



SAFETY DATA SHEET

5412 Epoxy Putty (activator)

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

1.1 Product identifier

Product name : 5412 Epoxy Putty (activator)
Product description : Hardener.
Product type : Liquid.
UFI : AF30-D04W-P005-9XDE

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

Identified uses	
Industrial use Professional use	
Uses advised against	Reason
Consumer use	Product is not intended for consumer use.

1.3 Details of the supplier of the safety data sheet

RUST-OLEUM EUROPE
 Martin Mathys NV, Kolenbergstraat 23, B-3545 Zelem, Belgium
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Tor Coatings Limited
 Unit 21, White Rose Way, Follingsby Park, Gateshead, Tyne & Wear, NE10 8YX United Kingdom
 Telephone no.: +44 (0) 191 4106611
 Fax no.: +44 (0) 191 4920125
 enquiries@tor-coatings.com

e-mail address of person responsible for this SDS : rpmeurohas@rustoleum.eu

1.4 Emergency telephone number

National advisory body/Poison Centre

Supplier

Telephone number : +44 870 8200418 / +44 2038073798

Hours of operation : 24 / 7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H302
 Skin Corr. 1B, H314
 Eye Dam. 1, H318
 Skin Sens. 1, H317
 Repr. 1B, H360Fd
 Aquatic Chronic 2, H411

SECTION 2: Hazards identification

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

: Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility. Suspected of damaging the unborn child.
Toxic to aquatic life with long lasting effects.

Precautionary statements

General

: Not applicable.

Prevention

: P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P273 - Avoid release to the environment.

Response

: P391 - Collect spillage.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage

: P405 - Store locked up.

Disposal

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

Hazardous ingredients

: benzyl alcohol
nonylphenol
2-piperazin-1-ylethylamine
m-fenilenbis(methylamine)
bisphenol A
Phenol, 4-nonyl-, branched

Supplemental label elements

: Not applicable.

Supplemental label elements : Detergents - Regulation (EC) No 907/2006

: 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.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

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SECTION 2: Hazards identification

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

United Kingdom: Great Britain

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≥10 - ≤25	Acute Tox. 4, H302 Acute Tox. 4, H332	[1]
nonylphenol	REACH #: 01-2119510715-45 EC: 246-672-0 CAS: 25154-52-3 Index: 601-053-00-8	≤10	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361fd Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1] [5]
2-piperazin-1-ylethylamine	REACH #: 01-2119471486-30 EC: 205-411-0 CAS: 140-31-8 Index: 612-105-00-4	≤10	Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
m-fenilenbis(methylamine)	REACH #: 01-2119480150-50 EC: 216-032-5 CAS: 1477-55-0 Index: 216-032-5	≤10	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412	[1]
bisphenol A	REACH #: 01-2119457856-23 EC: 201-245-8 CAS: 80-05-7 Index: 604-030-00-0	≤10	Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 1B, H360F STOT SE 3, H335 Aquatic Chronic 2, H411	[1] [2]
Phenol, 4-nonyl-, branched	EC: 284-325-5 CAS: 84852-15-3 Index: 601-053-00-8	≤10	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1] [5]
1-phenoxypropan-2-ol	REACH #: 01-2119486566-23	≤10	Eye Irrit. 2, H319	[1]

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SECTION 3: Composition/information on ingredients

	EC: 212-222-7 CAS: 770-35-4		See Section 16 for the full text of the H statements declared above.
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Type

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

SCL (Specific Concentration Limits) Not applicable.	Not applicable.
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ATE (acute toxicity estimates) Not applicable.	Not applicable.
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Nanoform Particle characteristics This product does not contains nanomaterials.	Particle Size Not applicable.
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

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

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced foetal weight
increase in foetal 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 an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

SECTION 5: Firefighting measures

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen 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.

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.

Additional information : No unusual hazard if involved in a fire.

