SAFETY DATA SHEET

Date of issue/Date of revision : 12 December 2023 Version : 21



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

1.1 Product identifier

Product name : PHENGUARD 930/935/940-SUBSEA 610/780 HARDENER

Product code : 00138908

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

: Product.Stewardship.EMEA@ppg.com

1.4 Emergency telephone number

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]

Fam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 3, H412

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.

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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.

Harmful 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.

Response : IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED:

Immediately call a POISON CENTER or doctor.

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

Disposal : Dispose of contents and container in accordance with all local, regional, national and

international regulations.

P280, P210, P304 + P310, P301 + P310, P403 + P233, P501

Hazardous ingredients : Velene

3-aminopropyldiethylamine m-phenylenebis(methylamine)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Supplemental label

elements

: Not applicable.

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

: Not applicable.

articles

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

: Prolonged or repeated contact may dry skin and cause irritation.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

English (GB)

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Туре
kylene	EC: 215-535-7 CAS: 1330-20-7	≥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 Aquatic Chronic 3, H412	ATE [Dermal] = 1700 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
3-aminopropyldiethylamine	REACH #: 01-2119965402-39 EC: 203-236-4 CAS: 104-78-9 Index: 612-062-00-1	≥10 - ≤18	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	ATE [Oral] = 830 mg/ kg ATE [Dermal] = 524 mg/kg	[1]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≥10 - ≤17	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	ATE [Oral] = 1230 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1] [2]
2-methylpropan-1-ol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≥5.0 - ≤10	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	-	[1] [2]
m-phenylenebis (methylamine)	REACH #: 01-2119480150-50 EC: 216-032-5 CAS: 1477-55-0	≥1.0 - ≤5.0	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 EUH071	ATE [Oral] = 930 mg/ kg ATE [Inhalation (gases)] = 4500 ppm	[1] [2]
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 Aquatic Chronic 3, H412	ATE [Inhalation (vapours)] = 17.8 mg/l	[1] [2]
N-(3-(trimethoxysilyl)propyl) ethylenediamine	EC: 217-164-6 CAS: 1760-24-3	≥1.0 - ≤5.0	Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT SE 3, H335	-	[1]
salicylic acid	REACH #: 01-2119486984-17 EC: 200-712-3 CAS: 69-72-7 Index: 607-732-00-5	<1.0	Acute Tox. 4, H302 Eye Dam. 1, H318 Repr. 2, H361d	ATE [Oral] = 891 mg/ kg	[1]

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Code : 00138908 Date of issue/Date of revision : 12 December 2023 PHENGUARD 930/935/940-SUBSEA 610/780 HARDENER **SECTION 3: Composition/information on ingredients** toluene REACH #: ≤0.30 Flam. Liq. 2, H225 [1] [2] 01-2119471310-51 Skin Irrit. 2, H315 EC: 203-625-9 Repr. 2, H361d CAS: 108-88-3 **STOT SE 3, H336** Index: 601-021-00-3 **STOT RE 2, H373** Asp. Tox. 1, H304 See Section 16 for the full text of the H

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.

statements declared

above.

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

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit

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

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 contactInhalationCauses serious eye damage.May cause respiratory irritation.

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

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain watering redness

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SECTION 4: First aid measures

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.

Specific treatments: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO₂, 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

: Mammable 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 harmful 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 metal oxide/oxides Formaldehyde.

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.

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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 nonemergency 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.

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.

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 noncombustible, 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.

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SECTION 7: Handling and storage

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	EU OEL (Europe, 1/2022). [xylene, mixed isomers pure]
	Absorbed through skin.
	STEL: 442 mg/m ³ 15 minutes.
	STEL: 100 ppm 15 minutes.
	TWA: 221 mg/m³ 8 hours.
	TWA: 50 ppm 8 hours.
benzyl alcohol	IPEL (-).
•	TWA: 5 ppm
	STEL: 10 ppm
2-methylpropan-1-ol	ACGIH TLV (United States, 1/2023).
	TWA: 152 mg/m³ 8 hours.
	TWA: 50 ppm 8 hours.
m-phenylenebis(methylamine)	ACGIH TLV (United States, 1/2023). Absorbed through skin.
	C: 0.018 ppm
ethylbenzene	EU OEL (Europe, 1/2022). Absorbed through skin.
	STEL: 884 mg/m³ 15 minutes.
	STEL: 200 ppm 15 minutes.
	TWA: 442 mg/m ³ 8 hours.
	TWA: 100 ppm 8 hours.
toluene	EU OEL (Europe, 1/2022). Absorbed through skin.
	STEL: 384 mg/m³ 15 minutes.
	STEL: 100 ppm 15 minutes.
	TWA: 192 mg/m³ 8 hours.
	TWA: 50 ppm 8 hours.

