SAFETY DATA SHEET
THERMALLY CONDUCTIVE EPOXY

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

1.1. Product identifier
Product name: THERMALLY CONDUCTIVE EPOXY

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
Supplier Address: ASHYB PARK, COALFIELD WAY, ASHYB DE LA ZOUCH, LEICESTERSHIRE LE65 1JR
UNITED KINGDOM
Supplier Phone: +44 (0)1530 419600
Supplier Fax: +44 (0)1530 416640
Supplier Email: 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: Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317
- Environment: Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

Classification (1999/45/EEC)
X; R36/38. R43. N; R50/53.
The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Environment
Very toxic 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. Use appropriate containment to avoid environmental contamination. Avoid release to the environment. Refer to special instructions/safety data sheets. Dispose of waste and residues in accordance with local authority requirements.

2.2. Label elements
Contains: EPOXY RESIN (Number average MW <= 700)
bis[4-(2,3-EPoxyPROPOXY)PHENYL]PROPANE
[[2ETHYLMETHYL]OXY]METHYLOXIRANE

Label In Accordance With (EC) No. 1272/2008
### THERMALLY CONDUCTIVE EPOXY

#### Signal Word
- **Warning**

#### Hazard Statements
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H410: Very toxic to aquatic life with long lasting effects.

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

#### Supplementary Precautionary Statements
- P261: Avoid breathing vapour/spray.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P333+313: If skin irritation or rash occurs: Get medical advice/attention.

#### Supplemental label information
- EUH205: Contains epoxy constituents. May produce an allergic reaction.

### 2.3. Other hazards
Not Classified as PBT/vPvB by current EU criteria.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2. Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZINC OXIDE</td>
<td>30-60%</td>
</tr>
<tr>
<td>EPOXY RESIN</td>
<td>10-30%</td>
</tr>
<tr>
<td>bis[4-(2,3-EPOXYPROPoxy)PHENYL]PROPANE</td>
<td>5-10%</td>
</tr>
</tbody>
</table>

#### ZINC OXIDE
- CAS-No.: 1314-13-2  
  - EC No.: 215-222-5  
  - Classification (EC 1272/2008): Aquatic Acute 1 - H400, Aquatic Chronic 1 - H410  

#### EPOXY RESIN
- Number average MW <= 700
- CAS-No.: 25068-38-6  
  - EC No.: 500-033-5  

#### bis[4-(2,3-EPOXYPROPoxy)PHENYL]PROPANE
- CAS-No.: 1675-54-3  
  - EC No.: 216-823-5  
**SECTION 4: FIRST AID MEASURES**

### 4.1. Description of first aid measures

**Inhalation**
Move the exposed person to fresh air at once.

**Ingestion**
DO NOT INDUCE VOMITING! Get medical attention immediately! Rinse nose, mouth and throat with water.

**Skin contact**
Remove affected person from source of contamination. Rinse the skin immediately with lots of 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. Continue to rinse for at least 15 minutes and get medical attention.

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

Treat Symptomatically.

**SECTION 5: FIREFIGHTING MEASURES**

### 5.1. Extinguishing media

**Extinguishing media**
Fire can be extinguished using: Foam. Alcohol resistant foam. Dry chemicals, sand, dolomite etc.

### 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.

### 5.3. Advice for firefighters

**Special Fire Fighting Procedures**
Use water to keep fire exposed containers cool and disperse vapours.

**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
THERMALLY CONDUCTIVE EPOXY

Keep combustibles away from spilled material. Stop leak if possible without risk. DO NOT touch spilled material! Wear necessary protective equipment. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage.

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. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame.

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.

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

<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>ZINC OXIDE</td>
<td>WEL</td>
<td>5 mg/m³</td>
<td>10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit.

Ingredient Comments

WEL = Workplace Exposure Limits

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. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties
THERMALLY CONDUCTIVE EPOXY

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Viscous Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.28 @ 20 °C (68 F)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>1570 mPas @ 20 °C (68 F)</td>
</tr>
</tbody>
</table>

### 9.2. Other information

#### SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Not available.

Hazardous Polymerisation

Will not polymerise.

10.4. Conditions to avoid

Avoid contact with acids and oxidising substances.

10.5. Incompatible materials

Materials To Avoid

Strong oxidising substances.

10.6. Hazardous decomposition products


### SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhalation

May cause irritation to the respiratory system.

Ingestion

May cause stomach pain or vomiting.

Skin contact

Irritating to skin. May cause sensitisation by skin contact. May cause allergic contact eczema. Prolonged contact may cause dryness of the skin. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

Eye contact

May cause severe irritation to eyes. May cause chemical eye burns.

Health Warnings

Preparation contains an epoxy resin, which may cause sensitisation and development of allergy.

Route of entry

Inhalation. Ingestion. Skin and/or eye contact.

