

Permabond®

Engineering Adhesives

SAFETY DATA SHEET

Permabond MH199

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

1.1. Product identifier

Product name Permabond MH199

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 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

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xi;R37,R41. 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.

Permabond MH199

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	N,N-(m-PHENYLENE)DIMALLEIMIDE, CUMENE HYDROPEROXIDE
Supplementary precautionary statements	P261 Avoid breathing vapour/spray. P264 Wash contaminated skin thoroughly after handling. 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

This product contains N,N-(m-phenylene)dimalleimide which, in powder form, is classified as very toxic by inhalation. When present in solution, as in this case, such exposure can be excluded under normal working conditions and so this product is not labelled as such. However, if during use, there is a possibility that an aerosol mist may be formed then appropriate measures must be taken to exclude exposure by inhalation.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

N,N-(m-PHENYLENE)DIMALLEIMIDE	5-10%
CAS number: 3006-93-7	EC number: 221-112-8
Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 2 - H330	T+;R26. Xi;R38,R41. R43,R52/53.
Skin Irrit. 2 - H315	
Eye Dam. 1 - H318	
Skin Sens. 1 - H317	
Aquatic Chronic 3 - H412	
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.

Permabond MH199

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

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.
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6.2. Environmental precautions

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

Reference to other sections	For personal protection, see Section 8. For waste disposal, see section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Avoid contact with skin and eyes. Avoid eating, drinking and smoking when using the product.
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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.
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Permabond MH199

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

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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured paste.
Colour	Red.
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

Permabond MH199

Solubility(ies)	Slightly soluble in water. Miscible with the following materials: Organic solvents.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	≈225000 mPa s @ 23°C Thixotropic
Oxidising properties	Not available.

9.2. Other information

Other information	Not relevant.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The following materials may react with the product: Strong oxidising agents.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	There are no known reactivity hazards associated with this product.
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10.4. Conditions to avoid

Conditions to avoid	Avoid the absence of air, and metal contamination.
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10.5. Incompatible materials

Materials to avoid	Metals and their salts, Reducing agents, Oxidizers, Free radical initiators.
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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 toxicological properties of this product have not been fully evaluated. Avoid direct contact with skin or eyes. Do not ingest or inhale.
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Acute toxicity - oral

Acute toxicity - dermal

Aspiration hazard

Aspiration hazard	None under normal conditions.
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Inhalation

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

Ingestion

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

Skin contact

Irritating to skin. May cause sensitisation by skin contact.

Eye contact

Causes serious eye damage.

Toxicological information on ingredients.

N,N-(m-PHENYLENE)DIMALDIMIDE

Permabond MH199

Acute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 2,025.0

Species Rat

ATE oral (mg/kg) 2,025.0

Acute toxicity - inhalation

Acute toxicity inhalation
(LC₅₀ dust/mist mg/l) 0.055

Species Rat

ATE inhalation
(dusts/mists mg/l) 0.055

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.

N,N-(m-PHENYLENE)DIMALDIMIDE

Acute toxicity - aquatic
invertebrates EC₅₀, 48 hours: 31.6 mg/l, Daphnia magna

Permabond MH199

CUMENE HYDROPEROXIDE

Acute toxicity - fish LC₅₀, 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.

CUMENE HYDROPEROXIDE

Biodegradation The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility No data available.

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

Not applicable.

14.5. Environmental hazards

Permabond MH199

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	06/10/2015
Revision	3
Supersedes date	14/10/2014
Risk phrases in full	R21/22 Harmful in contact with skin and if swallowed. R23 Toxic by inhalation. R26 Very toxic by inhalation. R34 Causes burns. R37 Irritating to respiratory system. R38 Irritating to skin. R41 Risk of serious damage to eyes. 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. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R7 May cause fire.

Permabond MH199

Hazard statements in full

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.
H330 Fatal if inhaled.
H331 Toxic 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.
H412 Harmful 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.