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. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

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

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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 vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

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

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

United Kingdom: Great Britain

Product/ingredient name	Exposure limit values
bisphenol A	EH40/2005 WELs (United Kingdom (UK), 8/2018). TWA: 2 mg/m ³ 8 hours. Form: inhalable dust

SECTION 8: Exposure controls/personal protection

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
benzyl alcohol	DNEL	Short term Dermal	47 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	450 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	9,5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	90 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	28,5 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	40,55 mg/m ³	General population [Consumers]	Systemic
	DNEL	Short term Oral	25 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	5,7 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	8,11 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Oral	5 mg/kg bw/day	General population [Consumers]	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
benzyl alcohol	Fresh water	1 mg/l	Assessment Factors
	Marine	0,1 mg/l	Assessment Factors
	Fresh water sediment	5,27 mg/kg	Assessment Factors
	Marine water sediment	0,527 mg/kg	Assessment Factors
	Soil	0,456 mg/kg	Assessment Factors
	Sewage Treatment Plant	39 mg/l	Assessment Factors

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

SECTION 8: Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying 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. Use eye protection according to EN 166. 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

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

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. > 8 hours (breakthrough time): nitrile rubber (0.5mm)

The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. 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. Recommended: Wear overalls or long sleeved shirt.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: A respirator is not needed under normal and intended conditions of product 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

Physical state	: Liquid. [Paste.]
Colour	: Black. [Light]
Odour	: Amine-like. [Slight]
Odour threshold	: Not available.
Melting point/freezing point	: Not applicable.
Initial boiling point and boiling range	: Not relevant due to nature of the product.
Flammability (solid, gas)	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. Emits toxic fumes when heated to decomposition.
Upper/lower flammability or explosive limits	: Not available.
Flash point	: Closed cup: >100°C (>212°F) [ISO EN DIN 1523 / DIN 53213-1]
Auto-ignition temperature	: Not relevant due to nature of the product.
Decomposition temperature	: Not available.
pH	: 8 to 11 [OECD 122]
pH : Justification	: Not available.
Viscosity	: Not available.
Solubility(ies)	: Partially soluble in the following materials: acetone. Insoluble in the following materials: cold water and hot water.
Solubility in water	: Not available.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapour pressure	: Not relevant due to nature of the product.
Evaporation rate	: <1 (butyl acetate = 1)
Relative density	: 1,35 to 1,45 [DIN 53217]
Density	: 1,4 g/cm ³ [20°C (68°F)] [DIN 53217]
Vapour density	: Not available.
Explosive properties	: Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. No unusual hazard if involved in a fire.
Oxidising properties	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: No specific data.

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SECTION 10: Stability and reactivity

10.5 Incompatible materials : No specific data.

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

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	4,178 mg/l	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
nonylphenol	LD50 Dermal	Rabbit	2140 mg/kg	-
	LD50 Oral	Rat	580 mg/kg	-
m-fenilenbis(methylamine)	LC50 Inhalation Dusts and mists	Rat	1900 mg/m ³	1 hours
	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LC50 Inhalation Vapour	Rat	1,34 mg/l	4 hours
	LD50 Dermal	Rabbit	2 g/kg	-
	LD50 Oral	Rat	930 mg/kg	-
bisphenol A	LD50 Oral	Rat	980 mg/kg	-
	LC50 Inhalation Vapour	Rat	200 ppm	4 hours
	LD50 Oral	Rat	1200 mg/kg	-
Phenol, 4-nonyl-, branched 1-phenoxypropan-2-ol	LD50 Oral	Rat	1300 mg/kg	-
	LC50 Inhalation Vapour	Rat	>5400 mg/m ³	4 hours
	LD50 Oral	Rat	2830 mg/kg	-

Conclusion/Summary : Harmful if swallowed.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
5412 Epoxy Putty (activator)	500	N/A	N/A	N/A	N/A
benzyl alcohol	500	N/A	N/A	N/A	4,178
nonylphenol	580	2140	N/A	N/A	N/A
2-piperazin-1-ylethylamine	500	300	N/A	N/A	N/A
m-fenilenbis(methylamine)	930	N/A	4500	11	1,5
Phenol, 4-nonyl-, branched	1300	N/A	N/A	N/A	N/A
1-phenoxypropan-2-ol	2830	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzyl alcohol	Skin - Moderate irritant	Pig	-	100 Percent	-
		Rabbit	-	500 milligrams	-
nonylphenol	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
		Rabbit	-	24 hours 5 milligrams	-
2-piperazin-1-ylethylamine	Eyes - Moderate irritant	Rabbit	-	24 hours 50 Micrograms	-
		Rabbit	-	24 hours 750 Micrograms	-
m-fenilenbis(methylamine)	Eyes - Severe irritant	Rabbit	-	24 hours 250 Micrograms	-
		Rabbit	-	24 hours 500 milligrams	-
bisphenol A	Eyes - Severe irritant	Rabbit	-	250	-
		Rabbit	-	24 hours 500 milligrams	-
		Rabbit	-	24 hours 250	-

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SECTION 11: Toxicological information

Phenol, 4-nonyl-, branched	Eyes - Severe irritant	Rabbit	-	milligrams 100	-
	Skin - Severe irritant	Rabbit	-	milligrams 24 hours 500 milligrams	-

Conclusion/Summary

- Skin** : Causes severe skin burns and eye damage.
- Eyes** : Causes serious eye damage.
- Respiratory** : Based on available data, the classification criteria are not met.

