SAFETY DATA SHEET
Permabond Polyolefin Primer (POP)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product name Permabond Polyolefin Primer (POP)

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

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
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 (1999/45/EEC) Xn;R65. Xi;R38. F;R11. N;R50/53. R67.
Human health
In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Irritating to eyes. Repeated exposure may cause skin dryness or cracking.
Environment
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Physical and Chemical Hazards
The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures.

2.2. Label elements
Contains HEPTANE

Labelling
- Harmful
- Highly flammable
- Dangerous for the environment

Risk Phrases
R11 Highly flammable
R38 Irritating to skin.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

Safety Phrases
S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe vapour/spray.
S60 This material and its container must be disposed of as hazardous waste.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

<table>
<thead>
<tr>
<th>HEPTANE</th>
<th>60-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.: 142-82-5</td>
<td>EC No.: 205-563-8</td>
</tr>
<tr>
<td>Classification (EC 1272/2008)</td>
<td>Classification (67/548/EEC)</td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td>F;R11</td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td>Xn;R65</td>
</tr>
<tr>
<td>STOT SE 3 - H336</td>
<td>X;R36</td>
</tr>
<tr>
<td>Asp. Tox. 1 - H304</td>
<td>R67</td>
</tr>
<tr>
<td>Aquatic Acute 1 - H400</td>
<td>N;R50/53</td>
</tr>
<tr>
<td>Aquatic Chronic 1 - H410</td>
<td></td>
</tr>
</tbody>
</table>

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

Composition Comments
The data shown are in accordance with the latest EC Directives.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation
Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion
Rinse mouth thoroughly. Drink a few glasses of water or milk. DO NOT INDUCE VOMITING! Get medical attention.

Skin contact
Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

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. Get medical attention promptly if symptoms occur after washing.

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

General information
Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Inhalation.
Vapours may cause drowsiness and dizziness.

Skin contact
Prolonged contact may cause redness, irritation and dry skin.

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

Avoid vomiting and normal rinse of stomach because of risk of aspiration.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

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

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

Unusual Fire & Explosion Hazards
Vapours are heavier than air and may spread near ground to sources of ignition.

Specific hazards
The product is flammable, and heating may generate vapours which may form explosive vapour/air mixtures.

5.3. Advice for firefighters
Permabond Polyolefin Primer (POP)

Special Fire Fighting Procedures
Containers close to fire should be removed or cooled with water.

Protective equipment for fire-fighters
Wear self contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective clothing as described in Section 8 of this safety data sheet. Remove or isolate all sources of ignition. Provide adequate ventilation.

6.2. Environmental precautions
Do not allow to enter drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up
Absorb in vermiculite, dry sand or earth and place into containers. Transfer to suitable, labelled containers for disposal.

6.4. 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
Keep away from sources of ignition - No smoking. During application and drying, solvent vapours will be emitted. Use in a well ventilated area.

7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from sources of ignition - No smoking.

Storage Class
Flammable liquid storage.

7.3. Specific end use(s)
Primer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>STD</th>
<th>TWA - 8 Hrs</th>
<th>STEL - 15 Min</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPTANE</td>
<td>WEL</td>
<td>500 ppm</td>
<td>2085 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit.

Ingredient Comments
WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment

Engineering measures
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory equipment
Not normally required.

Hand protection
Nitrile rubber or Viton™ gloves are recommended. Cotton or other absorbent gloves should not be worn. Gloves should conform to EN 374.

Eye protection
Use approved safety goggles or face shield. Personal eye protection should conform to EN 166.

Other Protection
Use engineering controls to reduce air contamination to permissible exposure level. Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station and safety shower.
Hygiene measures
Wash hands at the end of each work shift and before eating, smoking and using the toilet.
Skin protection
Uniforms, coveralls, or a lab coat should be worn

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>98°C</td>
</tr>
<tr>
<td>Melting point (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.7</td>
</tr>
<tr>
<td>Vapour density (air=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>~53.3 mbar 20°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-Value, Conc. Solution</td>
<td>Not relevant</td>
</tr>
<tr>
<td>Viscosity</td>
<td>~1 mPa.s</td>
</tr>
<tr>
<td>Decomposition temperature (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Odour Threshold, Lower</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>-4°C</td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>220°C</td>
</tr>
<tr>
<td>Flammability Limit - Lower(%)</td>
<td>1.1%</td>
</tr>
<tr>
<td>Flammability Limit - Upper(%)</td>
<td>7%</td>
</tr>
<tr>
<td>Partition Coefficient (N-Octanol/Water)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not determined</td>
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<tr>
<td>Oxidising properties</td>
<td>Not available</td>
</tr>
</tbody>
</table>

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reaction with: Strong oxidising substances.

10.2. Chemical stability
Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions
No specific reactivity hazards associated with this product.

10.4. Conditions to avoid
Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials
Materials To Avoid
Strong oxidising substances.

10.6. Hazardous decomposition products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: TOXICOLOGICAL INFORMATION
11.1. Information on toxicological effects

Toxicological information
The toxicological properties of this product have not been fully evaluated. Use of good industrial hygiene practices is required. Do not ingest or inhale.

Aspiration hazard:
Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Inhalation
In high concentrations, vapours may irritate throat and respiratory system and cause coughing. Vapours may cause drowsiness and dizziness.

Ingestion
May be harmful if swallowed and enters airways.

Skin contact
Repeated exposure may cause skin dryness or cracking. May cause sensitisation by skin contact.

Eye contact
Irritating and may cause redness and pain.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
The product contains a substance which is very toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

12.1. Toxicity
No information available.

12.2. Persistence and degradability

Degradability
The product is easily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential
Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

Partition coefficient
Not determined.

12.4. Mobility in soil

Mobility
The product contains organic solvents which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

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.

13.1. Waste treatment methods

Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Make sure containers are empty before discarding (explosion risk).

Waste Class
14 06 03 other solvents and solvent mixtures
SECTION 14: TRANSPORT INFORMATION

14.1. UN number

1206

14.2. UN proper shipping name

Heptanes

14.3. Transport hazard class(es)

3

Transport Labels

14.4. Packing group

II

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

14.6. Special precautions for user

EMS F-E, S-D  
Hazard No. (ADR) 33  
Tunnel Restriction Code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

Statutory Instruments

Approved Code Of Practice
Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes
Workplace Exposure Limits EH40.

EU Legislation

National Regulations

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION
Revision Date 11/05/2012
Revision 1

Risk Phrases In Full
R65 Harmful: may cause lung damage if swallowed.
R11 Highly flammable
R38 Irritating to skin.
R67 Vapours may cause drowsiness and dizziness.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Statements In Full
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.