

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

## SAFETY DATA SHEET

Hardener 92133

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

#### 1.1 Product identifier

**Product name** : Hardener 92133  
**SDS code** : A36880  
**UFI** : 2SCA-S071-V004-XJCJ

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

Identified uses
Industrial use
Uses advised against
All other uses

**Product use** : FOR INDUSTRIAL USE ONLY

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

AkzoNobel Aerospace Coatings  
Rijksstraatweg 31  
2171 AJ Sassenheim  
P.O. Box 3  
2170 BA Sassenheim  
The Netherlands  
Tel. +31 (0)71 308 6944

**e-mail address of person responsible for this SDS** : PSRA\_SSH@akzonobel.com

#### Supplier

**Telephone number** : + 31 (0)71 308 6944  
**Hours of operation** : 24 hours

### 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  
Acute Tox. 4, H332  
Skin Corr. 1B, H314  
Eye Dam. 1, H318  
Skin Sens. 1, H317  
Repr. 1B, H360F  
STOT SE 3, H335

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SECTION 2: Hazards identification






STOT SE 3, H336  
STOT RE 2, H373  
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 : Flammable liquid and vapor.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
Harmful if inhaled.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
May damage fertility.  
May cause damage to organs through prolonged or repeated exposure.  
Toxic to aquatic life with long lasting effects.

Precautionary statements

- Prevention

:

Obtain special instructions before use. 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. Do not breathe vapor.
- Response

:

Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage

:

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

:

Dispose of contents and container in accordance with all local, regional, national or international regulations.
- Hazardous ingredients

:

Reaction mass of ethylbenzene and xylene  
2-methylpropan-1-ol  
2-piperazin-1-ylethylamine  
3-aminopropyltriethoxysilane  
m-phenylenebis(methylamine)  
4-nonylphenol, branched  
bisphenol A
- Supplemental label elements

:

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

:

Restricted to professional users.

SECTION 2: Hazards identification

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119488216-32 EC: 905-588-0 Index: 601-022-00-9	≥25 - ≤50	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (gases)] = 5000 ppm	[1] [2]
2-methylpropan-1-ol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≥25 - ≤50	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	-	[1]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≤7.9	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	ATE [Oral] = 500 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1]
2-piperazin-1-ylethylamine	EC: 205-411-0 CAS: 140-31-8 Index: 612-105-00-4	≤4.3	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]
3-aminopropyltriethoxysilane	EC: 213-048-4 CAS: 919-30-2 Index: 612-108-00-0	≤5	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	ATE [Oral] = 500 mg/kg	[1]
m-phenylenebis (methylamine)	REACH #: 01-2119480150-50	≤3	Acute Tox. 4, H302 Acute Tox. 4, H332	ATE [Oral] = 500 mg/kg	[1]

SECTION 3: Composition/information on ingredients

	EC: 216-032-5 CAS: 1477-55-0		Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 EUH071	ATE [Inhalation (dusts and mists)] = 1.5 mg/l	
4-nonylphenol, branched	EC: 284-325-5 CAS: 84852-15-3 Index: 601-053-00-8	≤2.2	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361fd Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 1 M [Chronic] = 1	[1] [3]
bisphenol A	EC: 201-245-8 CAS: 80-05-7	≤2.2	Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 1B, H360F STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 <b>See Section 16 for the full text of the H statements declared above.</b>	M [Acute] = 1 M [Chronic] = 10	[1] [2] [3]

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 physical, health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact

: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation

: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact

: Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

- 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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 2-piperazin-1-ylethylamine, 3-aminopropyltriethoxysilane, m-phenylenebis(methylamine), bisphenol A. May produce an allergic reaction.

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  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact

: Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

SECTION 4: First aid measures

Ingestion	: Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations
4.3 Indication of any immediate medical attention and special treatment needed	
Notes to physician	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO <sub>2</sub> , 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 vapor. 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 dioxide carbon monoxide nitrogen oxides metal oxide/oxides
5.3 Advice for firefighters	
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If 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".



SECTION 6: Accidental release measures

- 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

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.