Sensitisation

Conclusion/Summary

- Skin** : May cause an allergic skin reaction.
- Respiratory** : Based on available data, the classification criteria are not met.

Mutagenicity

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl alcohol	Negative - Oral - TD	Rat	-	103 weeks; 5 days per week

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Phenol, 4-nonyl-, branched	-	Positive	Positive	Rat	Oral: 150 mg/kg	-

- Conclusion/Summary** : May damage fertility or the unborn child.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl alcohol	Negative - Route of exposure unreported	Mouse - Female	550 mg/kg	-

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
bisphenol A	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

- Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal.
Routes of entry not anticipated: Inhalation.

Potential acute health effects

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

SECTION 11: Toxicological information

Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

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

Inhalation : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

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

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

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

General : 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. Suspected of damaging the unborn child.

Endocrine disrupting properties : Not available.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure	
benzyl alcohol	Acute EC50 770 mg/l	Algae	72 hours	
	Acute LC50 646 mg/l	Fish - Leuciscus idus	48 hours	
	Acute LC50 460000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	
nonylphenol	Acute EC50 203 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	
	Acute LC50 0,18 mg/l Fresh water	Daphnia spec. - Daphnia magna	48 hours	
	Chronic NOEC 694 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours	
m-fenilenbis(methylamine)	Chronic NOEC 901 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours	
	Chronic NOEC 24 µg/l Fresh water	Daphnia spec. - Daphnia magna	21 days	
	Acute EC50 10 to 100 mg/l	Daphnia spec.	48 hours	
bisphenol A	Acute LC50 >100 mg/l	Fish	96 hours	
	Acute EC50 1000 µg/l Marine water	Algae - Skeletonema costatum	96 hours	
	Acute EC50 1,506 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 7,75 mg/l Fresh water	Daphnia spec. - Daphnia magna - Neonate	48 hours	
	Acute LC50 50,4 µg/l Marine water	Crustaceans - Artemia sinica	48 hours	
	Acute LC50 1,34 mg/l Marine water	Crustaceans - Americamysis bahia - Larvae	48 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 2 mg/l Fresh water	Algae - Chlorolobion braunii - Exponential growth phase	4 days	
	Chronic NOEC 10 µg/l Marine water	Crustaceans - Tigriopus japonicus - Nauplii	21 days	
	Chronic NOEC 30 µg/l Fresh water	Daphnia spec. - Daphnia magna - Neonate	21 days	
	Phenol, 4-nonyl-, branched	Chronic NOEC 0,2 µg/l Fresh water	Fish - Carassius auratus - Adult	90 days
		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 LC50 0,047 mg/l Marine water		Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours	
Acute LC50 135,1 µg/l Fresh water		Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	
1-phenoxypropan-2-ol	Chronic EC10 0,012 mg/l Marine water	Algae - Skeletonema costatum	96 hours	
	Chronic NOEC 0,024 mg/l	Daphnia spec.	21 days	
	Chronic NOEC 0,006 mg/l	Fish	91 days	
	EC50 74,5 mg/l	Algae	72 hours	
	LC50 370 mg/l	Daphnia spec.	48 hours	
	LC50 280 mg/l	Fish	96 hours	
	LC50 215 to 464 mg/l	Fish	96 hours	

Conclusion/Summary : Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

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Product/ingredient name	Test	Result	Dose	Inoculum
benzyl alcohol	OECD 301A	96 % - Readily - 21 days	-	-
Phenol, 4-nonyl-, branched	OECD 301B	78 % - 40 days	-	-
	OECD 301B	48,2 % - 35 days	-	-

Conclusion/Summary : This product has not been tested for biodegradation. Based on available data, the classification criteria are not met.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily
Phenol, 4-nonyl-, branched	-	50%; 0.3 day(s)	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
benzyl alcohol	0,87	-	low
nonylphenol	3,28	154,88	low
2-piperazin-1-ylethylamine	-1,48	-	low
m-fenilenbis(methylamine)	0,18	2,69	low
bisphenol A	3,4	20 to 67	low
Phenol, 4-nonyl-, branched	5,4	740	high
1-phenoxypropan-2-ol	1,41	0,776	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Nonvolatile liquid.