**Toxicological information on ingredients.**

**EPOXY RESIN (Number average MW <= 700 ) (CAS: 25068-38-6)**

**Toxic Dose 1 - LD 50**

> 5000 mg/kg (oral rat)

**Toxic Dose 2 - LD 50**

> 20000 mg/kg (oral rat)

### SECTION 12: ECOLOGICAL INFORMATION
Ecotoxicity
Dangerous for the environment if discharged into watercourses.

12.1. Toxicity

Ecological information on ingredients.

**EPOXY RESIN (Number average MW <= 700 ) (CAS: 25068-38-6)**

- **LC 50, 96 Hrs, Fish mg/l**
  - 3.1

- **EC 50, 48 Hrs, Daphnia, mg/l**
  - 1.4-1.7

- **IC 50, 72 Hrs, Algae, mg/l**
  - 220

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 is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1. Waste treatment methods

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

**SECTION 14: TRANSPORT INFORMATION**

14.1. UN number

<table>
<thead>
<tr>
<th>UN No. (ADR/RID/ADN)</th>
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<tbody>
<tr>
<td>UN No. (IMDG)</td>
<td>3082</td>
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<tr>
<td>UN No. (ICAO)</td>
<td>3082</td>
</tr>
</tbody>
</table>

14.2. UN proper shipping name

Proper Shipping Name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC OXIDE, [2ETHYLHEXYL)OXY]METHYLOXIRANE)

14.3. Transport hazard class(es)

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<th>ADR/RID/ADN Class</th>
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<tbody>
<tr>
<td>ADR/RID/ADN Class</td>
<td>Class 9: Miscellaneous dangerous substances and articles.</td>
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<tr>
<td>ADR Label No.</td>
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</tr>
<tr>
<td>IMDG Class</td>
<td>9</td>
</tr>
<tr>
<td>ICAO Class/Division</td>
<td>9</td>
</tr>
<tr>
<td>Transport Labels</td>
<td></td>
</tr>
</tbody>
</table>
14.4. Packing group

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

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

14.6. Special precautions for user

EMS
F-A, S-F

Emergency Action Code
•3Z

Hazard No. (ADR)
90

Tunnel Restriction Code
(E)

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

No information required.

UDF Phrase 1
Class 9 Environmentally Hazardous substance

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

<table>
<thead>
<tr>
<th>Issued By</th>
<th>Helen O'Reilly</th>
</tr>
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<tbody>
<tr>
<td>Revision Date</td>
<td>APRIL 2013</td>
</tr>
<tr>
<td>Revision</td>
<td>5</td>
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<tr>
<td>SDS No.</td>
<td>10666</td>
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#### Risk Phrases in Full

- **R36/38** Irritating to eyes and skin.
- **R43** May cause sensitisation by skin contact.
- **R51/53** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **R50/53** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Hazard Statements in Full

- **H315** Causes skin irritation.
- **H317** May cause an allergic skin reaction.
- **H319** Causes serious eye irritation.
- **H400** Very toxic to aquatic life.
- **H410** Very toxic to aquatic life with long lasting effects.
- **H411** Toxic 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.
SAFETY DATA SHEET
THERMALLY CONDUCTIVE EPOXY HARDENER

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

1.1. Product identifier

Product name: THERMALLY CONDUCTIVE EPOXY HARDENER

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: Not classified.
Hazards: Acute Tox. 4 - H302; Acute Tox. 4 - H312; Skin Corr. 1B - H314; Skin Sens. 1 - H317; Repr. 2 - H361fd
Environment: Aquatic Chronic 2 - H411


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

Environment
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Use appropriate containment to avoid environmental contamination. Avoid release to the environment. Refer to special instructions/safety data sheets. 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

Label In Accordance With (EC) No. 1272/2008
THERMALLY CONDUCTIVE EPOXY HARDENER

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.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements
P273 Avoid release to the environment.
P280 Wear protective gloves, eye and face protection.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313 IF exposed or concerned: Get medical advice/attention.
P310 Immediately call a POISON CENTER or doctor/physician.

Supplementary Precautionary Statements
P261 Avoid breathing vapour/spray.
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

<table>
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<tr>
<th>Component</th>
<th>Concentration</th>
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<td>EC No.: 220-666-8</td>
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<td>Classification (67/548/EEC)</td>
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<tr>
<td>Acute Tox. 4 - H302</td>
<td>C;R34</td>
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<tr>
<td>Acute Tox. 4 - H312</td>
<td>Xn;R21/22</td>
</tr>
<tr>
<td>Skin Corr. 1B - H314</td>
<td>R43</td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td>R52/53</td>
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<tr>
<td>Aquatic Chronic 3 - H412</td>
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<table>
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<tr>
<td>CAS-No.: 25154-52-3</td>
<td>EC No.: 246-672-0</td>
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<td>Classification (67/548/EEC)</td>
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<tr>
<td>Acute Tox. 4 - H302</td>
<td>Repr. Cat. 3;R62,R63</td>
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<tr>
<td>Skin Corr. 1B - H314</td>
<td>C;R34</td>
</tr>
<tr>
<td>Repr. 2 - H361fd</td>
<td>Xn;R22</td>
</tr>
<tr>
<td>Aquatic Acute 1 - H400</td>
<td>N;R50/53</td>
</tr>
<tr>
<td>Aquatic Chronic 1 - H410</td>
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</table>
THERMALLY CONDUCTIVE EPOXY HARDENER