Large spill

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

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

SECTION 7: Handling and storage

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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.
- 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 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 oxidizing 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 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

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SECTION 7: Handling and storage

Category	Notification and MAPP threshold	Safety report threshold
P5c E2	5000 tonne 200 tonne	50000 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
Reaction mass of ethylbenzene and xylene	<b>EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> STEL: 442 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 221 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
bisphenol A	<b>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values</b> TWA: 2 mg/m³ 8 hours. Form: Inhalable fraction

**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
Reaction mass of ethylbenzene and xylene	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	14.8 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	108 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	289 mg/m³	Workers	Local



## SECTION 8: Exposure controls/personal protection

2-methylpropan-1-ol	DNEL	Short term Inhalation	289 mg/m <sup>3</sup>	Workers	Systemic
	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
	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
2-piperazin-1-ylethylamine	DNEL	Short term Inhalation	110 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	15 µg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Inhalation	80 µg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	10.6 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	10.6 mg/m <sup>3</sup>	Workers	Systemic
3-aminopropyltriethoxysilane	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 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	0.08 mg/kg bw/day	General population	Systemic
4-nonylphenol, branched	DNEL	Short term Oral	0.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.4 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	0.5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	0.5 mg/m <sup>3</sup>	Workers	Systemic

SECTION 8: Exposure controls/personal protection

bisphenol A	DNEL	Short term Inhalation	0.8 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	1 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	3.8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	7.5 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	7.6 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	15 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	0.0019 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.0019 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	0.004 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.004 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.031 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	0.031 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	1 mg/m³	General population	Local
	DNEL	Long term Inhalation	1 mg/m³	General population	Local
	DNEL	Short term Inhalation	1 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	1 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	2 mg/m³	Workers	Local
	DNEL	Long term Inhalation	2 mg/m³	Workers	Local
	DNEL	Short term Inhalation	2 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	2 mg/m³	Workers	Systemic

PNECs

No PNECs available.

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, vapor 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.

SECTION 8: Exposure controls/personal protection

Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.  When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time >480 minutes according to EN374) is recommended. Recommended gloves: Viton ® or Nitrile, thickness ≥ 0.38 mm. When only brief contact is expected, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended. Recommended gloves: Nitrile, thickness ≥ 0.12 mm. Gloves should be replaced regularly and if there is any sign of damage to the glove material.  The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.  The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. 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	: 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.
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.
Color	: Colorless.
Odor	: Typical.

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SECTION 9: Physical and chemical properties

Odor threshold	: Not available.
Melting point/freezing point	: Not available.
Boiling point, initial boiling point, and boiling range	: 108°C (226.4°F)
Flammability	: Not available.
Lower and upper explosion limit	: Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)
Flash point	: Closed cup: 26°C (78.8°F) [Pensky-Martens]
Auto-ignition temperature	:

Ingredient name	°C	°F	Method
2-piperazin-1-ylethylamine	>300	>572	ASTM E 659
4-nonylphenol, branched	372	701.6	
2-methylpropan-1-ol	415	779	

Decomposition temperature	: Not available.
pH	: Not applicable. [DIN EN 1262]
Viscosity	: Kinematic: 46 mm <sup>2</sup> /s [DIN EN ISO 3219]
Solubility(ies)	: 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
2-methylpropan-1-ol	<12	<1.6	DIN EN 13016-2			
Reaction mass of ethylbenzene and xylene	6.7	0.89				
benzyl alcohol	0.05	0.0067				

Relative density	: 0.873 [ISO 8130-2/-3]
Vapor density	: Not available.

Particle characteristics

Median particle size	: Not applicable.
Percentage of particles with aerodynamic diameter ≤ 10 µm	: 0

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	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Date of issue/Date of revision	: 5-3-2024	Version : 2
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SECTION 10: Stability and reactivity

