

# SAFETY DATA SHEET

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: 23



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

### 1.1 Product identifier

**Product name** : SIGMAZINC 102 HS / 109 HS HARDENER

**Product code** : 00218768

#### Other means of identification

Not available.

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

**Product use** : Professional applications, Used by spraying.

**Use of the substance/  
mixture** : Coating.

**Uses advised against** : Product is not intended, labelled or packaged for consumer use.

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

PPG Coatings Belgium BV/SRL  
Tweemontstraat 104  
B-2100 Deurne  
Belgium  
Telephone +32-33606311  
Fax +32-33606435

**e-mail address of person  
responsible for this SDS** : PMC.Safety@PPG.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : Nødtelefon: Giftinformasjonen: 22 59 13 00

#### Supplier

+31 20 4075210

## 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]

Flam. Liq. 3, H226

Skin Corr. 1C, H314

Eye Dam. 1, H318

Skin Sens. 1, H317

STOT SE 3, H335

Aquatic Chronic 2, H411

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

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

**SECTION 2: Hazards identification**

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

**2.2 Label elements****Hazard pictograms**

:

**Signal word**

: Danger

**Hazard statements**

: Flammable liquid and vapour.  
 Causes severe skin burns and eye damage.  
 May cause an allergic skin reaction.  
 May cause respiratory irritation.  
 Toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

: Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.

**Response**

: Collect spillage. IF INHALED: Immediately call a POISON CENTER or doctor.

**Storage**

: Store in a well-ventilated place. Keep container tightly closed.

**Disposal**

: Not applicable.

P280, P210, P273, P391, P304 + P310, P403 + P233

**Hazardous ingredients**

☑ Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Amides, from C18-unsatd. fatty acid dimers, tall-oil fatty acids and triethylenetetramine, reaction products with bisphenol A-epichlorohydrin polymer

xylene

2-methylpropan-1-ol

2,4,6-tris(dimethylaminomethyl)phenol

3,6-diazaoctanethylenediamin

**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****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**

: 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**

: Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures**

: Mixture

Product/ingredient name	Identifiers	% by weight	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine Amides, from C18-unsatd. fatty acid dimers, tall-oil fatty acids and triethylenetetramine, reaction products with bisphenol A-epichlorohydrin polymer xylene	REACH #: 01-2119972320-44 EC: 500-191-5 CAS: 68082-29-1	≥25 - ≤50	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Chronic 2, H411	[1]
	CAS: 68953-09-3	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]
	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥10 - ≤25	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304	[1] [2]
2-methylpropan-1-ol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≥10 - <20	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≥10 - ≤25	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	[1]
2,4,6-tris(dimethylaminomethyl) phenol	REACH #: 01-2119560597-27 EC: 202-013-9 CAS: 90-72-2 Index: 603-069-00-0	≥5.0 - ≤10	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317	[1]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≥1.0 - ≤5.0	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304	[1] [2]
3,6-diazaoctanethylenediamin	EC: 203-950-6 CAS: 112-24-3 Index: 612-059-00-5	≥1.0 - <5.0	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412 <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

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.

Xylene: Several REACH registrations cover the REACH registered substance with xylene isomers, ethylbenzene (and toluene). The other REACH Registrations include: 01-2119555267-33 reaction mass of ethylbenzene and m-xylene and p-xylene, 01-2119486136-34 Aromatic hydrocarbons, C8, 01-2119539452-40 reaction mass of ethylbenzene and xylene.

Type

English (GB)

Norway

3/17

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

- [1] Substance classified with a health or environmental hazard  
 [2] Substance with a workplace exposure limit  
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
 [5] Substance of equivalent concern  
 [6] Additional disclosure due to company policy

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

**SUB codes represent substances without registered CAS Numbers.**

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

- 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****Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Corrosive to the digestive tract. Causes burns.

**Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
 pain  
 watering  
 redness
- Inhalation** : Adverse symptoms may include the following:  
 respiratory tract irritation  
 coughing
- Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 dryness  
 cracking  
 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.

**SECTION 4: First aid measures**

**Specific treatments** : No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

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

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

**Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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 combustion products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
halogenated compounds

**5.3 Advice for firefighters**

**Special precautions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

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

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.

**SECTION 6: Accidental release measures**

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

The information in this section contains generic advice and guidance. 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**

- 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 vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside.
- 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 between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**7.3 Specific end use(s)**

See Section 1.2 for Identified uses.

**SECTION 8: Exposure controls/personal protection**

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).

**8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
xylene	<b>FOR-2011-12-06-1358 (Norway, 4/2020). Absorbed through skin.</b> TWA: 108 mg/m <sup>3</sup> 8 hours. TWA: 25 ppm 8 hours.
2-methylpropan-1-ol	<b>FOR-2011-12-06-1358 (Norway, 4/2020). Absorbed through skin.</b> CEIL: 75 mg/m <sup>3</sup> CEIL: 25 ppm
ethylbenzene	<b>FOR-2011-12-06-1358 (Norway, 4/2020). Absorbed through skin. Carcinogen.</b> TWA: 20 mg/m <sup>3</sup> 8 hours. TWA: 5 ppm 8 hours.
3,6-diazaoctanethylenediamin	<b>FOR-2011-12-06-1358 (Norway, 4/2020). Skin sensitiser.</b> TWA: 6 mg/m <sup>3</sup> 8 hours. TWA: 1 ppm 8 hours.

