SAFETY DATA SHEET
FLAME RETARDANT EPOXY ER2188 PART B

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

1.1. Product identifier
Product name: FLAME RETARDANT EPOXY ER2188 PART B

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Resin.
Uses advised against: At this moment in time we do not have information on use restrictions. They will be included in this safety data sheet when available.

1.3. Details of the supplier of the safety data sheet
Supplier: ELECTROLUBE. A division of HK WENTWORTH LTD
ASHBY PARK, COALFIELD WAY,
ASHBY DE LA ZOUCH, LEICESTERSHIRE
LE65 1JR
UNITED KINGDOM
+44 (0)1530 419600
+44 (0)1530 416640
info@hkw.co.uk

1.4. Emergency telephone number
+44 (0)1530 419600 between 8.30am - 5.00pm GMT Mon – Fri

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical and Chemical Hazards: Not classified.
Human health: Acute Tox. 4 - H302; Acute Tox. 4 - H312; Skin Corr. 1B - H314; Skin Sens. 1 - H317; Repr. 2 - H361fd
Environment: Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

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

Environment
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Dispose of waste and residues in accordance with local authority requirements.

2.2. Label elements
Contains:
- ISOPHORONEDIAMINE
- NONYLPHENOL
- TRIMETHYLHEXAMETHYLENE DIAMINE
- TETRADECYLAMINE

Label In Accordance With (EC) No. 1272/2008
**Signal Word**

**Danger**

**Hazard Statements**

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H361fd Suspected of damaging fertility or the unborn child.
- H410 Very toxic to aquatic life with long lasting effects.

**Precautionary Statements**

- P280 Wear protective gloves, eye and face protection.
- P313 Get medical advice/attention.
- P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Supplementary Precautionary Statements**

- P260 Do not breathe vapour/spray.
- P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P333+313 If skin irritation or rash occurs: Get medical advice/attention.

**2.3. Other hazards**

Not Classified as PBT/vPvB by current EU criteria.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2. Mixtures

**ISOPHORONEDIAMINE** 30-60%

<table>
<thead>
<tr>
<th>CAS-No.: 2855-13-2</th>
<th>EC No.: 220-666-8</th>
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</table>

Classification (EC 1272/2008)

- Acute Tox. 4 - H302
- Acute Tox. 4 - H312
- Skin Corr. 1B - H314
- Skin Sens. 1 - H317
- Aquatic Chronic 3 - H412

Classification (67/548/EEC)

- C;R34
- Xn;R21/22
- R43
- R52/53

**NONYLPHENOL** 10-30%

<table>
<thead>
<tr>
<th>CAS-No.: 25154-52-3</th>
<th>EC No.: 246-672-0</th>
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Classification (EC 1272/2008)

- Acute Tox. 4 - H302
- Skin Corr. 1B - H314
- Repr. 2 - H361fd
- Aquatic Acute 1 - H400
- Aquatic Chronic 1 - H410

Classification (67/548/EEC)

- Repr. Cat. 3;R62,R63
- C;R34
- Xn;R22
- N;R50/53
TRIMETHYLHEXAMETHYLENE DIAMINE 10-30%

CAS-No.: 25620-58-0 EC No.: 247-134-8

Classification (67/548/EEC) Xn;R22. C;R34. R43,R52/53.

TETRADECYLAMINE 5-10%

CAS-No.: 61788-46-3 EC No.: 262-977-1

Classification (67/548/EEC) Xn;R22. C;R35. N;R50.

Salicylic acid 1-5%

CAS-No.: 69-72-7 EC No.: 200-712-3

Classification (67/548/EEC) Xn;R22. Xi;R36.

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

Composition Comments
Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels.

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. Provide rest, warmth and fresh air.

Ingestion
DO NOT INDUCE VOMITING! Rinse mouth thoroughly. Drink plenty of water. Get medical attention immediately!

Skin contact
Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur 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 immediately. Continue to rinse.

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

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

Treat Symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media
Use fire-extinguishing media appropriate for surrounding materials. Fire can be extinguished using: Water spray. Foam. Alcohol resistant foam. Carbon dioxide (CO2).

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
Unusual Fire & Explosion Hazards
No unusual fire or explosion hazards noted.

Specific hazards

5.3. Advice for firefighters

Special Fire Fighting Procedures
Avoid breathing fire vapours. Move container from fire area if it can be done without risk.

Protective equipment for fire-fighters
Self contained breathing apparatus and full protective clothing must be worn in case of fire.

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.

6.2. Environmental precautions
Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up
DO NOT touch spilled material. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer. Clean-up personnel should use respiratory and/or liquid contact protection.

6.4. Reference to other sections
Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effects in the aquatic environment. See section 12 as well. Collect and dispose of spillage as indicated in section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Avoid spilling, skin and eye contact. Avoid inhalation of vapours.