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SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures

Every 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
x ylene	DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m³	General population	Local
	DNEL	Long term Inhalation	65.3 mg/m³	General population	Systemic
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	221 mg/m³	Workers	Local
	DNEL	Long term Inhalation	221 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m³	General population	
	DNEL	Short term Inhalation	260 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	442 mg/m³	Workers	Local
	DNEL	Short term Inhalation	442 mg/m³	Workers	Systemic
3-aminopropyldiethylamine	DNEL	Long term Inhalation	24.7 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	3.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.8 mg/m³	General population	•
	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	
	DNEL	Long term Inhalation	1.8 mg/m³	General population	
	DNEL	Long term Dermal	3.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	24.7 mg/m ³	Workers	Systemic
benzyl alcohol	DNEL	Long term Oral	4 mg/kg bw/day	General population	•
Denzyi alconoi	DNEL	Long term Dermal	4 mg/kg bw/day	General population	-
	DNEL				Systemic
	DNEL	Long term Inhalation	5.4 mg/m³ 8 mg/kg bw/day	General population Workers	
	DNEL	Long term Dermal			Systemic
		Short term Oral	20 mg/kg bw/day	General population	
	DNEL	Short term Dermal	20 mg/kg bw/day	General population	
	DNEL	Long term Inhalation	22 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	27 mg/m³	General population	Systemic
	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	110 mg/m³	Workers	Systemic
2-methylpropan-1-ol	DNEL	Long term Inhalation	55 mg/m³	General population	Local
	DNEL	Long term Inhalation	310 mg/m³	Workers	Local
m-phenylenebis(methylamine)	DNEL	Long term Inhalation	0.2 mg/m³	Workers	Local
	DNEL	Long term Dermal	0.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.2 mg/m³	Workers	Systemic
ethylbenzene	DMEL	Long term Inhalation	442 mg/m³	Workers	Local
	DMEL	Short term Inhalation	884 mg/m³	Workers	Systemic
	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	15 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m³	Workers	Local
N-(3-(trimethoxysilyl)propyl) ethylenediamine	DNEL	Long term Inhalation	0.1 mg/m³	General population	Local
	DNEL	Long term Inhalation	0.6 mg/m³	Workers	Local
	DNEL	Long term Oral	4 mg/kg bw/day	General population	
	DNEL	Short term Inhalation	4 mg/m³	General population	Local
				2 2 population	

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SECTION 8: Exposure controls/personal protection

	DNEL	Short term Inhalation	5.36 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	26 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	130 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	26400 mg/m ³	General population	Systemic
salicylic acid	DNEL	Long term Dermal	2.3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	4 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	5 mg/m³	Workers	Local
	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
toluene	DNEL	Long term Oral	8.13 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	56.5 mg/m ³	General population	Local
	DNEL	Long term Inhalation	56.5 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	192 mg/m³	Workers	Local
	DNEL	Long term Inhalation	192 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	226 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	226 mg/m ³	General population	
	DNEL	Short term Inhalation	226 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	384 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	384 mg/m³	Workers	Local
	DNEL	Short term Inhalation	384 mg/m³	Workers	Systemic

