SAFETY DATA SHEET
Permabond LH056

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

1.1. Product identifier

Product name Permabond LH056

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

Identified uses 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 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 (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 3 - H331 Skin Sens. 1 - H317

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) R43.

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.

Precautionary statements P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352a IF ON SKIN: Wash with plenty of soap and water

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Contains	HYDROXYPROPYL METHACRYLATE, CUMENE HYDROPEROXIDE, TERT-BUTYL HYDROPEROXIDE
Supplementary precautionary statements	P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. 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 **5-10%**

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

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

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 RE 2 - H373
Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC)
O;R7 T;R23 C;R34 Xn;R21/22,R48/20/22 N;R51/53

TERT-BUTYL HYDROPEROXIDE **<1%**

CAS number: 75-91-2 EC number: 200-915-7 REACH registration number: 01-2119446670-40-XXXX

Classification
Flam. Liq. 3 - H226
Org. Perox. C - H242
Acute Tox. 4 - H302
Acute Tox. 3 - H311
Acute Tox. 1 - H330
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Skin Sens. 1 - H317
Muta. 2 - H341
Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC)
T;R23. Xn;R21/22. Muta. Cat. 3;R68. C;R34. O;R7. N;R51/53. R10,R43.

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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 if any discomfort continues.

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

Skin contact Mild dermatitis, allergic skin rash.

Eye contact May be slightly irritating to eyes.

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

Notes for the doctor No specific recommendations. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Water.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions Avoid contact with skin and eyes. 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 Sealant.

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. Cotton or other absorbent gloves should not be worn. 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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Paste.

Colour White.

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.

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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	≈400000 mPa s @ 23°C Thixotropic
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.

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

Aspiration hazard

Aspiration hazard	None under normal conditions.

Inhalation	May cause respiratory system irritation.
Ingestion	No harmful effects expected from quantities likely to be ingested by accident.
Skin contact	May cause sensitisation by skin contact.

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Eye contact May be slightly irritating to eyes.

Toxicological information on ingredients.

HYDROXYPROPYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,000.1
Species	Rat
ATE oral (mg/kg)	2,000.1

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} 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

Skin sensitisation	Epidemiological studies have shown evidence of skin sensitisation.

Germ cell mutagenicity

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

CUMENE HYDROPEROXIDE

Acute toxicity - oral

Acute toxicity oral (LD_{50} 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

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Serious eye damage/irritation	Irritating to eyes.
Skin sensitisation	
Skin sensitisation	Not sensitising.

TERT-BUTYL HYDROPEROXIDE

Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	560.0
Species	Rat
ATE oral (mg/kg)	560.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	440.0
Species	Rabbit
ATE dermal (mg/kg)	440.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} gases ppmV)	1.85
Species	Rat
ATE inhalation (gases ppm)	1.85
Skin corrosion/irritation	
Animal data	Corrosive to skin.
Serious eye damage/irritation	
Serious eye damage/irritation	Corrosive
Skin sensitisation	
Skin sensitisation	Sensitising.
Reproductive toxicity	
Reproductive toxicity - fertility	- NOAEL 21 mg/kg/day, Oral, Rat P
Inhalation	Irritating to respiratory system.

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.

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HYDROXYPROPYL METHACRYLATE

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

CUMENE HYDROPEROXIDE

Acute toxicity - fish	LC_{50}, 96 hour: 3.9 mg/l, Onchorhynchus mykiss (Rainbow trout)

TERT-BUTYL HYDROPEROXIDE

Acute toxicity - fish	LC_{50}, 96 hours: 29.6 mg/l, Pimephales promelas (Fat-head Minnow) LC_{50}, 96 hours: 56.9 mg/l, Poecilia reticulata (Guppy)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 14.1 mg/l, Daphnia magna
Acute toxicity - microorganisms	EC_{50}, 30 minutes: 17 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

HYDROXYPROPYL METHACRYLATE

Biodegradation	Water - Degradation 94.2%: 28 days

CUMENE HYDROPEROXIDE

Biodegradation	The substance is readily biodegradable.

TERT-BUTYL HYDROPEROXIDE

Biodegradation	The product is not readily biodegradable. Water - 0 %: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

TERT-BUTYL HYDROPEROXIDE

Surface tension	69.9 mN/m @ 20°C

12.5. Results of PBT and vPvB assessment

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

Ecological information on ingredients.

TERT-BUTYL HYDROPEROXIDE

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

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

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

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

SECTION 14: Transport information

General The product is not classified as dangerous for carriage.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

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

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

SECTION 15: Regulatory information

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

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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	02/06/2016
Revision	3
Supersedes date	14/08/2014
Risk phrases in full	R21/22 Harmful in contact with skin and if swallowed. R23 Toxic by inhalation. R34 Causes burns. R36 Irritating to eyes. 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. 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. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H330 Fatal if inhaled. H331 Toxic if inhaled. H341 Suspected of causing genetic defects. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.

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