

Permabond®

Engineering Adhesives

SAFETY DATA SHEET

Permabond A1044

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

1.1. Product identifier

Product name Permabond A1044

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 Irrit. 2 - H319 STOT SE 3 - H335

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Permabond A1044

Precautionary statements P280 Wear protective gloves, eye and 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 METHACRYLIC ACID

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.
 P332+P313 If skin irritation 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

| | | |
|------------------------------------|----------------------|--|
| BIS(2-BUTOXYETHYL)PHTHALATE | | 10-30% |
| CAS number: 117-83-9 | EC number: 204-213-1 | |
| Classification | | |
| Aquatic Chronic 4 - H413 | | |
| METHACRYLIC ACID | | 1-3% |
| CAS number: 79-41-4 | EC number: 201-204-4 | REACH registration number: 01-2119463884-26-XXXX |
| 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 | | |

Permabond A1044

| | | |
|---|----------------------|--|
| CUMENE HYDROPEROXIDE | | <1% |
| 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 | | |

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 if any discomfort continues. |

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

| | |
|---------------------|--|
| Inhalation | May cause irritation. |
| Skin contact | Prolonged skin contact may cause redness and irritation. |
| 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. |
|-----------------------------|---|

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|---------------------------------------|---|
| Suitable extinguishing media | Extinguish with 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. |
|--|---|

Permabond A1044

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.

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. Do not eat, drink or smoke when using this 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

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

WEL = Workplace Exposure Limit

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 |

CUMENE HYDROPEROXIDE (CAS: 80-15-9)

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

Permabond A1044

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

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Normal (mechanical) room ventilation should be adequate for small volumes. For higher volume activities, or if needed for worker comfort, local mechanical exhaust should be provided.

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

Uniforms, coveralls, or a lab coat should be worn

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 | Opaque liquid. |
| Colour | White. |
| Odour | Acrylic |
| Odour threshold | Not available. |
| pH | Not relevant. |
| Melting point | Not available. |

Permabond A1044

| | |
|---|---|
| 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) | Insoluble in water. Miscible with the following materials: Organic solvents. |
| Partition coefficient | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition Temperature | Not available. |
| Viscosity | ≈70000 mPa s @ 23°C Thixotropic |
| Oxidising properties | Not available. |
| 9.2. Other information | |
| Volatile organic compound | This product contains a maximum VOC content of <1.0 %. According to EC Directive 2004/42/EC |

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

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.

Permabond A1044

Aspiration hazard

Aspiration hazard None under normal conditions.

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

Skin contact Irritating to skin.

Eye contact Irritating to eyes.

Toxicological information on ingredients.

BIS(2-BUTOXYETHYL)PHTHALATE

Acute toxicity - oral

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

Species Rat

ATE oral (mg/kg) 2,000.1

METHACRYLIC ACID

Acute toxicity - oral

**Acute toxicity oral (LD₅₀
mg/kg)** 1,320.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

**Acute toxicity dermal (LD₅₀
mg/kg)** 1,000.0

Species Rabbit

ATE dermal (mg/kg) 1,000.0

Acute toxicity - inhalation

**Acute toxicity inhalation
(LC₅₀ vapours mg/l)** 7.1

Species Rat

**ATE inhalation (vapours
mg/l)** 11.0

Skin corrosion/irritation

Animal data Dose: Method: OECD 404, 3 minutes, Rabbit Corrosive.

Serious eye damage/irritation

**Serious eye
damage/irritation** Method: OECD 405, Rabbit Corrosive.

Respiratory sensitisation

Respiratory sensitisation Guinea pig: Not sensitising. Method: various test systems

Permabond A1044

Skin sensitisation

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

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity CMR: no

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Reproductive toxicity - development Non-teratogenic, not embryotoxic

Specific target organ toxicity - single exposure

Target organs Respiratory tract Irritating.

Specific target organ toxicity - repeated exposure

Target organs No specific target organs known.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

CUMENE HYDROPEROXIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 328.0

Species Rat

ATE oral (mg/kg) 328.0

Acute toxicity - dermal

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

Species Rat

ATE dermal (mg/kg) 1,200.0

Acute toxicity - inhalation

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

Species Rat

ATE inhalation (dusts/mists mg/l) 0.5

Skin corrosion/irritation

Animal data Highly irritating.

Serious eye damage/irritation

Permabond A1044

| | |
|--|---|
| Serious eye damage/irritation | Irritating to eyes. |
| <u>Skin sensitisation</u> | |
| Skin sensitisation | Not sensitising. |
| <u>Germ cell mutagenicity</u> | |
| Genotoxicity - in vitro | Positive. |
| Genotoxicity - in vivo | This substance has no evidence of mutagenic properties. |
| <u>Carcinogenicity</u> | |
| Carcinogenicity | CMR: No |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - fertility | No specific test data are available. |
| Reproductive toxicity - development | Developmental toxicity: - NOAEL: ≥ 100 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 | Toxic: danger of serious damage to health by prolonged exposure through inhalation. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | No specific test data are available. |

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for 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.

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

Permabond A1044

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

CUMENE HYDROPEROXIDE

Acute aquatic toxicity

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

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

METHACRYLIC ACID

Biodegradation Water - Degradation 86%: 28 days

CUMENE HYDROPEROXIDE

Biodegradation The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

12.4. Mobility in soil

Mobility No data available. The product is insoluble in water.

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 EU 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

General The product is not classified as dangerous for carriage.

14.1. UN number

Not applicable.

Permabond A1044

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 | 13/02/2018 |
| Revision | 10 |
| Supersedes date | 30/06/2017 |

Permabond A1044

Hazard statements in full

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.
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.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

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.