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
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	-
3-aminopropyldiethylamine	-	Fresh water	0.03 mg/l	Assessment Factors
	-	Marine water	0.003 mg/l	Assessment Factors
	-	Sewage Treatment Plant	10 mg/l	Assessment Factors
	-	Fresh water sediment	0.418 mg/kg dwt	Equilibrium Partitioning
	-	Fresh water sediment	0.042 mg/kg dwt	Equilibrium Partitioning
	-	Soil	0.066 mg/kg dwt	Equilibrium Partitioning
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	-
toluene	-	Fresh water	0.68 mg/l	Sensitivity Distribution
	-	Marine water	0.68 mg/l	Sensitivity Distribution
	-	Sewage Treatment Plant	13.61 mg/l	Sensitivity Distribution
	-	Fresh water sediment	16.39 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	16.39 mg/kg dwt	-

8.2 Exposure controls

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SECTION 8: Exposure controls/personal protection

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

Skin protection

Hand protection

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

: 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

Body protection

: butyl rubber

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 antistatic 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.

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SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid. Colour Clear. Odour : Amine-like. : Not available. **Odour threshold**

: May start to solidify at the following temperature: 14°C (57.2°F) This is based on Melting point/freezing point

data for the following ingredient: m-phenylenebis(methylamine). Weighted average:

-68.36°C (-91°F)

Initial boiling point and

boiling range

>37.78°C

: Not available.

Flammability

Upper/lower flammability or

explosive limits

: Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)

: Closed cup: 28°C Flash point : 225°C (437°F) **Auto-ignition temperature**

Decomposition temperature : Stable under recommended storage and handling conditions (see Section 7).

pН : Not applicable, insoluble in water. **Viscosity** : Kinematic (40°C): >21 mm²/s

Viscosity 30 - <40 s (ISO 6mm)

Solubility(ies)

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/ : Not applicable.

water

Vapour pressure

	Vapour Pressure at 20°C			Vapour pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
methylpropan-1-ol	<12.00102	<1.6	DIN EN 13016-2			

: Highest known value: 0.84 (ethylbenzene) Weighted average: 0.56compared with **Evaporation rate**

butyl acetate

Relative density 0.93 : 0.93 Bulk density (g/cm³)

Vapour density : Highest known value: 4.48 (Air = 1) (3-aminopropyldiethylamine). Weighted

average: 3.74 (Air = 1)

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.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

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SECTION 9: Physical and chemical properties

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 Formaldehyde. metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 <u>Acute toxicity</u>

Product/ingredient name	Result	Species	Dose	Exposure
kylene	LD50 Dermal	Rabbit	1.7 g/kg	_
	LD50 Oral	Rat	4.3 g/kg	-
3-aminopropyldiethylamine	LD50 Dermal	Rabbit	524 mg/kg	-
	LD50 Oral	Rat	830 mg/kg	-
benzyl alcohol	LC50 Inhalation Dusts and	Rat	>4178 mg/m ³	4 hours
•	mists			
	LD50 Dermal	Rabbit	2000 mg/kg	_
	LD50 Oral	Rat	1.23 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	-
m-phenylenebis(methylamine)	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
, , ,	LD50 Dermal	Rat - Male,	>3100 mg/kg	-
		Female		
	LD50 Oral	Rat	930 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	-
N-(3-(trimethoxysilyl)propyl)	LD50 Dermal	Rabbit	>2000 mg/kg	_
ethylenediamine				
	LD50 Oral	Rat	2413 mg/kg	_
salicylic acid	LD50 Oral	Rat	0.891 g/kg	_
toluene	LC50 Inhalation Vapour	Rat	49 g/m³	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LD50 Oral	Rat	5580 mg/kg	_

Conclusion/Summary

: There are no data available on the mixture itself.

Irritation/Corrosion

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SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
xylene 3-aminopropyldiethylamine m-phenylenebis(methylamine)	Skin - Moderate irritant Skin - Visible necrosis Skin - Severe irritant	Rabbit Rabbit Rat	-	24 hours 500 mg 1 minutes 4 hours	- 8 days 4 hours

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
m-phenylenebis(methylamine)	skin	Mouse	Sensitising

Conclusion/Summary

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

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
vylene 2-methylpropan-1-ol	Category 3 Category 3 Category 3	-	Respiratory tract irritation Respiratory tract irritation Narcotic effects
N-(3-(trimethoxysilyl)propyl)ethylenediamine toluene	Category 3 Category 3		Respiratory tract irritation Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	1 1	hearing organs
toluene	Category 2		-

Aspiration hazard

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

Information on likely routes of exposure

: Not available.

