

Permabond®

Engineering Adhesives

SAFETY DATA SHEET

Permabond UV7141

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

1.1. Product identifier

Product name Permabond UV7141

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 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 UK +44 (0)1962 711 661 USA 0800 640 7599 Asia +86 (0)21 5773 4913

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

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

Classification (67/548/EEC or 1999/45/EC) Xi;R36/37/38. R43.

2.2. Label elements

Pictogram



Signal word Danger

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

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| | |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Precautionary statements | 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 | HYDROXYPROPYL METHACRYLATE, 2-HYDROXYETHYL METHACRYLATE, ACRYLIC ACID, CUMENE 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. 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| HYDROXYPROPYL METHACRYLATE | 10-30% |
| CAS number: 27813-02-1 | EC number: 248-666-3 |
| Classification Eye Irrit. 2 - H319 Skin Sens. 1 - H317 | Classification (67/548/EEC or 1999/45/EC) Xi;R36. R43. |
| 2-HYDROXYETHYL METHACRYLATE | 5-10% |
| CAS number: 868-77-9 | EC number: 212-782-2 |
| Classification Eye Irrit. 2 - H319 Skin Sens. 1 - H317 | Classification (67/548/EEC or 1999/45/EC) R43 Xi;R36/38 |
| ACRYLIC ACID | 1-5% |
| CAS number: 79-10-7 | EC number: 201-177-9 |
| 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 | Classification (67/548/EEC or 1999/45/EC) R10 C;R35 Xn;R20/21/22 N;R50 |

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| | | |
|-----------------------------|--------------------------------------------------|--------------------|
| CUMENE HYDROPEROXIDE | | 1-< 2.5% |
| CAS number: 80-15-9 | EC number: 201-254-7 | |
| Classification | Classification (67/548/EEC or 1999/45/EC) | |
| Org. Perox. E - H242 | O;R7 T;R23 C;R34 Xn;R21/22,R48/20/22 N;R51/53 | |
| 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 R-Phrases and Hazard Statements are 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. |
|-----------------------------|-----------------------------------------------------|

SECTION 5: Firefighting measures

5.1. Extinguishing media

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|---------------------------------------|-------------------------------------|
| 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

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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. 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. Protect against direct sunlight. 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.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

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

Nitrile rubber or Viton™ gloves are recommended. Gloves should conform to EN 374. 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.

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 hands 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

No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

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SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

| | |
|----------------------------------------------|-------------------------------------------------------------------------------------|
| Appearance | Liquid. |
| Colour | Colourless. |
| 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. Miscible with the following materials: Organic solvents. |
| Auto-ignition temperature | Not available. |
| Decomposition Temperature | Not available. |
| Viscosity | ≈1500 mPa s @ 23°C |
| Oxidising properties | Not available. |

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. Light.

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. Protect against direct sunlight.

10.5. Incompatible materials

Materials to avoid Metals and their salts, Reducing agents, Oxidizers, Free radical initiators.

10.6. Hazardous decomposition products

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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 toxicological properties of this product have not been fully evaluated. Avoid direct contact with skin or eyes. Do not ingest or inhale.

Acute toxicity - oral

Acute toxicity - dermal

Acute toxicity - inhalation

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.

HYDROXYPROPYL METHACRYLATE

Acute toxicity - oral

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

Species Rat

ATE oral (mg/kg) 2,000.1

Acute toxicity - dermal

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

Species Rabbit

Skin corrosion/irritation

Animal data Slightly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Moderately irritating.

Respiratory sensitisation

Respiratory sensitisation There is no evidence that the material can lead to respiratory hypersensitivity.

Skin sensitisation

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Skin sensitisation Epidemiological studies have shown evidence of skin sensitisation.

Germ cell mutagenicity

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

2-HYDROXYETHYL METHACRYLATE

Acute toxicity - oral

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

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

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

Species Rabbit

ATE dermal (mg/kg) 3,000.0

ACRYLIC ACID

Acute toxicity - oral

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

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

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

Species Rabbit

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

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

Species Rat

ATE inhalation (dusts/mists mg/l) 3.6

Carcinogenicity

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

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

CUMENE HYDROPEROXIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 382.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 3.0

Skin corrosion/irritation

Animal data Highly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Irritating to eyes.

Skin sensitisation

Skin sensitisation Not sensitising.

SECTION 12: Ecological Information

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

12.1. Toxicity

Toxicity No data available.

Ecological information on ingredients.

HYDROXYPROPYL METHACRYLATE

Acute toxicity - fish LC₅₀, 48 hours: 493 mg/l, Leuciscus idus (Golden orfe)

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

Acute toxicity - aquatic plants EC₅₀, 72 hours: > 97.2 mg/l, Pseudokirchneriella subcapitata
NOEC, 72 hours: 97.2 mg/l, Pseudokirchneriella subcapitata

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

2-HYDROXYETHYL METHACRYLATE

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

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| | |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Acute toxicity - aquatic invertebrates | EC ₅₀ , 48 hours: 380 mg/l, Daphnia magna |
| 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 |
| Chronic toxicity - aquatic invertebrates | NOEC, 21 days: 24.1 mg/l, Daphnia magna |

ACRYLIC ACID

Acute aquatic toxicity

| | |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| Chronic toxicity - aquatic invertebrates | NOEC, 21 days: 19 mg/l, Daphnia magna |

CUMENE HYDROPEROXIDE

| | |
|------------------------------|----------------------------------------------------------------------------|
| Acute toxicity - fish | LC ₅₀ , 96 hour: 3.9 mg/l, Onchorhynchus mykiss (Rainbow trout) |
|------------------------------|----------------------------------------------------------------------------|

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

HYDROXYPROPYL METHACRYLATE

| | |
|-----------------------|------------------------------------|
| Biodegradation | Water - Degradation 94.2%: 28 days |
|-----------------------|------------------------------------|

2-HYDROXYETHYL METHACRYLATE

| | |
|-----------------------|----------------------------------|
| Biodegradation | Water - Degradation 84%: 28 days |
|-----------------------|----------------------------------|

ACRYLIC ACID

| | |
|-----------------------|----------------------------------|
| Biodegradation | Water - Degradation 81%: 28 days |
|-----------------------|----------------------------------|

CUMENE HYDROPEROXIDE

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Biodegradation The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Bioaccumulative potential BCF: 1.34 - 1.54,

ACRYLIC ACID

Partition coefficient log Kow: 0.46

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Adsorption/desorption coefficient Soil - Koc: 42.7 @ 20°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.

14.2. UN proper shipping name

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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 MARPOL73/78 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) No 453/2010 of 20 May 2010 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.

Water hazard classification WGK 1

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date 09/09/2015

Revision 4

Supersedes date 26/05/2015

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Risk phrases in full

R10 Flammable.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R21/22 Harmful in contact with skin and if swallowed.
R23 Toxic by inhalation.
R34 Causes burns.
R35 Causes severe burns.
R36 Irritating to eyes.
R36/37/38 Irritating to eyes, respiratory system and skin.
R36/38 Irritating to eyes and skin.
R37 Irritating to respiratory system.
R43 May cause sensitisation by skin contact.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R50 Very toxic to aquatic organisms.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R7 May cause fire.

Hazard statements in full

H226 Flammable liquid and vapour.
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.
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.