

Permabond®

Engineering Adhesives

SAFETY DATA SHEET

Permabond TA4660A

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

1.1. Product identifier

Product name Permabond TA4660A

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

Identified uses Adhesive. Sealant.

1.3. Details of the supplier of the safety data sheet

Supplier Permabond Engineering Adhesives GmbH
Niederkasseler Lohweg 18
40547 Düsseldorf
Germany
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Manufacturer Permabond Engineering Adhesives Ltd.
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chemical-concepts.com
800.220.1966
410 Pike Road • Huntingdon Valley, PA 19006

1.4. Emergency telephone number

Emergency telephone CHEMTREC UK: +(44)-870-8200418 CHEMTREC US: 800-424-9300 (CCN: 829878)

National emergency telephone number CHEMTREC Ireland: +(353)-19014670
CHEMTREC Australia: +(61)-290372994
CHEMTREC New Zealand: +(64)-98010034

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317 STOT SE 3 - H335

Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Danger

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Hazard statements	H315 Causes skin irritation. H318 Causes serious eye damage. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352a IF ON SKIN: Wash with plenty of soap and water P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Contains	ISOBORNLYMETHACRYLATE, BENZYL METHACRYLATE, POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-(2- METHYL-1-OXO-2-PROPENYL)-.OMEGA.-(PHOSPHONOOXY)-, 2-HYDROXYETHYL METHACRYLATE
Supplementary precautionary statements	P261 Avoid breathing vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310 Immediately call a POISON CENTER/ doctor. P312 Call a POISON CENTRE/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P332+P313 If skin irritation occurs: Get medical advice/ attention. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

None under normal conditions. This substance is not classified as PBT or vPvB according to current UK criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ISOBORNLYMETHACRYLATE	10-30%
CAS number: 7534-94-3	EC number: 231-403-1
Classification	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
STOT SE 3 - H335	
Aquatic Chronic 3 - H412	
BENZYL METHACRYLATE	10-30%
CAS number: 2495-37-6	EC number: 219-674-4
Classification	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Skin Sens. 1 - H317	
STOT SE 3 - H335	

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POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-(2-METHYL-1-OXO-2-PROPENYL)-.OMEGA.-(PHOSPHONOOXY)-	5-10%
CAS number: 95175-93-2	
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318	
CUMENE HYDROPEROXIDE	1-5%
CAS number: 80-15-9 EC number: 201-254-7	
Classification Org. Perox. E - H242 Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335 STOT RE 2 - H373 Aquatic Chronic 2 - H411	
2,6-DI-TERT-BUTYL-P-CRESOL	1-5%
CAS number: 128-37-0 EC number: 204-881-4	
M factor (Acute) = 1 M factor (Chronic) = 1	
REACH registration exemption – < 1 tonne	
Classification Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	
2-HYDROXYETHYL METHACRYLATE	<1%
CAS number: 868-77-9 EC number: 212-782-2	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317	

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention

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Eye contact Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation May cause irritation.

Skin contact Skin irritation. Mild dermatitis, allergic skin rash.

Eye contact Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Water.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Burning produces irritating, toxic and obnoxious fumes. Carbon monoxide, carbon dioxide, and unknown hydrocarbons.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Not considered to be a significant hazard due to the small quantities used. Avoid discharge into drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Use in a well ventilated area. Avoid contact with skin and eyes. Do not ingest or inhale. Avoid eating, drinking and smoking when using the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in closed original container at temperatures between 5°C and 25°C. Never return unused material to storage receptacle.

7.3. Specific end use(s)

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Specific end use(s) This product is not recommended for use in joints which will be in contact with either pure oxygen or steam.

Usage description Adhesive. Sealant.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

2,6-DI-TERT-BUTYL-P-CRESOL

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

WEL = Workplace Exposure Limit.

