

Permabond®

Engineering Adhesives

SAFETY DATA SHEET

Permabond A1046

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

1.1. Product identifier

Product name Permabond A1046

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 Ltd.
Wessex Way
Colden Common
Winchester
Hampshire SO21 1WP
United Kingdom
Tel: +44 (0)1962 711 661
Fax: +44 (0)1962 711 662
info.europe@permabond.com

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 (EC 1272/2008)

Physical hazards Not Classified

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

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

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Precautionary statements	<p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P302+P352a IF ON SKIN: Wash with plenty of soap and water</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313 IF exposed or concerned: Get medical advice/ attention.</p>
Contains	BENZYL METHACRYLATE, HYDROXYPROPYL METHACRYLATE, BISPHENOL A EPOXY DIACRYLATE, ACRYLIC ACID
Supplementary precautionary statements	<p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P501 Dispose of contents/container in accordance with existing Community, National and local regulations.</p>

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

BENZYL METHACRYLATE		10-30%
CAS number: 2495-37-6	EC number: 219-674-4	REACH registration number: 01-2119960155-39-XXXX
Classification		
Skin Irrit. 2 - H315		
Eye Irrit. 2 - H319		
Skin Sens. 1 - H317		
STOT SE 3 - H335		
HYDROXYPROPYL METHACRYLATE		10-30%
CAS number: 27813-02-1	EC number: 248-666-3	REACH registration number: 01-2119490226-37-XXXX
Classification		
Eye Irrit. 2 - H319		
Skin Sens. 1 - H317		
BISPHENOL A EPOXY DIACRYLATE		10-30%
CAS number: 55818-57-0	EC number: 500-130-2	REACH registration number: 01-2119490020-53-XXXX
Classification		
Skin Sens. 1 - H317		

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ACRYLIC ACID		1-<3%
CAS number: 79-10-7	EC number: 201-177-9	REACH registration number: 01-2119452449-31-XXXX
M factor (Acute) = 1		
Classification		
Flam. Liq. 3 - H226		
Acute Tox. 4 - H302		
Acute Tox. 4 - H312		
Acute Tox. 4 - H332		
Skin Corr. 1A - H314		
Eye Dam. 1 - H318		
STOT SE 3 - H335		
Aquatic Acute 1 - H400		
CUMENE HYDROPEROXIDE		1 -< 2.5%
CAS number: 80-15-9	EC number: 201-254-7	REACH registration number: 01-2119475796-19-XXXX
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		
ETHANEDIOL		<1%
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-XXXX
Classification		
Acute Tox. 4 - H302		
STOT RE 2 - H373		

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tert-AMYL HYDROPEROXIDE		<1%
CAS number: 3425-61-4	EC number: 222-321-7	REACH registration number: 01-2119964027-36-XXXX
Classification Flam. Liq. 3 - H226 Org. Perox. A - H240 Acute Tox. 4 - H302 Acute Tox. 3 - H311 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411		

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
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.
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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.
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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.

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)

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

ETHANEDIOL

Long-term exposure limit (8-hour TWA): WEL 20 ppm 52 mg/m³ vapour

Short-term exposure limit (15-minute): WEL 40 ppm 104 mg/m³ vapour

Sk

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

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

BENZYL METHACRYLATE (CAS: 2495-37-6)

DNEL	Workers, Industry - Inhalation; Long term systemic effects: 24.2 mg/m ³ 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

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HYDROXYPROPYL METHACRYLATE (CAS: 27813-02-1)

DNEL	Workers - Inhalation; Long term systemic effects: 14.7 mg/m ³ Workers - Dermal; Long term systemic effects: 4.2 mg/kg/day
PNEC	Fresh water; 0.904 mg/l marine water; 0.904 mg/l STP; 10 mg/l Sediment (Freshwater); 6.28 mg/kg Sediment (Marinewater); 6.28 mg/kg Soil; 0.727 mg/kg

BISPHENOL A EPOXY DIACRYLATE (CAS: 55818-57-0)

