

SAFETY DATA SHEET Permabond F201

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

1.1. Product identifier

Product name Permabond F201

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 CHEMTREC Ireland: +(353)-19014670 number 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 Dam. 1 - H318 Skin Sens. 1 - H317 Repr. 1B - H360Df STOT SE 3 -

H335

Environmental hazards Not Classified

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.

H360Df May damage the unborn child. Suspected of damaging fertility.

www.glueonine.co.uk

Precautionary statements P202 Do not handle until all safety precautions have been read and understood.

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 TETRAHYDROFURFURYL METHACRYLATE, HYDROXYPROPYL METHACRYLATE,

METHACRYLIC 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. This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

TETRAHYDROFURFURYL METHACRYLATE

30-60%

CAS number: 2455-24-5 EC number: 219-529-5 REACH registration number: 01-

2120748481-53-XXXX

Classification

Skin Sens. 1 - H317 Repr. 1B - H360D Aquatic Chronic 3 - H412

HYDROXYPROPYL METHACRYLATE

10-30%

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

METHACRYLIC ACID

CAS number: 79-41-4

EC number: 201-204-4

REACH registration number: 01-2119463884-26-XXXX

Classification

Acute Tox. 4 - H302

Acute Tox. 4 - H332

Skin Corr. 1A - H314

Eye Dam. 1 - H318

STOT SE 3 - H335

CUMENE HYDROPEROXIDE

1-< 2.5%

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

METHYL METHACRYLATE <1%

CAS number: 80-62-6 EC number: 201-297-1 REACH registration number: 01-

2119452498-28-XXXX

Classification

Flam. Liq. 2 - H225 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 STOT SE 3 - H335

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 Remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms

develop, obtain medical attention

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 doctorNo 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 Burning pro

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 precautionsWear 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

Use in a well ventilated area. Avoid contact with skin and eyes. Do not ingest or inhale. 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)

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

METHYL METHACRYLATE

Long-term exposure limit (8-hour TWA): WEL 50 ppm 208 mg/m³ Short-term exposure limit (15-minute): WEL 100 ppm 416 mg/m³

WEL = Workplace Exposure Limit

TETRAHYDROFURFURYL METHACRYLATE (CAS: 2455-24-5)

DNEL Workers - Inhalation; Long term systemic effects: 3.53 mg/m³

Workers - Dermal; Long term systemic effects: 1 mg/kg/day

PNEC Fresh water; 0.347 mg/l

Marine water; 0.035 mg/l

Sediment (Freshwater); 2.12 mg/kg Sediment (Marinewater); 0.212 mg/kg

Soil; 0.221 mg/kg STP; 15.8 mg/l

HYDROXYPROPYL METHACRYLATE (CAS: 27813-02-1)

DNEL Workers - Inhalation; Long term systemic effects: 14.7 mg/m³

Workers - Dermal; Long term systemic effects: 4.2 mg/kg/day

PNEC Fresh water; 0.904 mg/l

Marine water; 0.904 mg/l

STP; 10 mg/l

Sediment (Freshwater); 6.28 mg/kg Sediment (Marinewater); 6.28 mg/kg

Soil; 0.727 mg/kg

METHACRYLIC ACID (CAS: 79-41-4)

DNEL Workers, Industry - Inhalation; Long term local effects: 88 mg/m³

Workers, Industry - Dermal; Long term systemic effects: 4.25 mg/kg/day Workers, Industry - Inhalation; Long term systemic effects: 29.6 mg/m³

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/m³

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

METHYL METHACRYLATE (CAS: 80-62-6)

DNEL Workers, Industry/Professional - Inhalation; Long term : 208 mg/m³

Workers, Industry/Professional - Dermal; Long term : 13.67 mg/kg/day Workers, Industry/Professional - Inhalation; Short term : 416 mg/m³

PNEC Workers, Industry/Professional - Water; Long term <0.94 mg/l

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

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

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. (EN14387)

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Liquid.

Colour Brown.



Odour Acrylic

Odour threshold Not available.

pH Not relevant.

Melting point Not available.

Flash point >100°C

Evaporation rate Not available.