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 : No known significant effects or critical hazards.

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.

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

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SECTION 13: Disposal considerations

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN2735	UN2735	UN2735	UN2735
14.2 UN proper shipping name	Polyamines, liquid, corrosive, n.o.s. (2-piperazin-1-ylethylamine, nonylphenol)	Polyamines, liquid, corrosive, n.o.s. (2-piperazin-1-ylethylamine, nonylphenol)	Polyamines, liquid, corrosive, n.o.s. (2-piperazin-1-ylethylamine). Marine pollutant (nonylphenol)	Polyamines, liquid, corrosive, n.o.s. (2-piperazin-1-ylethylamine, nonylphenol)
14.3 Transport hazard class(es)	8  	8  	8  	8 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Limited quantity ≤ 1L Tunnel code (E)	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-A, S-B Remarks : ≤ 1L: Limited Quantity - IMDG 3.4	The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0,5 L. Packaging instructions: Y 840.

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

14.7 Transport in bulk according to IMO instruments : Not available.

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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

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Substance of equivalent concern for environment	nonylphenol	Listed	-	19/12/2012

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Toxic to reproduction	4,4'-isopropylidenediphenol; bisphenol A; BPA	Recommended	ED/01/2018	1/10/2019
Substance of equivalent concern for environment	4-nonylphenol, branched and linear substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof	Candidate	ED/169/2012	19/12/2012
		Candidate	-	19/12/2012

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 :
VOC for Ready-for-Use Mixture : 2004/42/EC - IIA/j: 500g/l (2010). <= 1g/l VOC.
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/EC)

Not listed.

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

Annex	Ingredient name	Status
Annex I - Part 1	Nonylphenols	Listed
Annex I - Part 2	Nonylphenols	Listed
	Nonylphenols	Listed
	Nonylphenols	Listed

Persistent Organic Pollutants (850/2004/EC)

Not listed.

Seveso Directive

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SECTION 15: Regulatory information

This product is controlled under the Seveso Directive.

Danger criteria

Category

E2

United Kingdom: Great Britain

References : EH40/2005 Workplace exposure limits
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878
REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC

International regulations

Stockholm Convention on Persistent Organic Pollutants

List name	Ingredient name	Status
Not listed.		

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

List name	Ingredient name	Status
Not listed.		

CN code : 3208 90 91 90

Inventory list

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : All components are listed or exempted.
Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

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SECTION 16: Other information

Abbreviations and acronyms :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Acute Tox. 4, H302	Expert judgment
Skin Corr. 1B, H314	Expert judgment
Eye Dam. 1, H318	Expert judgment
Skin Sens. 1, H317	Expert judgment
Repr. 1B, H360Fd	Expert judgment
Aquatic Chronic 2, H411	Expert judgment

Full text of abbreviated H statements

United Kingdom: Great Britain

Full text of abbreviated H statements :

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360F	May damage fertility.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] :

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 1B	REPRODUCTIVE TOXICITY - Category 1B
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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SECTION 16: Other information

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Notice to reader

IMPORTANT NOTE: The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The information contained in this data sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and believed to be correct as of the date on which it is prepared. It is the user's responsibility to verify that this data sheet is current prior to using the product to which it relates. Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to use. Where those purposes are other than as specifically recommended in this safety data sheet, then the user uses the product at their own risk.

MANUFACTURER'S DISCLAIMER: the conditions, methods and factors affecting the handling, storage, application, use and disposal of the product are not under the control and knowledge of the manufacturer. Therefore the manufacturer does not assume responsibility for any adverse events which may occur in the handling, storage, application, use, misuse or disposal of the product and, so far as permitted by applicable law, the manufacturer expressly disclaims liability for any and all loss, damages and/or expenses arising out of or in any way connected to the storage, handling, use or disposal of the product. Safe handling, storage, use and disposal are the responsibility of the users. Users must comply with all applicable health and safety laws.

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