- 10.5 Incompatible materials

: Reactive or incompatible with the following materials:  
oxidizing materials
- 10.6 Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 2-piperazin-1-ylethylamine, 3-aminopropyltriethoxysilane, m-phenylenebis(methylamine), bisphenol A. May produce an allergic reaction.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of ethylbenzene and xylene 2-methylpropan-1-ol	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapor	Guinea pig	19900 mg/m³	4 hours
	LC50 Inhalation Vapor	Mouse	15500 mg/m³	2 hours
	LC50 Inhalation Vapor	Rabbit	2630 mg/m³	4 hours
	LC50 Inhalation Vapor	Rat	19200 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Intraperitoneal	Guinea pig	1201 mg/kg	-
	LD50 Intraperitoneal	Mouse	544 mg/kg	-
	LD50 Intraperitoneal	Mouse	544 mg/kg	-
	LD50 Intraperitoneal	Rabbit	323 mg/kg	-
	LD50 Intraperitoneal	Rat	720 mg/kg	-
	LD50 Intravenous	Mouse	417 mg/kg	-
	LD50 Intravenous	Rat	340 mg/kg	-
	LD50 Oral	Mouse	3500 mg/kg	-
	LD50 Oral	Rabbit	74.1 mg/kg	-
	LD50 Oral	Rat	2460 mg/kg	-
benzyl alcohol	LC50 Inhalation Vapor	Rat	1000 ppm	8 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Intra-arterial	Rat	441 mg/kg	-
	LD50 Intraperitoneal	Mouse	650 mg/kg	-
	LD50 Intraperitoneal	Rat	400 mg/kg	-
	LD50 Intravenous	Mouse	324 mg/kg	-
	LD50 Intravenous	Rat	53 mg/kg	-
	LD50 Oral	Guinea pig	2500 mg/kg	-
	LD50 Oral	Guinea pig	2500 mg/kg	-
	LD50 Oral	Mouse	1360 mg/kg	-

SECTION 11: Toxicological information

2-piperazin-1-ylethylamine	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	1230 mg/kg	-
	LD50 Oral	Rat	1660 mg/kg	-
	LD50 Dermal	Rabbit	880 uL/kg	-
	LD50 Intraperitoneal	Mouse	250 mg/kg	-
	LD50 Oral	Rat	2140 uL/kg	-
3-aminopropyltriethoxysilane	LD50 Dermal	Rabbit	4.29 g/kg	-
	LD50 Dermal	Rabbit	4 mL/kg	-
	LD50 Intraperitoneal	Mouse	260 mg/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	-
m-phenylenebis(methylamine)	LD50 Oral	Rat	4000 mg/kg	-
	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LD50 Dermal	Rabbit	2 g/kg	-
	LD50 Oral	Rat	930 mg/kg	-
	LD50 Oral	Rat	1300 mg/kg	-
	LD50 Oral	Rat	1882 mg/kg	-
	LD50 Dermal	Rabbit	3 mL/kg	-
	LD50 Intraperitoneal	Mouse	150 mg/kg	-
	LD50 Intraperitoneal	Rat	200 mg/kg	-
	LD50 Oral	Guinea pig	4 g/kg	-
4-nonylphenol, branched bisphenol A	LD50 Oral	Guinea pig	4000 mg/kg	-
	LD50 Oral	Mouse	2400 mg/kg	-
	LD50 Oral	Mouse	2400 mg/kg	-
	LD50 Oral	Mouse	2400 mg/kg	-
	LD50 Oral	Mouse	2500 mg/kg	-
	LD50 Oral	Mouse	2500 mg/kg	-
	LD50 Oral	Rabbit	2230 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
	LD50 Oral	Rat	4240 mg/kg	-
	LD50 Oral	Rat	3250 mg/kg	-
	LD50 Subcutaneous	Rabbit	3000 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Product as-supplied	2944.8	2413.2	11904.8	N/A	18.5
Reaction mass of ethylbenzene and xylene	N/A	1100	5000	N/A	N/A
benzyl alcohol	500	N/A	N/A	N/A	1.5
2-piperazin-1-ylethylamine	500	1100	N/A	N/A	N/A
3-aminopropyltriethoxysilane	500	N/A	N/A	N/A	N/A
m-phenylenebis(methylamine)	500	N/A	N/A	N/A	1.5
4-nonylphenol, branched	500	N/A	N/A	N/A	N/A

Irritation/Corrosion



SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Reaction mass of ethylbenzene and xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 UI	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
benzyl alcohol	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
2-piperazin-1-ylethylamine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 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	-
m-phenylenebis (methylaniline)	Eyes - Severe irritant	Rabbit	-	24 hours 50 ug	-
	Skin - Severe irritant	Rabbit	-	24 hours 750 ug	-
4-nonylphenol, branched	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 mg	-
bisphenol A	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
	Skin - Mild irritant	Rabbit	-	250 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Conclusion/Summary : Not available.