Upper/lower flammability or

Initial boiling point and range

explosive limits

Not available.

Not applicable.

Vapour pressure Not available.

Vapour density Not available.

Relative density 1.0

Solubility(ies) Slightly soluble in water. Miscible with the following materials: Organic solvents.

Partition coefficient

Not available.

Auto-ignition temperature

Not available.

Decomposition Temperature Not available.

Viscosity ≈9000 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

There are no known reactivity hazards associated with this product.

reactions

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 Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified

products organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects



Toxicological effectsThe 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.

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.

Reproductive toxicity

Reproductive toxicity - fertility May damage fertility.

Reproductive toxicity -

development

May damage the unborn child.

Aspiration hazard

Aspiration hazard None under normal conditions.

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

coughing.

Toxicological information on ingredients.

TETRAHYDROFURFURYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 4,000.0

mg/kg)

Species Rat

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

Serious eye Not irritating.

damage/irritation

Skin sensitisation

Skin sensitisation Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Carcinogenicity

Carcinogenicity No specific test data are available.

Reproductive toxicity

Reproductive toxicity - Screening - NOAEL 120 mg/kg/day, Oral, Rat F1

fertility

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 300 mg/kg, Oral, Rat

Aspiration hazard

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

HYDROXYPROPYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD50

2,000.1

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 5,000.0

mg/kg)

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Serious eye

Moderately irritating.

damage/irritation

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.

METHACRYLIC ACID

Acute toxicity - oral

Acute toxicity oral (LD₅o

1,320.0

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 1,000.0

mg/kg)

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation

(LC₅₀ vapours mg/l)

Species

Rat

7.1

Skin corrosion/irritation

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

Serious eye damage/irritation

Serious eye Method: OECD 405, Rabbit Corrosive.

damage/irritation

Respiratory sensitisation

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

Skin sensitisation

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

Germ cell mutagenicity

Genotoxicity - in vitroBased 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 328.0

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 1,200.0

mg/kg)

.,_...

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation

1.37



Species Rat

Skin corrosion/irritation

Animal data Highly irritating.

Serious eye damage/irritation

Serious eye Irritating to eyes.

damage/irritation

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Positive.

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

Carcinogenicity

CMR: No Carcinogenicity

Reproductive toxicity

Reproductive toxicity -

fertility

No specific test data are available.

Reproductive toxicity -

development

Developmental toxicity: - NOAEL: ≥100 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

No specific test data are available. STOT - single exposure

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Toxic: danger of serious damage to health by prolonged exposure through

inhalation.

Aspiration hazard

Aspiration hazard No specific test data are available.

SECTION 12: Ecological Information

Ecotoxicity The product is not expected to be hazardous to 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.

TETRAHYDROFURFURYL METHACRYLATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 34.7 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic

EC₅₀, 72 hours: >100 mg/l, Desmodesmus subspicatus plants NOEC, 72 hours: >100 mg/l, Desmodesmus subspicatus

Chronic aquatic toxicity

Chronic toxicity - aquatic

invertebrates

NOEC, 21 days: 37.2 mg/l, Daphnia magna

HYDROXYPROPYL METHACRYLATE

Acute aquatic toxicity

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 aquatic toxicity

Chronic toxicity - aquatic

invertebrates

NOEC, 21 days: 24.1 mg/l, Daphnia magna

METHACRYLIC ACID

Acute aquatic toxicity

LC₅₀, 96 hours: 85 mg/l, Oncorhynchus mykiss (Rainbow trout) Acute toxicity - fish

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

Chronic toxicity - fish early NOEC, 35 days: 10 mg/l, Danio rerio (Zebrafish)

Chronic toxicity - aquatic

invertebrates

life stage

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.

TETRAHYDROFURFURYL METHACRYLATE

Persistence and degradability

The product is readily biodegradable.

Biodegradation - 75%: 28 days

HYDROXYPROPYL METHACRYLATE

reonline.co.uk

Biodegradation Water - Degradation 94.2%: 28 days

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.

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 methodsDo 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 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 05/07/2018

Revision 6

Supersedes date 12/07/2017

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.

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.

H360Df May damage the unborn child. Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

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.