DNEL	Workers - Inhalation; Long term systemic effects: 1.17 mg/m ³ Workers - Dermal; Long term systemic effects: 33 mg/kg/day
PNEC	Fresh water; 0.1 mg/l marine water; 0.01 mg/l STP; 10 mg/l Sediment (Freshwater); 35.8 mg/kg Sediment (Marinewater); 3.58 mg/kg Soil; 7.1 mg/kg

ACRYLIC ACID (CAS: 79-10-7)

DNEL	Workers - Inhalation; Long term local effects: 30 mg/m ³ Workers - Dermal; Short term local effects: 1 mg/cm ²
PNEC	Fresh water; 0.003 mg/l Intermittent release; 0.001 mg/l marine water; 0 mg/l STP; 0.9 mg/l Sediment (Freshwater); 0.024 mg/kg/day Sediment (Marinewater); 0.002 mg/kg/day

CUMENE HYDROPEROXIDE (CAS: 80-15-9)

DNEL	Workers - Inhalation; Long term systemic effects: 6 mg/m ³
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

ETHANEDIOL (CAS: 107-21-1)

DNEL	Workers - Inhalation; Long term local effects: 35 mg/m ³ Workers - Dermal; Long term systemic effects: 106 mg/kg/day
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PNEC	Fresh water; 10 mg/l marine water; 1 mg/l STP; 199.5 mg/l Sediment (Freshwater); 37 mg/kg Sediment (Marinewater); 3.7 mg/kg Soil; 1.53 mg/kg
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tert-AMYL HYDROPEROXIDE (CAS: 3425-61-4)

DNEL	Workers - Inhalation; Long term systemic effects: 0.78 mg/m ³ Workers - Dermal; Long term systemic effects: 0.44 mg/kg
PNEC	- Fresh water; 0.012 mg/l - marine water; 0.0012 mg/l - Intermittent release; 0.012 mg/l - STP; 3.3 mg/l - Sediment (Freshwater); 0.4374 mg/kg - Sediment (Marinewater); 0.0437 mg/kg - Soil; 0.0804 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

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Appearance	Liquid.
Colour	Green.
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	1.1
Solubility(ies)	Slightly soluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	No information available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	≈9000 mPa s @ 23°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.

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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 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.

BENZYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀) 3,980.0
mg/kg)

Species Rat

Acute toxicity - dermal

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

Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Erythema/eschar score: Very slight erythema - barely perceptible (1). Fully reversible within 72 hours. Slightly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Carcinogenicity

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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>	
STOT - repeated exposure	NOAEL 500 mg/kg, Oral, Rat
<u>Aspiration hazard</u>	
Aspiration hazard	Not available.

HYDROXYPROPYL METHACRYLATE

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	2,000.1
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	Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Moderately irritating.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	There is no evidence that the material can lead to respiratory hypersensitivity.
<u>Skin sensitisation</u>	
Skin sensitisation	Epidemiological studies have shown evidence of skin sensitisation.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No evidence of carcinogenicity in animal studies.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL 300 mg/kg/day, Oral, Rat P

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Reproductive toxicity - development Developmental toxicity: - NOAEL: 1000 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard No information available.

BISPHENOL A EPOXY DIACRYLATE

Acute toxicity - oral

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

Species Rat

Acute toxicity - dermal

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

Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Method: OECD 404, Rabbit Not irritating.

Serious eye damage/irritation

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

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL >900 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - NOAEL: >=1000 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

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Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,405.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.0

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 3.6

Species Rat

Skin corrosion/irritation

Animal data Rabbit Highly corrosive.

Serious eye damage/irritation

Serious eye damage/irritation Rabbit Corrosive

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity NOAEL \geq 78 mg/kg/day, Oral, Rat

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

Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 460 mg/l, Oral, Rat P, F1

Reproductive toxicity - development Fetotoxicity: - NOAEC: \geq 0.673 mg/l, Inhalation, Rabbit

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

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STOT - repeated exposure No information available.

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.