ISOBORNLYMETHACRYLATE (CAS: 7534-94-3)

DNEL Workers - Dermal; Long term systemic effects: 1.04 mg/kg/day

PNEC Fresh water; 4.66 µg/l
marine water; 0.466 µg/l
STP; 2.45 mg/l
Sediment (Freshwater); 0.604 mg/kg
Sediment (Marinewater); 0.06 mg/kg
Soil; 0.118 mg/kg

BENZYL METHACRYLATE (CAS: 2495-37-6)

DNEL Workers, Industry - Inhalation; Long term systemic effects: 24.2 mg/m³
Workers, Industry - Dermal; Long term systemic effects: 6.94 mg/kg/day

PNEC Workers, Industry - Fresh water; 0.0216 mg/l
Workers, Industry - marine water; 0.00216 mg/l
Workers, Industry - STP; 1.3 mg/l
Workers, Industry - Soil; 0.165 mg/kg
Workers, Industry - Sediment (Freshwater); 0.888 mg/kg
Workers, Industry - Sediment (Marinewater); 0.0888 mg/kg

CUMENE HYDROPEROXIDE (CAS: 80-15-9)

DNEL Workers - Inhalation; Long term systemic effects: 6 mg/m³

PNEC Workers - Fresh water; 0.0031 mg/l
Workers - marine water; 0.00031 mg/l
Workers - Intermittent release; 0.031 mg/l
Workers, Industry - Soil; 1.2 mg/kg
Workers - STP; 0.35 mg/l
Workers - Sediment (Freshwater); 0.023 mg/kg
Workers - Sediment (Marinewater); 0.0023 mg/kg
Workers - Soil; 0.0029 mg/kg

2,6-DI-TERT-BUTYL-P-CRESOL (CAS: 128-37-0)

DNEL Workers - Inhalation; Long term systemic effects: 3.5 mg/m³
Workers - Dermal; Long term systemic effects: 0.5 mg/kg/day

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PNEC	Fresh water; 0.199 µg/l
	marine water; 0.02 µg/l
	STP; 0.17 mg/l
	Sediment (Freshwater); 99.6 µg/kg
	Sediment (Marinewater); 9.96 µg/kg
	Soil; 8.33 mg/kg

2-HYDROXYETHYL METHACRYLATE (CAS: 868-77-9)

DNEL	Workers, Industry - Inhalation; Long term systemic effects: 4.9 mg/m ³
	Workers, Industry - Dermal; Long term systemic effects: 1.3 mg/kg/day
PNEC	Workers, Industry - Water; Long term 0.482 mg/l
	Workers, Industry - Soil; Long term 0.476 mg/kg
	Workers, Industry - STP; Long term 10 mg/l
	Workers, Industry - Fresh water; 3.79 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

The following protection should be worn: Chemical splash goggles or face shield. Personal eye protection should conform to EN 166

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. Gloves should conform to EN 374. For exposure up to 4 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 0.5 hours. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 8 hours. The breakthrough time for any glove material may be different for different glove manufacturers. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.

Other skin and body protection

Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Use of good industrial hygiene practices is required.

Respiratory protection

Ensure adequate ventilation of the working area. Respiratory protection may be required if excessive airborne contamination occurs. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Organic vapour filter. Type A. (EN14387)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Transparent. Yellow.

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Odour	Acrylic
Odour threshold	Not available.
pH	Not relevant.
Melting point	Not available.
Initial boiling point and range	Not applicable.
Flash point	>100°C
Evaporation rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1.0
Solubility(ies)	Slightly soluble in water. Miscible with the following materials: Organic solvents.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	50000 mPa s @ 25°C Thixotropic
Oxidising properties	Not available.
<u>9.2. Other information</u>	
Other information	Not relevant.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity The following materials may react with the product: Strong oxidising agents.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions There are no known reactivity hazards associated with this product.

10.4. Conditions to avoid

Conditions to avoid Avoid the absence of air, and metal contamination.

10.5. Incompatible materials

Materials to avoid Metals and their salts. Free radical initiators.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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Toxicological effects The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Skin corrosion/irritation

Animal data Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Skin sensitisation

Skin sensitisation May cause sensitisation by skin contact.

Aspiration hazard

Aspiration hazard None under normal conditions.

Inhalation

In high concentrations, vapours may irritate throat and respiratory system and cause coughing.

Toxicological information on ingredients.

ISOBORNLYMETHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀) 2,000.1
mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀) 3,000.0
mg/kg)

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Erythema/eschar score: Well defined erythema (2). Fully reversible within 7 days.