**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**

Product/ingredient name	Type	Exposure	Value	Population	Effects
xylene	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
	DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
2-methylpropan-1-ol	DNEL	Long term Inhalation	55 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	310 mg/m <sup>3</sup>	Workers	Local
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 Inhalation	5.4 mg/m <sup>3</sup>	General population	Systemic

**SECTION 8: Exposure controls/personal protection**

ethylbenzene	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
	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	15 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m <sup>3</sup>	Workers	Local

**PNECs**

Product/ingredient name	Type	Compartment Detail	Value	Method Detail	
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	-	Fresh water	0.043 mg/l	Assessment Factors	
	-	Marine water	0 mg/l	Assessment Factors	
	-	Sewage Treatment Plant	3.84 mg/l	Assessment Factors	
	-	Fresh water sediment	434.02 mg/kg dwt	Equilibrium Partitioning	
	-	Marine water sediment	43.4 mg/kg dwt	Equilibrium Partitioning	
	-	Soil	86.78 mg/kg dwt	Equilibrium Partitioning	
	xylene	-	Fresh water	0.327 mg/l	-
		-	Marine water	0.327 mg/l	-
		-	Sewage Treatment Plant	6.58 mg/l	-
		-	Fresh water sediment	12.46 mg/kg dwt	-
-		Marine water sediment	12.46 mg/kg dwt	-	
-		Soil	2.31 mg/kg	-	
2-methylpropan-1-ol		-	Fresh water	0.4 mg/l	Assessment Factors
		-	Marine water	0.04 mg/l	Assessment Factors
		-	Sewage Treatment Plant	10 mg/l	Assessment Factors
		-	Fresh water sediment	1.56 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	0.156 mg/kg dwt	-	
	-	Soil	0.076 mg/kg dwt	Equilibrium Partitioning	
	ethylbenzene	-	Fresh water	0.1 mg/l	Assessment Factors
		-	Marine water	0.01 mg/l	Assessment Factors
		-	Sewage Treatment Plant	9.6 mg/l	Assessment Factors
		-	Fresh water sediment	13.7 mg/kg dwt	Equilibrium Partitioning
-		Marine water sediment	1.37 mg/kg dwt	Equilibrium Partitioning	
-		Soil	2.68 mg/kg dwt	Equilibrium Partitioning	
-		Secondary Poisoning	20 mg/kg	-	

**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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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**

: Chemical splash goggles and face shield. Use eye protection according to EN 166.



**SECTION 8: Exposure controls/personal protection****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. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. 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.

**Gloves**

: nitrile neoprene

**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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**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**

: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3

**Environmental exposure controls**

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

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

**9.1 Information on basic physical and chemical properties****Appearance****Physical state**

: Liquid.

**Colour**

: Colourless.

**Odour**

: Amine-like.

**Odour threshold**

: Not available.

**pH**

: insoluble in water.

**Melting point/freezing point**

: May start to solidify at the following temperature: 12°C (53.6°F) This is based on data for the following ingredient: 3,6-diazaoctanethylenediamin. Weighted average: -64.11°C (-83.4°F)

**Initial boiling point and boiling range**

: >37.78°C

**Flash point**

: Closed cup: 31°C

**Evaporation rate**

:

**SECTION 9: Physical and chemical properties**

Highest known value: 0.84 (ethylbenzene) Weighted average: 0.5 compared with butyl acetate

- Flammability (solid, gas)** : liquid
- Upper/lower flammability or explosive limits** : Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)
- Vapour pressure** :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<input checked="" type="checkbox"/> methylpropan-1-ol	<12	<1.6	DIN EN 13016-2			

- Vapour density** : Highest known value: 5.04 (Air = 1) (3,6-diazaoctanethylenediamin). Weighted average: 3.43 (Air = 1)
- Relative density** : 0.95
- Solubility(ies)** : Insoluble in the following materials: cold water.
- Partition coefficient: n-octanol/ water** :  Not applicable.
- Auto-ignition temperature** : 335°C (635°F)
- Decomposition temperature** : Stable under recommended storage and handling conditions (see Section 7).
- Viscosity** :  kinematic (40°C): >21 mm<sup>2</sup>/s
- Explosive properties** : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.
- Oxidising properties** : Product does not present an oxidizing hazard.

**9.2 Other information**

No additional information.