ETHANEDIOL

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 3,500.0

Species Mouse

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Skin corrosion/irritation Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - fertility Three-generation study - NOAEL >1000 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - NOAEC: 150 mg/m³, Inhalation, 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.

tert-AMYL HYDROPEROXIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 582.0

Species Rat

Acute toxicity - dermal

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Acute toxicity dermal (LD₅₀ 446.0 mg/kg)

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 2.425

Species Rat

Skin corrosion/irritation

Skin corrosion/irritation Causes burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro Ames test: Positive.

Genotoxicity - in vivo No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 100 mg/kg/day, Oral, Rat P

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 data available.

SECTION 12: Ecological information

Ecotoxicity The product is not expected to be hazardous to the environment.

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.

BENZYL METHACRYLATE

Acute aquatic toxicity

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Acute toxicity - fish	LC ₅₀ , 48 hours: 4.67 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic plants	NOEC, 72 hours: 0.899 mg/l, Desmodesmus subspicatus EC ₅₀ , 72 hours: 2.28 mg/l, Desmodesmus subspicatus
<u>Chronic aquatic toxicity</u>	
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 4.21 mg/l, Daphnia magna

HYDROXYPROPYL METHACRYLATE

<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LC ₅₀ , 48 hours: 493 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 380 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: > 97.2 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 97.2 mg/l, Pseudokirchneriella subcapitata
<u>Chronic aquatic toxicity</u>	
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 24.1 mg/l, Daphnia magna

BISPHENOL A EPOXY DIACRYLATE

<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LL ₅₀ , 96 hours: > 100 mg/l, Cyprinus carpio (Common carp)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: > 16 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 17 mg/l, Pseudokirchneriella subcapitata
Acute toxicity - microorganisms	EC ₅₀ , 3 hours: > 1000 mg/l, Activated sludge

ACRYLIC ACID

<u>Acute aquatic toxicity</u>	
LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 222 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 24 hours: 270 mg/l, Daphnia magna EC ₅₀ , 48 hours: 95 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 0.04 mg/l, Desmodesmus subspicatus EC ₅₀ , 96 hours: 0.17 mg/l, Pseudokirchneriella subcapitata
Acute toxicity - microorganisms	EC ₂₀ , 30 minutes: 900 mg/l, Activated sludge
<u>Chronic aquatic toxicity</u>	
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 19 mg/l, Daphnia magna

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CUMENE HYDROPEROXIDE

Acute aquatic toxicity

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

ETHANEDIOL

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 6500 - 13000 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms EC₂₀, 0.5 hour: 1.995 mg/l, Activated sludge

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOEC, 7 days: 15380 mg/l, Pimephales promelas (Fat-head Minnow)

Chronic toxicity - aquatic invertebrates NOEC, 7 days: 8590 mg/l, Daphnia magna

tert-AMYL HYDROPEROXIDE

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 6.7 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 1.2 mg/l, Pseudokirchneriella subcapitata

Acute toxicity - microorganisms EC₅₀, 3 hours: 138 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

BENZYL METHACRYLATE

Biodegradation Water - Degradation 74%: 28 days

HYDROXYPROPYL METHACRYLATE

Biodegradation Water - Degradation 94.2%: 28 days

ACRYLIC ACID

Biodegradation Water - Degradation 81%: 28 days

CUMENE HYDROPEROXIDE

Biodegradation The substance is readily biodegradable.

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ETHANEDIOL

Biodegradation Water - Degradation 90 - 100%: 10 days

tert-AMYL HYDROPEROXIDE

Biodegradation Water - 0%: 7 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

ACRYLIC ACID

Partition coefficient log Kow: 0.46

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

BENZYL METHACRYLATE

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

ACRYLIC ACID

Surface tension 69.6 mN/m @ 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.

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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 Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

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).
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 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	26/04/2019
Revision	8
Supersedes date	18/07/2018

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Hazard statements in full

H226 Flammable liquid and vapour.
H240 Heating may cause an explosion.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic 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.