SAFETY DATA SHEET
POLYURETHANE FOAM

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME: POLYURETHANE FOAM
PRODUCT NO.: MPU
EMPU500
ZE
APPLICATION: Resin
SUPPLIER: ELECTROLUBE. A division of HK WENTWORTH LTD
ASHBY PARK, COALFIELD WAY, ASHBY DE LA ZOUCH, LEICESTERSHIRE LE65 1JR
UNITED KINGDOM
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info@hkw.co.uk

EMERGENCY TELEPHONE
+44 (0)1530 419600 between 8.30am - 5.00pm Mon – Fri

2 HAZARDS IDENTIFICATION

Extremely flammable
Harmful by inhalation.
Irritating to eyes, respiratory system and skin.
May cause sensitisation by inhalation and skin contact.
Limited evidence of a carcinogenic effect.
Harmful: danger of serious damage to health by prolonged exposure through inhalation.

CLASSIFICATION (1999/45)
Xn;R20, R48/20. Carc. Cat. 3;R40. R42/43. Xi;R36/37/38 R42/43

3 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>EC No.</th>
<th>CAS-No.</th>
<th>Content %</th>
<th>Classification (67/548/EEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYLENEDIPhENYL DIISOCYANATE</td>
<td>247-714-0</td>
<td>26447-40-5</td>
<td>30-60%</td>
<td>Carc. Cat. 3;R40 Xn;R20, R48/20 Xi;R36/37/38 R42/43</td>
</tr>
<tr>
<td>tris(2-chloro-1-methylethyl)phosphate</td>
<td>237-158-7</td>
<td>13674-84-5</td>
<td>10-30%</td>
<td>R52/53.</td>
</tr>
<tr>
<td>DIMETHYL ETHER</td>
<td>204-065-8</td>
<td>115-10-6</td>
<td>5-10%</td>
<td>F+R12.</td>
</tr>
</tbody>
</table>

The Full Text for all R-Phrases is Displayed in Section 16

COMPOSITION COMMENTS
Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels

4 FIRST-AID MEASURES

INHALATION
Move the exposed person to fresh air at once. Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. Get medical attention if any discomfort continues. If respiratory problems, artificial respiration/oxygen.

INGESTION
DO NOT INDUCE VOMITING! Immediately rinse mouth and provide fresh air. Get medical attention immediately!

SKIN CONTACT
Remove affected person from source of contamination. Immediately remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.
POLYURETHANE FOAM

EYE CONTACT
Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA
Fire can be extinguished using: Water spray, fog or mist. Foam. Powder.

SPECIAL FIRE FIGHTING PROCEDURES
Avoid breathing fire vapours. Use pressurised air mask if product is involved in a fire.

UNUSUAL FIRE & EXPLOSION HAZARDS
Fire causes formation of toxic gases. Aerosol cans may explode in a fire.

SPECIFIC HAZARDS

6 ACCIDENTAL RELEASE MEASURES

SPILL CLEAN UP METHODS
When dealing with a spillage, please consult the section relating to suitable protective measures. Wear necessary protective equipment. Stop leak if possible without risk. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS
Persons with impaired lung functions should not handle this preparation. Persons susceptible to allergic reactions should not handle this product. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

STORAGE PRECAUTIONS
Keep in original container. Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<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>DIMETHYL ETHER</td>
<td>WEL</td>
<td>400 ppm</td>
<td>766 mg/m³</td>
<td></td>
</tr>
<tr>
<td>METHYLENEDIPHENYL DIISOCYANATE</td>
<td>WEL</td>
<td>0.02 mg/m³</td>
<td>0.07 mg/m³</td>
<td>(Sen)</td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit.

INGREDIENT COMMENTS
WEL = Workplace Exposure Limits

PROTECTIVE EQUIPMENT

ENGINEERING MEASURES
Provide adequate general and local exhaust ventilation.

RESPIRATORY EQUIPMENT
Respiratory protection must be used if air contamination exceeds acceptable level.

HAND PROTECTION
Use protective gloves made of: Rubber, neoprene or PVC. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION
Wear approved, tight fitting safety glasses where splashing is probable.

OTHER PROTECTION
Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.
POLYURETHANE FOAM

HYGIENE MEASURES
DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly if skin becomes contaminated. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE</td>
<td>Aerosol</td>
</tr>
<tr>
<td>ODOUR</td>
<td>Musty (mouldy)</td>
</tr>
<tr>
<td>SOLUBILITY</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>RELATIVE DENSITY</td>
<td>1.09 @ 25 °C</td>
</tr>
<tr>
<td>VISCOSITY</td>
<td>mPas @ 20 °C</td>
</tr>
</tbody>
</table>

10 STABILITY AND REACTIVITY

STABILITY
Stable under normal temperature conditions.

CONDITIONS TO AVOID
Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidisers. Reacts strongly with strong acids, bases, organic chemicals and certain metal combinations.