Serious eye damage/irritation

**Serious eye
damage/irritation** Rabbit Not irritating.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Carcinogenicity

Carcinogenicity No specific test data are available.

Reproductive toxicity

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Reproductive toxicity - fertility	Screening - NOAEL 500 mg/kg/day, Oral, Rat F1
Reproductive toxicity - development	Developmental toxicity: - NOEC: >500 mg/kg/day, Oral, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	Not applicable.

BENZYL METHACRYLATE

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	3,980.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,000.1
Species	Rat
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No information available.
<u>Skin corrosion/irritation</u>	
Animal data	Erythema/eschar score: Very slight erythema - barely perceptible (1). Fully reversible within 72 hours. Slightly irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not irritating.
<u>Skin sensitisation</u>	
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No information available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No information available.
<u>Specific target organ toxicity - repeated exposure</u>	

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STOT - repeated exposure NOAEL 500 mg/kg, Oral, Rat

Aspiration hazard

Aspiration hazard Not available.

CUMENE HYDROPEROXIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 328.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,200.0

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 1.37

Species Rat

Skin corrosion/irritation

Animal data Highly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Irritating to eyes.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Positive.

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity CMR: No

Reproductive toxicity

Reproductive toxicity - fertility No specific test data are available.

Reproductive toxicity - development Developmental toxicity: - NOAEL: ≥100 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Toxic: danger of serious damage to health by prolonged exposure through inhalation.

Aspiration hazard

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Aspiration hazard No specific test data are available.

2,6-DI-TERT-BUTYL-P-CRESOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 6,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.1

Species Rat

Skin corrosion/irritation

Animal data Erythema/eschar score: No erythema (0). Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Not irritating.

Skin sensitisation

Skin sensitisation - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 100 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - LOAEL: 500 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available. No information available.

2-HYDROXYETHYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

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Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rabbit
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No information available.
<u>Skin corrosion/irritation</u>	
Animal data	Erythema/eschar score: Very slight erythema - barely perceptible (1). Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Moderately irritating.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information available.
<u>Skin sensitisation</u>	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Conclusive data but not sufficient for classification.
Genotoxicity - in vivo	Chromosome aberration: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No specific test data are available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL \geq 1000 mg/kg/day, Oral, Rat F1
Reproductive toxicity - development	Developmental toxicity: - NOAEL: \geq 1000 mg/kg/day, Oral, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No specific test data are available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No specific test data are available.
<u>Aspiration hazard</u>	
Aspiration hazard	Not applicable.

SECTION 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

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Ecological information on ingredients.

ISOBORNLYMETHACRYLATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 1.79 mg/l, Danio rerio (Zebrafish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 2.57 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 2.28 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0.233 mg/l, Daphnia magna

BENZYL METHACRYLATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 48 hours: 4.67 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic plants NOEC, 72 hours: 0.899 mg/l, Desmodesmus subspicatus
EC₅₀, 72 hours: 2.28 mg/l, Desmodesmus subspicatus

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 4.21 mg/l, Daphnia magna

CUMENE HYDROPEROXIDE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hour: 3.9 mg/l, Oncorhynchus mykiss (Rainbow trout)

2,6-DI-TERT-BUTYL-P-CRESOL

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 0.199 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.48 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 0.758 mg/l, Algae

Chronic aquatic toxicity

M factor (Chronic) 1

2-HYDROXYETHYL METHACRYLATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 380 mg/l, Daphnia magna

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Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 836 mg/l, Selenastrum capricornutum NOEC, 72 hours: 400 mg/l, Selenastrum capricornutum
Acute toxicity - microorganisms	EC ₅₀ , 16 hours: > 3000 mg/l, Pseudomonas fluorescens
<u>Chronic aquatic toxicity</u>	
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 24.1 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

ISOBORNLYMETHACRYLATE

Biodegradation Water - Degradation 70%: 28 days

BENZYL METHACRYLATE

Biodegradation Water - Degradation 74%: 28 days

CUMENE HYDROPEROXIDE

Biodegradation The substance is readily biodegradable.

