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

1.1. Product identifier
Product name  Permabond TA4605A

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 (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.
### Permabond TA4605A

**Precautionary statements**
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P302+P352a IF ON SKIN: Wash with plenty of soap and water
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- 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**
- BENZYL METHACRYLATE, [2-[(2-METHYL-1-OXOALLYL)OXY]ETHYL] HYDROGEN SUCCINATE, 2-HYDROXYETHYL METHACRYLATE

**Supplementary precautionary statements**
- P271 Use only outdoors or in a well-ventilated area.
- 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

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>CAS number</th>
<th>EC number</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENZYL METHACRYLATE</td>
<td>60-100%</td>
<td>2495-37-6</td>
<td>219-674-4</td>
</tr>
<tr>
<td>[2-[(2-METHYL-1-OXOALLYL)OXY]ETHYL] HYDROGEN SUCCINATE</td>
<td>5-10%</td>
<td>20882-04-6</td>
<td>244-096-4</td>
</tr>
<tr>
<td>2-HYDROXYETHYL METHACRYLATE</td>
<td>1-5%</td>
<td>868-77-9</td>
<td>212-782-2</td>
</tr>
</tbody>
</table>

**Classification**

- Skin Irrit. 2 - H315
- Eye Irrit. 2 - H319
- Skin Sens. 1 - H317
- STOT SE 3 - H335

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

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### SECTION 4: First aid measures
Permabond TA4605A

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  Remove any contact lenses and open eyelids wide apart. 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 respiratory 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  Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture


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
Permabond TA4605A

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

Keep only in the original container in a cool, well-ventilated place. Keep container dry. Store in closed original container at temperatures between 2°C and 7°C. Never return unused material to storage receptacle.

7.3. Specific end use(s)

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. Avoid inhalation of vapours. 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/off-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.
Permabond TA4605A

Upper/lower flammability or explosive limits
Not available.

Vapour pressure
Not available.

Vapour density
Not available.

Relative density
1.0

Solubility(ies)
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
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
Stable at normal ambient temperatures and when used as recommended.

10.5. Incompatible materials
Materials to avoid
No specific material or group of materials is likely to react with the product to produce a hazardous situation.

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.

Skin corrosion/irritation
Animal data
Irritating to skin.

Serious eye damage/irritation
Serious eye damage/irritation
Irritating to eyes.

Skin sensitisation
Skin sensitisation
May cause sensitisation by skin contact.
Permabond TA4605A

**Aspiration hazard**
Not anticipated to present an aspiration hazard, based on chemical structure.

**Inhalation**
May cause respiratory system irritation.

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

**Toxicological information on ingredients.**

**BENZYL METHACRYLATE**

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
<td>3,980.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>3,980.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - dermal**

| Acute toxicity dermal (LD₅₀ mg/kg) | 2,000.1 |
| Species | Rat |
| ATE dermal (mg/kg) | 2,000.1 |

**2-[[(2-METHYL-1-OXOALLYL)OXY]ETHYL] HYDROGEN SUCCINATE**

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
<td>2,000.1</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>2,000.1</td>
</tr>
</tbody>
</table>

**2-HYDROXYETHYL METHACRYLATE**

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
<td>5,000.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>5,000.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute toxicity - dermal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity dermal (LD₅₀ mg/kg)</td>
<td>3,000.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>3,000.0</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological Information**

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

**12.1. Toxicity**
Permabond TA4605A

Toxicity

No data available.

Ecological information on ingredients.

**BENZYL METHACRYLATE**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - fish</td>
<td>LC₅₀, 48 hours: 4.67 mg/l, Pimephales promelas (Fat-head Minnow)</td>
</tr>
<tr>
<td>Acute toxicity - aquatic</td>
<td>NOEC, 72 hours: 0.899 mg/l, Desmodesmus subspicatus</td>
</tr>
<tr>
<td>plants</td>
<td>EC₅₀, 72 hours: 2.28 mg/l, Desmodesmus subspicatus</td>
</tr>
<tr>
<td>Chronic toxicity - aquatic</td>
<td>NOEC, 21 days: 4.21 mg/l, Daphnia magna</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-HYDROXYETHYL METHACRYLATE</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity - fish</td>
<td>LC₅₀, 96 hours: &gt; 100 mg/l, Oryzias latipes (Red killifish)</td>
</tr>
<tr>
<td>Acute toxicity - aquatic</td>
<td>EC₅₀, 48 hours: 380 mg/l, Daphnia magna</td>
</tr>
<tr>
<td>invertebrates</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity - aquatic</td>
<td>EC₅₀, 72 hours: 836 mg/l, Selenastrum capricornutum</td>
</tr>
<tr>
<td>plants</td>
<td>NOEC, 72 hours: 400 mg/l, Selenastrum capricornutum</td>
</tr>
<tr>
<td>Acute toxicity -</td>
<td>EC₅₀, 16 hours: &gt; 3000 mg/l, Pseudomonas fluorescens</td>
</tr>
<tr>
<td>microorganisms</td>
<td></td>
</tr>
<tr>
<td>Chronic toxicity - aquatic</td>
<td>NOEC, 21 days: 24.1 mg/l, Daphnia magna</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Persistence and degradability

No data available.

Ecological information on ingredients.

**BENZYL METHACRYLATE**

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Water - Degradation 74%: 28 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-HYDROXYETHYL METHACRYLATE</td>
<td>Water - Degradation 84%: 28 days</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

Ecological information on ingredients.

**2-HYDROXYETHYL METHACRYLATE**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>BCF: 1.34 - 1.54</th>
</tr>
</thead>
</table>

12.4. Mobility in soil

Mobility

No data available.

Ecological information on ingredients.

**BENZYL METHACRYLATE**
Permabond TA4605A

**Adsorption/desorption coefficient**
- log Koc: 2.57 @ 25°C

**2-HYDROXYETHYL METHACRYLATE**

**Adsorption/desorption coefficient**
Water - Koc: 42.7 @ 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
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.
Permabond TA4605A

SECTION 15: Regulatory information

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

National regulations

EU legislation

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 14/03/2016
Revision 2
Supersedes date 26/05/2015

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

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.