

Security data sheet



Product: HM1642

Manufacturer: PERMABOND ENGINEERING ADHESIVES

Product group: KLEBSTOFF

Article group: ANAEROB

Download: 03.05.2024

PERMABOND® HM1642

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SAFETY DATA SHEET

Permabond HM1642

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

1.1. Product identifier

Product name Permabond HM1642

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 (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 Not Classified

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

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.

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Contains 2-HYDROXYETHYL METHACRYLATE, ACRYLIC ACID

Supplementary precautionary statements

P261 Avoid breathing vapour/ spray.
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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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			
BISPHENOL A ETHOXYLATE DIMETHACRYLATE			1-5%
CAS number: 41637-38-1	EC number: 609-946-4	REACH registration number: 01-2119980659-17-XXXX	
Classification Aquatic Chronic 4 - H413			
ACRYLIC ACID			1-<3%
CAS number: 79-10-7	EC number: 201-177-9	REACH registration number: 01-2119452449-31-XXXX	
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			

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ETHANEDIOL			<1%
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-XXXX	
Classification Acute Tox. 4 - H302 STOT RE 2 - H373			

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. 2 - H330 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Muta. 2 - H341 Aquatic Chronic 2 - H411			

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

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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 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.

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

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. Never return unused material to storage receptacle.

7.3. Specific end use(s)

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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

ETHANEDIOL

Long-term exposure limit (8-hour TWA): WEL 20 ppm 52 mg/m³ vapour

Short-term exposure limit (15-minute): WEL 40 ppm 104 mg/m³ vapour

Sk

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ particulate

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

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 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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Green.
Odour	Acrylic
Odour threshold	Not available.
pH	Not relevant.
Melting point	Not available.
Initial boiling point and range	Not applicable.

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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	≈9000 mPa s @ 23°C
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. 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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Skin corrosion/irritation

Animal data	Irritating to skin.
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Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation.
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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.

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

BISPHENOL A ETHOXYLATE DIMETHACRYLATE

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) 2,000.1

Species Rat

ATE dermal (mg/kg) 2,000.1

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

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Genotoxicity - in vitro Chromosome aberration: Negative.

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

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

TERT-BUTYL HYDROPEROXIDE**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 560.0

Species Rat

ATE oral (mg/kg) 560.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 440.0

Species Rabbit

ATE dermal (mg/kg) 440.0

Acute toxicity - inhalation

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Acute toxicity inhalation
(LC₅₀ gases ppmV)

1.85

Species

Rat

ATE inhalation (gases
ppm)

100.0

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.

CUMENE HYDROPEROXIDE

Acute toxicity - oral

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.

2-HYDROXYETHYL METHACRYLATE

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Acute toxicity - fish	LC ₅₀ , 96 hours: > 100 mg/l, <i>Oryzias latipes</i> (Red killifish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 380 mg/l, <i>Daphnia magna</i>
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 836 mg/l, <i>Selenastrum capricornutum</i> NOEC, 72 hours: 400 mg/l, <i>Selenastrum capricornutum</i>
Acute toxicity - microorganisms	EC ₅₀ , 16 hours: > 3000 mg/l, <i>Pseudomonas fluorescens</i>
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 24.1 mg/l, <i>Daphnia magna</i>

BISPHENOL A ETHOXYLATE DIMETHACRYLATE

Acute toxicity - fish	LL ₅₀ , 96 hours: >100 mg/l, <i>Onchorhynchus mykiss</i> (Rainbow trout)
Acute toxicity - aquatic invertebrates	NOELR, 48 hours: 100 mg/l, <i>Daphnia magna</i>
Acute toxicity - microorganisms	NOEC, 3 hours: 10 mg/l, Activated sludge

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, <i>Brachydanio rerio</i> (Zebra Fish)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 24 hours: 270 mg/l, <i>Daphnia magna</i> EC ₅₀ , 48 hours: 95 mg/l, <i>Daphnia magna</i>
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 0.04 mg/l, <i>Desmodesmus subspicatus</i> EC ₅₀ , 96 hours: 0.17 mg/l, <i>Pseudokirchneriella subcapitata</i>
Acute toxicity - microorganisms	EC ₂₀ , 30 minutes: 900 mg/l, Activated sludge
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 19 mg/l, <i>Daphnia magna</i>

TERT-BUTYL HYDROPEROXIDE

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

CUMENE HYDROPEROXIDE

Acute toxicity - fish	LC ₅₀ , 96 hour: 3.9 mg/l, <i>Onchorhynchus mykiss</i> (Rainbow trout)
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12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Biodegradation Water - Degradation 84%: 28 days

BISPHENOL A ETHOXYLATE DIMETHACRYLATE

Persistence and degradability The product is biodegradable.

ACRYLIC ACID

Biodegradation Water - Degradation 81%: 28 days

TERT-BUTYL HYDROPEROXIDE

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

CUMENE HYDROPEROXIDE

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,

BISPHENOL A ETHOXYLATE DIMETHACRYLATE

Partition coefficient log Pow: 5.30~5.62

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 Water - Koc: 42.7 @ 20°C

ACRYLIC ACID

Surface tension 69.6 mN/m @ 20°C

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TERT-BUTYL HYDROPEROXIDE

Surface tension 69.9 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.

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

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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

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	27/06/2017
Revision	3
Supersedes date	05/05/2017
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. H315 Causes skin irritation. 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. H332 Harmful if inhaled. H335 May cause respiratory irritation. H341 Suspected of causing genetic defects. 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. H413 May cause long lasting harmful effects to aquatic life.

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