



SAFETY DATA SHEET

Permabond TA459

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

1.1. Product identifier

Product name Permabond TA459

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

Identified uses 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.
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Colden Common
Winchester
Hampshire SO21 1WP
United Kingdom
Tel: +44 (0)1962 711 661
Fax: +44 (0)1962 711 662
info@permabond.co.uk

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 Irrit. 2 - H319 Skin Sens. 1 - H317 STOT SE 3 - H335

Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Warning

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Hazard statements	H315 Causes skin irritation. H319 Causes serious eye irritation. 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. P308+P313 IF exposed or concerned: Get medical advice/ attention.
Contains	ISOBORNYLMETHACRYLATE, 2-HYDROXYETHYL METHACRYLATE, MALEIC ACID, tert-AMYL HYDROPEROXIDE
Supplementary precautionary statements	P264 Wash contaminated skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: 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. P501 Dispose of contents/container in accordance with existing Community, National and local regulations.

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

ISOBORNYLMETHACRYLATE			10-30%
CAS number: 7534-94-3	EC number: 231-403-1	REACH registration number: 01-2119886505-27-XXXX	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335 Aquatic Chronic 3 - H412			

2-HYDROXYETHYL METHACRYLATE			10-30%
CAS number: 868-77-9	EC number: 212-782-2	REACH registration number: 01-2119490169-29-XXXX	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317			

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MALEIC ACID			1-5%
CAS number: 110-16-7	EC number: 203-742-5	REACH registration number: 01-2119488705-25-XXXX	
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 STOT SE 3 - H335			

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	Remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention
Eye contact	Remove any contact lenses and open eyelids wide apart. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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	Irritating and may cause redness and pain.

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

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5.1. Extinguishing media

Suitable extinguishing media Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

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. Oxides of nitrogen.

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)

Usage description Adhesive.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

ISOBORNLYMETHACRYLATE (CAS: 7534-94-3)

DNEL

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

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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

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

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

MALEIC ACID (CAS: 110-16-7)

DNEL

Workers - Inhalation; Short term local effects: 3 mg/m³
Workers - Inhalation; Long term systemic effects: 3 mg/m³
Workers - Inhalation; Long term local effects: 3 mg/m³
Workers - Inhalation; Short term systemic effects: 3 mg/m³

PNEC

- Fresh water; 0.1 mg/l
- marine water; 0.01 mg/l
- Intermittent release; 0.4281 mg/l
- Sediment (Freshwater); 0.334 mg/kg
- Sediment (Marinewater); 0.0334 mg/kg
- Soil; 0.0415 mg/kg
- STP; 44.6 mg/l

tert-AMYL HYDROPEROXIDE (CAS: 3425-61-4)

DNEL

Workers - Inhalation; Long term systemic effects: 0.78 mg/m³
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. Avoid inhalation of vapours. 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

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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/manufacture, 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	Gel.
Colour	Blue.
Odour	Acrylic
Odour threshold	Not available.
pH	Not relevant.
Melting point	Not available.
Initial boiling point and range	Not applicable.
Flash point	$>100^{\circ}\text{C}$
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. Miscible with the following materials: Organic solvents.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	$\approx 75000 \text{ mPa s @ } 23^{\circ}\text{C}$ Thixotropic
Oxidising properties	Not available.

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9.2. Other information

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 Stable at normal ambient temperatures and when used as recommended.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

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.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation

May cause respiratory system irritation.

Ingestion

No harmful effects expected from quantities likely to be ingested by accident.

Skin contact

May cause an allergic skin reaction.

Eye contact

Irritating to eyes.

Toxicological information on ingredients.

ISOBORNLYMETHACRYLATE

Acute toxicity - oral

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

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Species Rat

Acute toxicity - dermal

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

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

Reproductive toxicity - fertility Screening - NOAEL 500 mg/kg/day, Oral, Rat F1

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

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not applicable.

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

Species Rabbit

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Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Erythema/eschar score: Very slight erythema - barely perceptible (1). Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Moderately irritating.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Conclusive data but not sufficient for classification.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No specific test data are available.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL ≥ 1000 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 specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No specific test data are available.

Aspiration hazard

Aspiration hazard Not applicable.

MALEIC ACID

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 708.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,560.0

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

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Skin corrosion/irritation

Skin corrosion/irritation Rabbit Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Rabbit Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Not irritating.

Skin sensitisation

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

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Positive. Ames test: Negative. DNA damage and/or repair: Negative.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOEL 55 mg/kg/day, Oral, Rat F2

Reproductive toxicity - development No information available.

Specific target organ toxicity - single exposure

STOT - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No data available.

tert-AMYL HYDROPEROXIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 582.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 446.0

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 2.425

Species Rat

Skin corrosion/irritation

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Skin corrosion/irritation	Causes burns.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye damage.
<u>Skin sensitisation</u>	
Skin sensitisation	No information available.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Ames test: Positive.
Genotoxicity - in vivo	No information available.
<u>Carcinogenicity</u>	
Carcinogenicity	No information available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	- NOAEL 100 mg/kg/day, Oral, Rat P
<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	No information available.
<u>Aspiration hazard</u>	
Aspiration hazard	No data 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.

ISOBORNLYMETHACRYLATE

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 1.79 mg/l, Danio rerio (Zebrafish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: > 2.57 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 2.28 mg/l, Pseudokirchneriella subcapitata
<u>Chronic aquatic toxicity</u>	
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.233 mg/l, Daphnia magna

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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*

Chronic aquatic toxicity

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

MALEIC ACID

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 5 mg/l, *Pimephales promelas* (Fat-head Minnow)
LC₀, 96 hours: 300 mg/l, *Lepomis macrochirus* (Bluegill)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 160 - 400 mg/l, *Daphnia magna*
EC₁₀₀, 24 hours: 200 mg/l, *Daphnia magna*

Acute toxicity - aquatic plants EC₅₀, 72 hours: 41 mg/l, *Desmodesmus subspicatus*

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.

ISOBORNILMETHACRYLATE

Biodegradation Water - Degradation 70%: 28 days

2-HYDROXYETHYL METHACRYLATE

Biodegradation Water - Degradation 84%: 28 days

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Biodegradation Water - 0%: 7 days

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12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Bioaccumulative potential BCF: 1.34 - 1.54,

MALEIC ACID

Bioaccumulative potential BCF: < 10, Leuciscus idus (Golden orfe)

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 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

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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	09/11/2021
Revision	5
Supersedes date	02/11/2018
Hazard statements in full	H226 Flammable liquid and vapour. H240 Heating may cause an explosion. 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. H335 May cause respiratory irritation. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

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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.