Potential acute health effects

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SECTION 11: Toxicological information

Inhalation : May cause respiratory irritation.

Ingestion : No known significant effects or critical hazards.

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

Potential immediate : Not available.

effects

Potential delayed effects: Not available.

Long term exposure

Potential immediate : Not available.

effects

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.

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. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C/140F. Avoid contact with skin and clothing. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

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SECTION 11: Toxicological information

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
3-aminopropyldiethylamine	Acute EC50 30.2 mg/l	Daphnia	48 hours
	Acute EC50 146.6 mg/l	Fish	96 hours
2-methylpropan-1-ol	Acute EC50 1100 mg/l	Daphnia	48 hours
ethylbenzene	Acute EC50 1.8 mg/l Fresh	Daphnia	48 hours
	water		
	Chronic NOEC 1 mg/l Fresh	Daphnia -	-
	water	Ceriodaphnia dubia	
N-(3-(trimethoxysilyl)propyl)ethylenediamine	EC50 597 mg/l	Fish	96 hours
salicylic acid	Acute EC50 1147.57 mg/l	Daphnia - <i>Daphnia</i>	48 hours
	Fresh water	<i>longispina</i> - Neonate	
	Chronic NOEC 5.6 mg/l	Daphnia - <i>Daphnia</i>	21 days
	Fresh water	magna - Neonate	

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

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
3-aminopropyldiethylamine ethylbenzene	OECD 301A -	90 % - Readily - 28 days 79 % - Readily - 10 days	-	-

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
x ylene	-	-	Readily
3-aminopropyldiethylamine	-	-	Readily
benzyl alcohol	-	-	Readily
ethylbenzene	-	-	Readily
toluene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential	
x ylene	3.12	7.4 to 18.5	Low	
benzyl alcohol	0.87	-	Low	
2-methylpropan-1-ol	1	-	Low	
m-phenylenebis(methylamine)	0.18	2.69	Low	
ethylbenzene	3.6	79.43	Low	
salicylic acid	2.21 to 2.26	-	Low	
toluene	2.73	8.32	Low	

12.4 Mobility in soil

Soil/water partition : Not available. coefficient (Koc)

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SECTION 12: Ecological information

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 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.

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14. Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN3470	UN3470	UN3470	UN3470
14.2 UN proper shipping name	PAINT, CORROSIVE, FLAMMABLE	PAINT, CORROSIVE, FLAMMABLE	PAINT, CORROSIVE, FLAMMABLE	PAINT, CORROSIVE, FLAMMABLE
14.3 Transport hazard class(es)	8 (3)	8 (3)	8 (3)	8 (3)
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.	Not applicable.

Additional information

ADR/RID : None identified.

Tunnel code

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank

vessels.

: None identified. **IMDG IATA** : None identified.

user

14.6 Special precautions for : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

14.7 Maritime transport in

bulk according to IMO

instruments

: Not 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 : Not applicable.

on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable. **Explosive precursors** Ozone depleting substances (1005/2009/EU)

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SECTION 15: Regulatory information

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P₅c

15.2 Chemical safety

: No Chemical Safety Assessment has been carried out.

assessment

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

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
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.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated
	exposure.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS]

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SECTION 16: Other information

Acute Tox. 3 Acute Tox. 4 ACUTE TOXICITY - Category 3 Acute Tox. 4 ACUTE TOXICITY - Category 4

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
Flam. Liq. 2
Flam. Liq. 3
Repr. 2
Skin Corr. 1B
Skin Irrit. 2
Skin Sens. 1
FLAMMABLE LIQUIDS - Category 2
FLAMMABLE LIQUIDS - Category 3
REPRODUCTIVE TOXICITY - Category 2
SKIN CORROSION/IRRITATION - Category 1B
SKIN CORROSION/IRRITATION - Category 2
SKIN SENSITISATION - Category 1

Skin Sens. 1B SKIN SENSITISATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE -

Category 2

STOT SE 3 SPEČIFÍC TARGET ORGAN TOXICITY - SINGLE EXPOSURE -

Category 3

History

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Prepared by : EHS Version : 21

Disclaimer

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