation

#### Product/ingredient name

cyclohexanamine, 4,4'-methylenebis-

benzyl alcohol

#### Result

**Rabbit - Eyes - Severe irritant**

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 10 microliters

**Mammal - species unspecified - Eyes - Mild irritant**

**Conclusion/Summary [Product]** : Not available.

### Respiratory corrosion/irritation

Not available.

**Conclusion/Summary [Product]** : Not available.

### Respiratory or skin sensitization

#### Product/ingredient name

cyclohexanamine, 4,4'-methylenebis-

benzenedimethanamine, n-(2-phenylethyl)  
derivs.

#### Result

**Mammal - species unspecified - skin**

Result: Sensitising

**Mammal - species unspecified - skin**

Result: Sensitising

#### Skin

**Conclusion/Summary [Product]** : Not available.

#### Ingredient name

cyclohexanamine, 4,4'-methylenebis-  
benzenedimethanamine, n-(2-phenylethyl)  
derivs.

#### Conclusion/Summary

May cause an allergic skin reaction.

May cause an allergic skin reaction.

#### Respiratory

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

#### Product/ingredient name

#### Result

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## SECTION 11: Toxicological information

cyclohexanamine, 4,4'-methylenebis-	STOT RE 2, H373 (liver)
formaldehyde, polymer with benzenamine, hydrogenated	STOT RE 2, H373 (kidneys) (oral)
benzenedimethanamine, n-(2-phenylethyl) derivs.	STOT RE 2, H373 (heart)

### Aspiration hazard

Not available.

### Information on likely routes of exposure

Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes severe burns. May cause an allergic skin reaction.  
**Ingestion** : Harmful if swallowed.

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

**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

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

#### Short term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**Conclusion/Summary [Product]** : Not available.

**General** : 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.

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

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

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

## 11.2 Information on other hazards

### 11.2.1 Endocrine disrupting properties

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

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**SECTION 11: Toxicological information****11.2.2 Other information**

Not available.

**SECTION 12: Ecological information****12.1 Toxicity**

There are no data available on the mixture itself.  
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

**Product/ingredient name**

cyclohexanamine, 4,4'-methylenebis-

**Result****Acute - LC50**

Fish  
46 mg/l [96 hours]

**Acute - EC50**

Daphnia  
6.84 mg/l [48 hours]

**Acute - IC50**

Algae  
140 mg/l [72 hours]

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Not available.

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
cyclohexanamine, 4,4'-methylenebis-	-	-	Not readily
benzyl alcohol	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
cyclohexanamine, 4,4'-methylenebis-	2.03	-	Low
formaldehyde, polymer with benzenamine, hydrogenated	-	209 to 219 [OECD 305 C]	Low
benzyl alcohol	0.87	<100	Low
3-aminopropyltriethoxysilane	1.7	3.4 [OECD 305 C]	Low

**12.4 Mobility in soil****Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
cyclohexanamine, 4,4'-methylenebis-	2.2	144.598
benzyl alcohol	1.1	12.6442
3-aminopropyltriethoxysilane	2.5	282.955

**Results of PMT and vPvM assessment**

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**SECTION 12: Ecological information**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
cyclohexanamine, 4,4'-methylenebis-	No	No	No	No	No	No	No
formaldehyde, polymer with benzenamine, hydrogenated	No	No	No	No	No	No	No
benzyl alcohol	No	No	No	No	No	No	No
benzenedimethanamine, n-(2-phenylethyl) derivs.	No	No	No	No	No	No	No
3-aminopropyltriethoxysilane	No	No	No	No	No	No	No

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment****Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
cyclohexanamine, 4,4'-methylenebis-	N/A	N/A	N/A	Yes	N/A	N/A	N/A
formaldehyde, polymer with benzenamine, hydrogenated	No	No	No	No	No	No	No
benzyl alcohol	No	N/A	No	No	No	N/A	No
benzenedimethanamine, n-(2-phenylethyl) derivs.	N/A	N/A	N/A	Yes	N/A	N/A	N/A
3-aminopropyltriethoxysilane	No	N/A	No	No	No	N/A	No

**Regulation (EC) No. 1272/2008 [CLP]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
cyclohexanamine, 4,4'-methylenebis-	No	No	No	No	No	No	No
formaldehyde, polymer with benzenamine, hydrogenated	No	No	No	No	No	No	No
benzyl alcohol	No	No	No	No	No	No	No
benzenedimethanamine, n-(2-phenylethyl) derivs.	No	No	No	No	No	No	No
3-aminopropyltriethoxysilane	No	No	No	No	No	No	No

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]****12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

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## 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 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.

**Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

#### European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

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

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Type of packaging	European waste catalogue (EWC)
CEPE Guidelines	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	ADN	IMDG	IATA
<b>14.1 UN number or ID number</b>	UN2735	UN2735	UN2735	UN2735
<b>14.2 UN proper shipping name</b>	Amines, liquid, corrosive, n.o.s. (benzenedimethanamine, n-(2-phenylethyl) derivs., 3-aminopropyltriethoxysilane)	Amines, liquid, corrosive, n.o.s. (benzenedimethanamine, n-(2-phenylethyl) derivs., 3-aminopropyltriethoxysilane)	Amines, liquid, corrosive, n.o.s. (1,3-Benzenedimethanamine, N-(2-phenylethyl) derivs., 3-aminopropyltriethoxysilano). Inquinante marino (1,3-Benzenedimethanamine, N-(2-phenylethyl) derivs.)	Amines, liquid, corrosive, n.o.s. (1,3-Benzenedimethanamine, N-(2-phenylethyl) derivs., 3-aminopropyltriethoxysilano)

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## SECTION 14: Transport information

<b>14.3 Transport hazard class(es)</b>	8 	8 	8 	8 
<b>14.4 Packing group</b>	II	II	II	II
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Hazard identification number** 80  
**Special provisions** 274  
**Tunnel code** (E)
- ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-A, S-B  
Segregation Group: 18 - Alkalis
- 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 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 authorisation

Annex XIV

None of the components are listed above the relevant limit.

Substances of very high concern

None of the components are listed above the relevant limit.

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

Product/ingredient name	%	Designation [Usage]
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**Labelling** : Not applicable.

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

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## SECTION 15: Regulatory information

### Other EU regulations

**VOC** : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

**VOC for Ready-for-Use Mixture** : Not available.

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

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

**Explosive precursors** : Not applicable.

### Ozone depleting substances (EU 2024/590)

Not listed.

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

Not listed.

### Persistent Organic Pollutants

Not listed.

### Seveso Directive

This product may add to the calculation for determining whether a site is within the scope of the Seveso Directive on major accident hazards.

### National regulations

**Industrial use** : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

**D.Lgs. 152/06** : Not determined.

### 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.

**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.

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## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

### Abbreviations and acronyms

: ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 B = Bioaccumulative  
 BCF = Bioconcentration Factor  
 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  
 IATA = International Air Transport Association  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 M = Mobile  
 N/A = Not available  
 P = Persistent  
 PBT = Persistent, Bioaccumulative and Toxic  
 PMT = Persistent, Mobile and Toxic  
 PNEC = Predicted No Effect Concentration  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 T = Toxic  
 vB = Very Bioaccumulative  
 vM = Very Mobile  
 vP = Very Persistent  
 vPvB = Very Persistent and Very Bioaccumulative  
 vPvM = Very Persistent and Very Mobile

### 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. 1, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 2, H373 (heart, kidneys, liver)	Calculation method
Aquatic Chronic 2, H411	Calculation method

### Full text of abbreviated H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful 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.
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]

*Tankguard Type III Comp B***SECTION 16: Other information**

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	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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