HAZARDOUS DECOMPOSITION PRODUCTS

11 TOXICOLOGICAL INFORMATION

TOXIC DOSE 1 - LD 50 >10000 mg/kg (oral rat)
TOXIC CONC. - LC 50 490 mg/l/4h (inh-rat)

GENERAL INFORMATION
No specific health warnings noted.

INHALATION
Harmful by inhalation. High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting. May cause sensitisation by inhalation.

INGESTION
May cause stomach pain or vomiting.

SKIN CONTACT
Irritating to skin. Prolonged or repeated exposure may cause severe irritation.

EYE CONTACT
Irritating to eyes.

OTHER HEALTH EFFECTS
Carcinogen Category 3.

<table>
<thead>
<tr>
<th>NAME</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic Dose 1 - LD 50 - METHYLENEDIPHENYL DIISOCYANATE</td>
<td>5000 mg/kg (oral rat)</td>
</tr>
<tr>
<td>Toxic Dose 2 - LD 50 - METHYLENEDIPHENYL DIISOCYANATE</td>
<td>5000 mg/kg (ipr-rat)</td>
</tr>
<tr>
<td>Toxic Conc. - LC 50 - METHYLENEDIPHENYL DIISOCYANATE</td>
<td>370 mg/l/4h (inh-rat)</td>
</tr>
</tbody>
</table>

12 ECOLOGICAL INFORMATION

ECOTOXICITY
Dangerous for the environment if discharged into watercourses.

<table>
<thead>
<tr>
<th>NAME</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC 50, 96 Hrs, Fish mg/l - METHYLENEDIPHENYL DIISOCYANATE</td>
<td>100</td>
</tr>
<tr>
<td>EC 50, 48 Hrs, Daphnia, mg/l - METHYLENEDIPHENYL DIISOCYANATE</td>
<td>100</td>
</tr>
</tbody>
</table>

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS
Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION
## POLYURETHANE FOAM

<table>
<thead>
<tr>
<th>PROPER SHIPPING NAME</th>
<th>AEROSOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTALLY HAZARDOUS</td>
<td>No.</td>
</tr>
<tr>
<td>SUBSTITUTE/MARINE POLLUTANT</td>
<td></td>
</tr>
<tr>
<td>UN NO. ROAD</td>
<td>1950</td>
</tr>
<tr>
<td>ADR CLASS NO.</td>
<td>2</td>
</tr>
<tr>
<td>ADR CLASS</td>
<td>Class 2: Gases</td>
</tr>
<tr>
<td>ADR PACK GROUP</td>
<td>N/A</td>
</tr>
<tr>
<td>TUNNEL RESTRICTION CODE</td>
<td>(D)</td>
</tr>
<tr>
<td>ADR LABEL NO.</td>
<td>2.1</td>
</tr>
<tr>
<td>UN NO. SEA</td>
<td>1950</td>
</tr>
<tr>
<td>IMDG CLASS</td>
<td>2.1</td>
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<tr>
<td>IMDG PACK GR.</td>
<td>N/A</td>
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<tr>
<td>EMS</td>
<td>F-D, S-U</td>
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<tr>
<td>UN NO. AIR</td>
<td>1950</td>
</tr>
<tr>
<td>AIR CLASS</td>
<td>2.1</td>
</tr>
<tr>
<td>AIR PACK GR.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 15 REGULATORY INFORMATION

#### LABELLING

- Harmful
- Extremely Flammable

#### CONTAINS

METHYLENEDI Phenyl DIISOCYANATE

#### RISK PHRASES

- R12 Extremely flammable.
- R20 Harmful by inhalation.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R40 Limited evidence of a carcinogenic effect.
- R42/43 May cause sensitisation by inhalation and skin contact.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

#### SAFETY PHRASES

- A1 Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
- A2 Do not spray on a naked flame or any incandescent material.
- S2 Keep out of the reach of children.
- S16 Keep away from sources of ignition - No smoking.
- S23 Do not breathe vapour/spray.
- S36/37 Wear suitable protective clothing and gloves.
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
- P4 Contains isocyanates. See information supplied by the manufacturer.

### UK REGULATORY REFERENCES

- Chemicals (Hazard Information & Packaging) Regulations.
- The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.
**ENVIRONMENTAL LISTING**


**EU DIRECTIVES**

Dangerous Substance Directive 67/548/EEC.

Dangerous Preparations Directive 1999/45/EC.

System of specific information relating to Dangerous Preparations. 2001/58/EC.


**GUIDANCE NOTES**

Workplace Exposure Limits EH40.

**16 OTHER INFORMATION**

**REVISION COMMENTS**

Revised in accordance with CHIP3 and EU Directives 1999/45/EC and 2001/58/EC

**ISSUED BY**

Helen O'Reilly

**REVISION DATE**

SEPTEMBER 2010

**REV. NO./REPL. SDS**

1

**GENERATED**

SDS NO. 11312

**RISK PHRASES IN FULL**

R12 Extremely flammable.

R20 Harmful by inhalation.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R40 Limited evidence of a carcinogenic effect.

R42/43 May cause sensitisation by inhalation and skin contact.

**DISCLAIMER**

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.