2-HYDROXYETHYL METHACRYLATE

Biodegradation Water - Degradation 84%: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

Ecological information on ingredients.

2,6-DI-TERT-BUTYL-P-CRESOL

Partition coefficient log Pow: 5.1

2-HYDROXYETHYL METHACRYLATE

Bioaccumulative potential BCF: 1.34 - 1.54,

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

BENZYL METHACRYLATE

Adsorption/desorption coefficient - log Koc: 2.57 @ 25°C

2-HYDROXYETHYL METHACRYLATE

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Adsorption/desorption coefficient Water - Koc: 42.7 @ 20°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste disposal should be in accordance with existing Community, National and local regulations Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

Disposal methods Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

Waste class 08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

SECTION 14: Transport information

General The product is not classified as dangerous for carriage.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

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EU legislation

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Guidance

Workplace Exposure Limits EH40.
CHIP for everyone HSG228.
Approved Classification and Labelling Guide (Sixth edition) L131.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date 30/09/2022

Revision 1

Hazard statements in full

- H242 Heating may cause a fire.
- H302 Harmful if swallowed.
- 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.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

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SAFETY DATA SHEET

Permabond TA4660B

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

1.1. Product identifier

Product name Permabond TA4660B

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

Identified uses Two-component, epoxy-based adhesive.

1.3. Details of the supplier of the safety data sheet

Supplier Permabond Engineering Adhesives GmbH
Niederkasseler Lohweg 18
40547 Düsseldorf
Germany
info.europe@permabond.com

Manufacturer Permabond Engineering Adhesives Ltd.
Wessex Way
Colden Common
Winchester
Hampshire SO21 1WP
United Kingdom
Tel: +44 (0)1962 711 661
Fax: +44 (0)1962 711 662
info@permabond.co.uk



chemical-concepts.com
800.220.1966
410 Pike Road • Huntingdon Valley, PA 19006

1.4. Emergency telephone number

Emergency telephone CHEMTREC UK: +(44)-870-8200418 CHEMTREC US: 800-424-9300 (CCN: 829878)

National emergency telephone number CHEMTREC Ireland: +(353)-19014670
CHEMTREC Australia: +(61)-290372994
CHEMTREC New Zealand: +(64)-98010034

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Not Classified

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 STOT SE 3 - H335

Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Danger

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Hazard statements	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302+P352a IF ON SKIN: Wash with plenty of soap and water P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Contains	2-HYDROXYETHYL METHACRYLATE, TRIFLUOROACETIC ACID, METHACRYLIC ACID
Supplementary precautionary statements	P260 Do not breathe vapour/ spray. P261 Avoid breathing vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P310 Immediately call a POISON CENTER/ doctor. P312 Call a POISON CENTRE/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P363 Wash contaminated clothing before reuse. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

None under normal conditions. This substance is not classified as PBT or vPvB according to current UK criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

2-HYDROXYETHYL METHACRYLATE	10-30%
CAS number: 868-77-9	EC number: 212-782-2
Classification	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Skin Sens. 1 - H317	
TRIFLUOROACETIC ACID	1 - 10 %
CAS number: 76-05-1	EC number: 200-929-3
Classification	
Acute Tox. 4 - H332	
Skin Corr. 1A - H314	
Eye Dam. 1 - H318	
Aquatic Chronic 3 - H412	

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METHACRYLIC ACID	1-5%
CAS number: 79-41-4	EC number: 201-204-4

Classification

Acute Tox. 4 - H302
 Acute Tox. 3 - H311
 Acute Tox. 4 - H332
 Skin Corr. 1A - H314
 Eye Dam. 1 - H318
 STOT SE 3 - H335

2,6-DI-TERT-BUTYL-P-CRESOL	1-5%
CAS number: 128-37-0	EC number: 204-881-4
M factor (Acute) = 1	M factor (Chronic) = 1
REACH registration exemption – < 1 tonne	

Classification

Aquatic Acute 1 - H400
 Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air. Get medical attention if any discomfort continues.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. DO NOT induce vomiting. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. If symptoms develop, obtain medical attention
Eye contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Remove any contact lenses and open eyelids wide apart. Get medical attention. Show this Safety Data Sheet to the medical personnel.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	Irritation of nose, throat and airway.
Ingestion	May cause chemical burns in mouth and throat.
Skin contact	Chemical burns. Mild dermatitis, allergic skin rash.
Eye contact	May cause serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

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5.2. Special hazards arising from the substance or mixture

Specific hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Burning produces irritating, toxic and obnoxious fumes. Nitrous gases (NOx). Carbon monoxide, carbon dioxide, and unknown hydrocarbons.