7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

Storage Class
Corrosive storage.

7.3. Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.2. Exposure controls

Protective equipment

Process conditions
Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures
Provide sufficient ventilation during operations which cause vapour formation. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.
Respiratory equipment
Respiratory protection must be used if air contamination exceeds acceptable level. It is recommended to use respiratory equipment with combination filter, type A2/P2. EN14387 When spraying use suitable air-supplied respirator.

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. Gloves should conform to EN374

Eye protection
Wear approved chemical safety goggles where eye exposure is reasonably probable. EN166

Other Protection
Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures
DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Brown</td>
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<tr>
<td>Odour</td>
<td>Characteristic.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Slightly soluble in water.</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.920 @ 20°C (68°F)</td>
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<tr>
<td>Viscosity</td>
<td>200 cP @ 23°C (73°F)</td>
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9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No specific reactivity hazards associated with this product.

10.2. Chemical stability
Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions
Not available.

10.4. Conditions to avoid
Avoid contact with strong oxidisers.

10.5. Incompatible materials

Materials To Avoid

10.6. Hazardous decomposition products

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhalation
Harmful by inhalation. Irritating to respiratory system.

Ingestion
Harmful if swallowed.
Skin contact
Causes burns. May cause sensitisation by skin contact. Product has a defatting effect on skin. Prolonged contact may cause dryness of the skin. May cause allergic contact eczema.

Eye contact
Spray and vapour in the eyes may cause irritation and smarting. May cause chemical eye burns.

Health Warnings
Prolonged inhalation of high concentrations may damage respiratory system.

Toxicological information on ingredients.

TRIMETHYLHEXAMETHYLENE DIAMINE (CAS: 25620-58-0)

Toxic Dose 1 - LD 50
910 mg/kg (oral rat)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Dangerous for the environment if discharged into watercourses.

12.1. Toxicity

Ecological information on ingredients.

TRIMETHYLHEXAMETHYLENE DIAMINE (CAS: 25620-58-0)

EC 50, 48 Hrs, Daphnia, mg/l
31.5
IC 50, 72 Hrs, Algae, mg/l
29.5

12.2. Persistence and degradability

Degradability
There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

General information
Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

13.1. Waste treatment methods

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

SECTION 14: TRANSPORT INFORMATION

General
For US Domestic transportation this product is classified as a Consumer Commodity. For International transportation this product is classified as UN2735 AMINES, LIQUID, CORROSIVE, N.O.S., OR POLYAMINES, LIQUID, CORROSIVE, N.O.S.

14.1. UN number

UN No. (ADR/RID/ADN) 2735
UN No. (IMDG) 1760
UN No. (ICAO) 1760
14.2. UN proper shipping name

Proper Shipping Name   CORROSIVE LIQUID, N.O.S. (ISOPHORONEDIAMINE, NONYLPHENOL)

14.3. Transport hazard class(es)

ADR/RID/ADN Class    8
ADR/RID/ADN Class    Class 8: Corrosive substances.
ADR Label No.        8
IMDG Class           8
ICAO Class/Division  8
Transport Labels

14.4. Packing group

ADR/RID/ADN Packing group    III
IMDG Packing group           III
ICAO Packing group           III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

14.6. Special precautions for user

EMS    F-A, S-B
Emergency Action Code     2X
Hazard No. (ADR)          80
Tunnel Restriction Code   (E)

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information required.

SECTION 15: REGULATORY INFORMATION

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

Statutory Instruments

Guidance Notes
Workplace Exposure Limits EH40.

EU Legislation


**Authorisations (Title VII Regulation 1907/2006)**

No specific authorisations are noted for this product.

**Restrictions (Title VIII Regulation 1907/2006)**

No specific restrictions of use are noted for this product.

**15.2. Chemical Safety Assessment**

No chemical safety assessment has been carried out.

### SECTION 16: OTHER INFORMATION

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<tr>
<th><strong>Issued By</strong></th>
<th>Helen O'Reilly</th>
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<td><strong>Revision Date</strong></td>
<td>APRIL 2013</td>
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<tr>
<td><strong>Revision</strong></td>
<td>6</td>
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<tr>
<td><strong>SDS No.</strong></td>
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**Risk Phrases in Full**

- R34 Causes burns.
- R35 Causes severe burns.
- R22 Harmful if swallowed.
- R21/22 Harmful in contact with skin and if swallowed.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R36 Irritating to eyes.
- R43 May cause sensitisation by skin contact.
- R63 Possible risk of harm to the unborn child.
- R62 Possible risk of impaired fertility.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R50 Very toxic to aquatic organisms.

**Hazard Statements in Full**

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H361fd Suspected of damaging fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

**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.