Sensitization

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

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)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 3	-	Respiratory tract irritation
2-methylpropan-1-ol	Category 3	-	Respiratory tract irritation
bisphenol A	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
Reaction mass of ethylbenzene and xylene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact : Causes serious eye damage.
- Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact : Causes severe burns. May cause an allergic skin reaction.
- Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

SECTION 11: Toxicological information

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Delayed and immediate effects and also 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** : 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** : May damage fertility.

**11.2 Information on other hazards**  
**11.2.1 Endocrine disrupting properties**

Not available.

**11.2.2 Other information**

No additional information.

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	Result	Species	Exposure
Reaction mass of ethylbenzene and xylene 2-methylpropan-1-ol	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1200000 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata - Larvae	48 hours
	Acute EC50 1439 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 1300000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute EC50 1100000 µg/l Fresh water	Daphnia - Daphnia pulex - Larvae	48 hours
	Acute EC50 1460 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 600 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 1190000 µg/l Fresh water	Daphnia - Daphnia magna -	48 hours

## SECTION 12: Ecological information

benzyl alcohol	Acute LC50 1030000 µg/l Fresh water	Neonate Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1460000 µg/l Fresh water	Fish - Ictalurus punctatus	96 hours
	Acute LC50 1330000 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 1430000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 1510000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 20 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 4000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	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
2-piperazin-1-ylethylamine 4-nonylphenol, branched	Acute LC50 2190000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 0.33 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 0.41 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 0.03 mg/l Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 0.027 mg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 0.029 mg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 137 µg/l Marine water	Crustaceans - Eohaustorius estuarius - Adult	48 hours
	Acute LC50 142 µg/l Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 135.1 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 70 µg/l Marine water	Fish - Menidia beryllina - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
bisphenol A	Acute LC50 138.25 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 17 µg/l Marine water	Fish - Pleuronectes americanus - Larvae	96 hours
	Chronic NOEC 5 µg/l Fresh water	Crustaceans - Gammarus fossarum - Adult	21 days
	Chronic NOEC 30 µg/l Fresh water	Fish - Danio rerio - Fry	160 days
	Chronic NOEC 30 µg/l Fresh water	Fish - Danio rerio - Fry	58 days
	Chronic NOEC 7.4 µg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
	Chronic NOEC 23 µg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
	Chronic NOEC 23 µg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
	Acute EC50 1.506 mg/l Marine water	Algae - Prorocentrum minimum - Exponential growth phase	72 hours
	Acute EC50 1.51 mg/l Marine water	Algae - Prorocentrum minimum - Exponential growth phase	72 hours
	Acute EC50 2700 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 1000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 1800 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 7.75 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 20.5 mg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling,	48 hours