<table>
<thead>
<tr>
<th>Salicylic acid</th>
<th>1-5%</th>
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<tr>
<td>CAS-No.: 69-72-7</td>
<td>EC No.: 200-712-3</td>
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</tbody>
</table>

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**
No specific fire fighting procedure given. Avoid breathing fire vapours.

**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. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

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.

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

Ingredient Comments
No exposure limits noted for ingredient(s).

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

Appearance: Liquid
THERMALLY CONDUCTIVE EPOXY HARDENER

Colour
- Colourless.

Solubility
- Miscible with water

Initial boiling point and boiling range
- 247 (476.6 F)

Melting point
- 10 (50 F)

Relative density
- 0.930 @ 20 °C (68 F)

Viscosity
- n/a mPas @ 20 °C (68 F)

Flash point
- 112 (233.6 F) CC (Closed cup).

Auto Ignition Temperature
- 380 (716 F)

Flammability Limit - Lower(%)
- 1.2

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions
Not determined.

10.4. Conditions to avoid
Avoid heat, flames and other sources of ignition. Avoid contact with acids and oxidising substances.

10.5. Incompatible materials

Materials To Avoid
- Strong oxidising substances.
- Strong acids.
- Strong alkalis.

10.6. Hazardous decomposition products


SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhalation
High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

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
This substance is corrosive. Causes burns.

Toxicological information on ingredients.
Acute toxicity:
Acute Toxicity (Oral LD50)
3523 mg/kg Rat

Acute Toxicity (Dermal LD50)
12126 mg/kg Rabbit

Acute Toxicity (Inhalation LC50)
2700 mg/l (vapours) Rabbit 4 hours

Aspiration hazard:
Inhalation
Harmful by inhalation. Upper respiratory irritation. Central nervous system depression. Vapours may cause drowsiness and dizziness.
Ingestion
Swallowing concentrated chemical may cause severe internal injury. May cause nausea, headache, dizziness and intoxication. Diarrhoea.
Skin contact
Harmful in contact with skin. Irritating to skin.
Eye contact
May cause severe irritation to eyes.
Central nervous system  Liver  Kidneys

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Dangerous for the environment if discharged into watercourses.

Ecological information on ingredients.

XYLENE (CAS: 1330-20-7)

Ecotoxicity
The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1. Toxicity

Ecological information on ingredients.

XYLENE (CAS: 1330-20-7)

Acute Toxicity - Aquatic Invertebrates
EC50 48 hours 1.0 mg/l Daphnia magna

Acute Toxicity - Aquatic Plants
IC50 72 hours 2.2 mg/l

12.2. Persistence and degradability

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

Ecological information on ingredients.

XYLENE (CAS: 1330-20-7)

Degradability
The product is biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential
No data available on bioaccumulation.
THERMALLY CONDUCTIVE EPOXY HARDENER

12.4. Mobility in soil

Ecological information on ingredients.

XYLENE (CAS: 1330-20-7)

Mobility:
The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

Ecological information on ingredients.

XYLENE (CAS: 1330-20-7)

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Ecological information on ingredients.

XYLENE (CAS: 1330-20-7)

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

General information
Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1. Waste treatment methods

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

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN) 1760
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 MARPOL73/78 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.
### Risk Phrases In Full

<table>
<thead>
<tr>
<th>Code</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R34</td>
<td>Causes burns.</td>
</tr>
<tr>
<td>R22</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>R21/22</td>
<td>Harmful in contact with skin and if swallowed.</td>
</tr>
<tr>
<td>R52/53</td>
<td>Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>R36</td>
<td>Irritating to eyes.</td>
</tr>
<tr>
<td>R43</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
<tr>
<td>R63</td>
<td>Possible risk of harm to the unborn child.</td>
</tr>
<tr>
<td>R62</td>
<td>Possible risk of impaired fertility.</td>
</tr>
<tr>
<td>R51/53</td>
<td>Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>R50/53</td>
<td>Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
</tbody>
</table>

### Hazard Statements In Full

<table>
<thead>
<tr>
<th>Code</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H361fd</td>
<td>Suspected of damaging fertility or the unborn child.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

### Disclaimer

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