5.3. Advice for firefighters

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal. Wash area with soap and water.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Avoid contact with skin and eyes. Do not ingest or inhale. Do not eat, drink or smoke when using this product.
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in closed original container at temperatures between 5°C and 25°C.
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Storage class	Corrosive storage.
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7.3. Specific end use(s)

Specific end use(s)	Adhesive. Sealant.
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SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

METHACRYLIC ACID

Long-term exposure limit (8-hour TWA): WEL 20 ppm 72 mg/m³

Short-term exposure limit (15-minute): WEL 40 ppm 143 mg/m³

2,6-DI-TERT-BUTYL-P-CRESOL

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

WEL = Workplace Exposure Limit.

2-HYDROXYETHYL METHACRYLATE (CAS: 868-77-9)

DNEL

Workers, Industry - Inhalation; Long term systemic effects: 4.9 mg/m³

Workers, Industry - Dermal; Long term systemic effects: 1.3 mg/kg/day

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PNEC	Workers, Industry - Water; Long term 0.482 mg/l
	Workers, Industry - Soil; Long term 0.476 mg/kg
	Workers, Industry - STP; Long term 10 mg/l
	Workers, Industry - Fresh water; 3.79 mg/kg

METHACRYLIC ACID (CAS: 79-41-4)

DNEL	Workers, Industry - Inhalation; Long term local effects: 88 mg/m ³
	Workers, Industry - Dermal; Long term systemic effects: 4.25 mg/kg/day
	Workers, Industry - Inhalation; Long term systemic effects: 29.6 mg/m ³

PNEC	Workers, Industry - Fresh water; 0.82 mg/l
	Workers, Industry - marine water; 0.82 mg/l
	Workers, Industry - STP; 10 mg/l
	Workers, Industry - Soil; 1.2 mg/kg

2,6-DI-TERT-BUTYL-P-CRESOL (CAS: 128-37-0)

DNEL	Workers - Inhalation; Long term systemic effects: 3.5 mg/m ³
	Workers - Dermal; Long term systemic effects: 0.5 mg/kg/day

PNEC	Fresh water; 0.199 µg/l
	marine water; 0.02 µg/l
	STP; 0.17 mg/l
	Sediment (Freshwater); 99.6 µg/kg
	Sediment (Marinewater); 9.96 µg/kg
	Soil; 8.33 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

The following protection should be worn: Chemical splash goggles or face shield. Personal eye protection should conform to EN 166

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. Gloves should conform to EN 374. For exposure up to 4 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 0.5 hours. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 8 hours. The breakthrough time for any glove material may be different for different glove manufacturers. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.

Other skin and body protection

Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.

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Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke. Use of good industrial hygiene practices is required.
Respiratory protection	Ensure adequate ventilation of the working area. Respiratory protection may be required if excessive airborne contamination occurs. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Organic vapour filter. Type A. (EN14387)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Black.
Odour	Acrylic
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	>100°C
Evaporation rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.0
Solubility(ies)	Slightly soluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	Not available.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	45000 mPa s @ 25°C Thixotropic
Explosive properties	Not determined.
Oxidising properties	Not applicable.

9.2. Other information

Other information	Not relevant.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reactions with the following materials may generate heat: Epoxy resin

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Avoid contact with the following materials: Acids. Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Skin sensitisation

Skin sensitisation May cause sensitisation by skin contact.

Reproductive toxicity

Reproductive toxicity - fertility Suspected of damaging fertility.

Reproductive toxicity - development Suspected of damaging the unborn child.

Aspiration hazard

Aspiration hazard None under normal conditions.

Inhalation

In high concentrations, vapours may irritate throat and respiratory system and cause coughing.