**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** : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
- 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** :  Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides halogenated compounds

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
2-methylpropan-1-ol	LC50 Inhalation Vapour	Rat	24.6 mg/l	4 hours
	LD50 Dermal	Rabbit	2460 mg/kg	-
	LD50 Oral	Rat	2830 mg/kg	-
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
2,4,6-tris(dimethylaminomethyl)phenol	LD50 Dermal	Rabbit	1.28 g/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
ethylbenzene	LC50 Inhalation Vapour	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
3,6-diazaoctanethylenediamin	LD50 Dermal	Rabbit	1465 mg/kg	-
	LD50 Oral	Rat	1716 mg/kg	-

**Conclusion/Summary** : There are no data available on the mixture itself.

**Acute toxicity estimates**

Route	ATE value
Oral	6069.19 mg/kg
Dermal	7198.1 mg/kg
Inhalation (vapours)	69.76 mg/l
Inhalation (dusts and mists)	11.17 mg/l

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Skin - Irritant	Human	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-
xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
2,4,6-tris(dimethylaminomethyl)phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days

**Conclusion/Summary**

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

**Sensitisation**

Product/ingredient name	Route of exposure	Species	Result
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	skin	Mouse	Sensitising
2,4,6-tris(dimethylaminomethyl)phenol	skin	Guinea pig	Sensitising
3,6-diazaoctanethylenediamin	skin	Guinea pig	Sensitising

**Conclusion/Summary**

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

**SECTION 11: Toxicological information****Mutagenicity**

**Conclusion/Summary** : There are no data available on the mixture itself.

**Carcinogenicity**

**Conclusion/Summary** : There are no data available on the mixture itself.

**Reproductive toxicity**

**Conclusion/Summary** : There are no data available on the mixture itself.

**Teratogenicity**

**Conclusion/Summary** : There are no data available on the mixture itself.

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

Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 3	-	Respiratory tract irritation
2-methylpropan-1-ol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

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

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

**Aspiration hazard**

Product/ingredient name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

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

**Potential acute health effects**

**Inhalation** : May cause respiratory irritation.

**Ingestion** : Corrosive to the digestive tract. Causes burns.

**Skin contact** : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

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

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

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Ingestion** : Adverse symptoms may include the following:  
stomach pains

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur

**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

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

**SECTION 11: Toxicological information**

**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** : Not available.

**General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. 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.

**Other information** : Not available.

Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

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

Product/ingredient name	Result	Species	Exposure
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	EC10 1.78 mg/l	Algae	72 hours
2-methylpropan-1-ol	Acute EC50 1100 mg/l	Daphnia	48 hours
2,4,6-tris(dimethylaminomethyl)phenol	Acute LC50 175 mg/l	Fish	96 hours
ethylbenzene	Acute LC50 150 to 200 mg/l	Fish	96 hours
	Fresh water		

**Conclusion/Summary** : There are no data available on the mixture itself.

**12.2 Persistence and degradability**

**Conclusion/Summary** : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	-	-	Not readily
xylene	-	-	Readily
benzyl alcohol	-	-	Readily
ethylbenzene	-	-	Readily

**12.3 Bioaccumulative potential**

**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
xylene	3.12	7.4 to 18.5	low
2-methylpropan-1-ol	1	-	low
benzyl alcohol	0.87	-	low
2,4,6-tris(dimethylaminomethyl)phenol	0.219	-	low
ethylbenzene	3.6	79.43	low
3,6-diazaoctanethylenediamin	-1.66 to -1.4	-	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 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 minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

**European waste catalogue (EWC)**

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

**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.

Type of packaging	European waste catalogue (EWC)
Container	15 01 06 mixed packaging

**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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**14. Transport information**

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3469	UN3469	UN3469	UN3469
14.2 UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
14.3 Transport hazard class(es)	3 (8)	3 (8)	3 (8)	3 (8)
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	Not applicable.	(Polyamide)	Not applicable.

**Additional information**

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Tunnel code** : (D/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.
- 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 applicable.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulation (EC) No. 1907/2006 (REACH)****Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

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

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

Not listed.

**SECTION 15: Regulatory information****Seveso Directive**

This product is controlled under the Seveso Directive.

**Danger criteria****Category**

P5c  
E2

Product/ingredient name	List name	Name on list	Classification	Notes
ethylbenzene	Norway Occupational Exposure Limits	etylbenzen	Carc. K	-

**National regulations****References**

: - Forskrift om klassifisering, merking og emballering av stoffer og stoffblandinger (CLP) av 16.06.2012 med senere endringer - Forskrift om registrering, vurdering, godkjenning og begrensning av kjemikalier (REACH-forskriften) av 30. mai 2008 med senere endringer. - Forskrift om gjenvinning og behandling av avfall (avfallsforskriften). 01.06 2004 nr. 930, med endringer. - FOR 2009-04-01 nr 384: Forskrift om landtransport av farlig gods med senere endringer, Direktoratet for samfunnssikkerhet og beredskap.

**15.2 Chemical safety assessment**

: No Chemical Safety Assessment has been carried out.

**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]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

PBT = Persistent, Bioaccumulative and Toxic

vPvB = Very Persistent and Very Bioaccumulative

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

IMDG = International Maritime Dangerous Goods

IATA = International Air Transport Association

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

Classification	Justification
Flam. Liq. 3, H226 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

**Full text of abbreviated H statements**



**SECTION 16: Other information**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
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 Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
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 SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**History**

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**Disclaimer**

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