## SECTION 12: Ecological information

Acute EC50 10200 µg/l Fresh water	Weanling)	
Acute EC50 9940 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Daphnia - Daphnia magna - Young	48 hours
Acute EC50 5.246 mg/l Fresh water	Fish - Danio rerio - Embryo	96 hours
Acute LC50 4.2 mg/l Marine water	Crustaceans - Acartia tonsa - Adult	48 hours
Acute LC50 1.34 mg/l Marine water	Crustaceans - Americamysis bahia - Larvae	48 hours
Acute LC50 1600 µg/l Marine water	Crustaceans - Americamysis bahia	48 hours
Acute LC50 50.4 µg/l Marine water	Crustaceans - Artemia sinica	48 hours
Acute LC50 4.32 mg/l Marine water	Crustaceans - Tigriopus japonicus - Adult	48 hours
Acute LC50 12.8 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
Acute LC50 4.2 mg/l Fresh water	Fish - Pimephales promelas - Larvae	96 hours
Acute LC50 4700 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Acute LC50 4600 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Acute LC50 3.5 mg/l Marine water	Fish - Rivulus marmoratus - Embryo	96 hours
Chronic NOEC 5 mg/l Fresh water	Algae - Chlorella pyrenoidosa	72 hours
Chronic NOEC 4 mg/l Fresh water	Algae - Chlorolobion braunii - Exponential growth phase	4 days
Chronic NOEC 4 mg/l Fresh water	Algae - Chlorolobion braunii - Exponential growth phase	4 days
Chronic NOEC 2 mg/l Fresh water	Algae - Chlorolobion braunii - Exponential growth phase	4 days
Chronic NOEC 0.1 mg/l Fresh water	Crustaceans - Asellus aquaticus - Juvenile (Fledgling, Hatchling, Weanling)	21 days
Chronic NOEC 0.05 mg/l Fresh water	Crustaceans - Asellus aquaticus - Juvenile (Fledgling, Hatchling, Weanling)	21 days
Chronic NOEC 10 µg/l Marine water	Crustaceans - Tigriopus japonicus - Nauplii	21 days
Chronic NOEC 10 µg/l Marine water	Crustaceans - Tigriopus japonicus - Nauplii	21 days
Chronic NOEC 10 µg/l Marine water	Crustaceans - Tigriopus japonicus - Nauplii	21 days
Chronic NOEC 0.8 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Chronic NOEC 1 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Chronic NOEC 0.86 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Chronic NOEC 0.86 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Chronic NOEC 30 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Chronic NOEC 0.2 µg/l Fresh water	Fish - Carassius auratus - Adult	30 days
Chronic NOEC 0.2 µg/l Fresh water	Fish - Carassius auratus - Adult	60 days
Chronic NOEC 0.2 µg/l Fresh water	Fish - Carassius auratus - Adult	90 days
Chronic NOEC 0.2 µg/l Fresh water	Fish - Carassius auratus - Adult	90 days
Chronic NOEC 6 µg/l Fresh water	Fish - Oryzias latipes - Embryo	44 days

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

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**Version** : 2

**Date of previous issue** : 5-3-2024

19/25

SECTION 12: Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Reaction mass of ethylbenzene and xylene	3.12	8.1 to 25.9	low
2-methylpropan-1-ol	1	-	low
benzyl alcohol	0.87	-	low
2-piperazin-1-ylethylamine	-1.48	-	low
3-aminopropyltriethoxysilane	1.7	3.4	low
m-phenylenebis (methylamine)	0.18	2.69	low
4-nonylphenol, branched	5.4	740	high
bisphenol A	3.4	20 to 67	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.

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
EWC 08 01 99	wastes not otherwise specified








SECTION 13: Disposal considerations

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.
- 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.
- 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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	Paint related material
14.3 Transport hazard class(es)	3  	3  	3 
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Marine Pollutant(s): 4-nonylphenol, branched, bisphenol A	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** 30  
**Limited quantity** 5 L  
**Special provisions** 163, 640E, 650, 367  
**Tunnel code** (D/E)
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-E, \_S-E\_  
**Special provisions** 163, 223, 367, 955
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
**Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.  
**Special provisions** A3, A72, A192

- 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.

SECTION 14: Transport information

14.7 Maritime 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 authorization

Annex XIV

None of the components are listed.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Toxic to reproduction Endocrine disrupting properties for human health Endocrine disrupting properties for environment	bisphenol A	Recommended	ED/01/2018	10/1/2019
	bisphenol A	Recommended	ED/01/2018	10/1/2019
	4-nonylphenol, branched	Candidate	ED/169/2012	12/19/2012
	bisphenol A	Recommended	ED/01/2018	10/1/2019

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

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

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Ingredient name	Annex	Status
4-nonylphenol, branched	Annex I - Part 1	Listed
4-nonylphenol, branched	Annex I - Part 2	Listed

Persistent Organic Pollutants

Not listed.

Seveso Directive

SECTION 15: Regulatory information

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c E2

National regulations

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.

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
Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 1B, H360F STOT SE 3, H335 STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 2, H411	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

H226	Flammable liquid and vapor.
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.
H360F	May damage fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

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
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. 3	FLAMMABLE LIQUIDS - Category 3
Repr. 1B	TOXIC TO REPRODUCTION - Category 1B
Repr. 2	TOXIC TO REPRODUCTION - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
Skin Sens. 1B	SKIN SENSITIZATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

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Notice to reader

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SECTION 16: Other information

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