Ingestion

Causes burns. May cause chemical burns in mouth and throat. May cause stomach pain or vomiting.

Skin contact

This product is strongly irritating. Prolonged contact may cause burns.

Eye contact

Causes serious eye damage.

Toxicological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0

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Species	Rabbit
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No information available.
<u>Skin corrosion/irritation</u>	
Animal data	Erythema/eschar score: Very slight erythema - barely perceptible (1). Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Moderately irritating.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information available.
<u>Skin sensitisation</u>	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Conclusive data but not sufficient for classification.
Genotoxicity - in vivo	Chromosome aberration: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No specific test data are available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL \geq 1000 mg/kg/day, Oral, Rat F1
Reproductive toxicity - development	Developmental toxicity: - NOAEL: \geq 1000 mg/kg/day, Oral, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No specific test data are available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No specific test data are available.
<u>Aspiration hazard</u>	
Aspiration hazard	Not applicable.

METHACRYLIC ACID

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	1,320.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	1,000.0
Species	Rabbit
<u>Acute toxicity - inhalation</u>	

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Acute toxicity inhalation (LC₅₀ vapours mg/l)	7.1
Species	Rat
<u>Skin corrosion/irritation</u>	
Animal data	Dose: Method: OECD 404, 3 minutes, Rabbit Corrosive.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Method: OECD 405, Rabbit Corrosive.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Guinea pig: Not sensitising. Method: various test systems
<u>Skin sensitisation</u>	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	CMR: no
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.
Reproductive toxicity - development	Non-teratogenic, not embryotoxic
<u>Specific target organ toxicity - single exposure</u>	
Target organs	Respiratory tract Irritating.
<u>Specific target organ toxicity - repeated exposure</u>	
Target organs	No specific target organs known.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.

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<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	6,000.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,000.1
Species	Rat
<u>Skin corrosion/irritation</u>	
Animal data	Erythema/eschar score: No erythema (0). Not irritating.

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Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Not irritating.

Skin sensitisation

Skin sensitisation - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 100 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - LOAEL: 500 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available. No information available.

SECTION 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 380 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 836 mg/l, Selenastrum capricornutum
NOEC, 72 hours: 400 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms EC₅₀, 16 hours: > 3000 mg/l, Pseudomonas fluorescens

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Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 24.1 mg/l, Daphnia magna

METHACRYLIC ACID

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 85 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 130 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 45 mg/l, Selenastrum capricornutum
LOEC, 72 hours: 45 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms EC₅₀, 17 hours: 270 mg/l, Pseudomonas putida

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOEC, 35 days: 10 mg/l, Danio rerio (Zebrafish)

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 53 mg/l, Daphnia magna

2,6-DI-TERT-BUTYL-P-CRESOL

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 0.199 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.48 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 0.758 mg/l, Algae

Chronic aquatic toxicity

M factor (Chronic) 1

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Biodegradation Water - Degradation 84%: 28 days

METHACRYLIC ACID

Biodegradation Water - Degradation 86%: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

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Partition coefficient Not available.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Bioaccumulative potential BCF: 1.34 - 1.54,

2,6-DI-TERT-BUTYL-P-CRESOL

Partition coefficient log Pow: 5.1

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Adsorption/desorption coefficient Water - Koc: 42.7 @ 20°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current UK criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste disposal should be in accordance with existing Community, National and local regulations Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

Disposal methods Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

Waste class 08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

SECTION 14: Transport information

14.1. UN number

2735

14.2. UN proper shipping name

POLYAMINES, LIQUID, CORROSIVE, N.O.S.

14.3. Transport hazard class(es)

8

Transport labels



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14.4. Packing group

II

14.5. Environmental hazards

14.6. Special precautions for user

EmS F-A, S-B

Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
Control of Substances Hazardous to Health Regulations 2002 (as amended).

EU legislation

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Guidance

Workplace Exposure Limits EH40.
Introduction to Local Exhaust Ventilation HS(G)37.
CHIP for everyone HSG228.
Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date 30/09/2022

Revision 1

Hazard statements in full

H302 Harmful if swallowed.
H311 Toxic 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.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.



This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.