SAFETY DATA SHEET
Epoxy Resin ER1448, Part A

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

1.1. Product identifier
Product name: Epoxy Resin ER1448, Part A
Product number: ER1448A, EER1448RP250G, EER1448K5K, EER1448AB5K, EER1448AB200K, ZE

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Resin.
Uses advised against: No specific uses advised against are identified.

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
Emergency telephone: IN CASE OF EMERGENCY CALL:
+44 1865 407333 (24hr, Provided by Carechem 24)
+353 (0)1 809 2166 (Beaumont Hospital, Republic of Ireland only, 8am-10pm, 7 days a week)

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
Environmental hazards: Aquatic Chronic 2 - H411

2.2. Label elements
Hazard pictograms

Signal word: Warning
Hazard statements: H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
Epoxy Resin ER1448, Part A

Precautionary statements

P261 Avoid breathing vapour/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container in accordance with national regulations.

Contains

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700), 1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane, formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropene and phenol, oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Supplementary precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
P391 Collect spillage.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)</th>
<th>30-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 25068-38-6</td>
<td>EC number: 500-033-5</td>
</tr>
<tr>
<td></td>
<td>REACH registration number: 01-2119456619-26-XXXX</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxirane, (chloromethyl)-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))</th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 9072-62-2</td>
<td>EC number: 618-635-2</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 3 - H412</td>
<td></td>
</tr>
</tbody>
</table>
# Epoxy Resin ER1448, Part A

<table>
<thead>
<tr>
<th>Compounds</th>
<th>Concentration</th>
<th>CAS number</th>
<th>EC number</th>
<th>REACH registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane</td>
<td>10-30%</td>
<td>17557-23-2</td>
<td>241-536-7</td>
<td></td>
</tr>
<tr>
<td>Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol</td>
<td>1-5%</td>
<td>9003-36-5</td>
<td>500-006-8</td>
<td>01-2119454392-40-0000</td>
</tr>
<tr>
<td>Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.</td>
<td>&lt;1%</td>
<td>68609-97-2</td>
<td>271-846-8</td>
<td>01-2119485289-22-XXXX</td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td>&lt;1%</td>
<td>108-94-1</td>
<td>203-631-1</td>
<td>01-2119453616-35-XXXX</td>
</tr>
</tbody>
</table>

### Classification
- **Skin Irrit. 2 - H315**
- **Skin Sens. 1 - H317**
- **Skin Sens. 2 - H315**
- **Skin Sens. 1 - H317**
- **Aquatic Chronic 2 - H411**

The full text for all hazard statements is displayed in Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**
Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

**Inhalation**
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Epoxy Resin ER1448, Part A

Ingestion

Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact

It is important to remove the substance from the skin immediately. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognised skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.

Eye contact

Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information

See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion

May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.

Skin contact

May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

Eye contact

Irritating to eyes.

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

Notes for the doctor

Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

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

Specific hazards

Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

5.3. Advice for firefighters
Epoxy Resin ER1448, Part A

Protective actions during firefighting
Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
Epoxy Resin ER1448, Part A

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class

Miscellaneous hazardous material storage.

7.3. Specific end use(s)

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

Occupational exposure limits

Cyclohexanone

Long-term exposure limit (8-hour TWA): WEL 10 ppm 41 mg/m³
Short-term exposure limit (15-minute): WEL 20 ppm 82 mg/m³
Sk
WEL = Workplace Exposure Limit
Sk = Can be absorbed through the skin.

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. 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. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Epoxy Resin ER1448, Part A

Hygiene measures

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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>Black</td>
</tr>
<tr>
<td>Odour</td>
<td>Not known</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation factor</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>Not available</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Other flammability</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>1.09 kg/l</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
</tbody>
</table>
Epoxy Resin ER1448, Part A

Viscosity
200 mPa s @ 23°C/73.4°F

Explosive properties
Not considered to be explosive.

Oxidising properties
Does not meet the criteria for classification as oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity
See the other subsections of this section for further details.

10.2. Chemical stability
Stability
Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions
No potentially hazardous reactions known.

10.4. Conditions to avoid
Conditions to avoid
There are no known conditions that are likely to result in a hazardous situation.

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
Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Animal data
Irritating.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity
Based on available data the classification criteria are not met.
Epoxy Resin ER1448, Part A

Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

Eye contact
Irritating to eyes.

Target organs
No specific target organs known.

Medical considerations
Skin disorders and allergies.

Toxicological information on ingredients.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Skin corrosion/irritation
Irritating to skin.

Animal data
Irritating.

Serious eye damage/irritation
Causes serious eye irritation.
**Epoxy Resin ER1448, Part A**

<table>
<thead>
<tr>
<th><strong>Respiratory sensitisation</strong></th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skin sensitisation</strong></td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals.</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Genotoxicity - in vitro</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>IARC carcinogenicity</strong></td>
<td>None of the ingredients are listed or exempt.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity - fertility</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity - development</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity - single exposure</strong></td>
<td>Not classified as a specific target organ toxicant after a single exposure.</td>
</tr>
<tr>
<td><strong>STOT - single exposure</strong></td>
<td>Not classified as a specific target organ toxicant after a single exposure.</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity - repeated exposure</strong></td>
<td>Not classified as a specific target organ toxicant after repeated exposure.</td>
</tr>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
</tbody>
</table>

**General information**

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

| **Inhalation**                  | No specific symptoms known. |
| **Ingestion**                  | May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation. |
| **Skin contact**               | May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin. |
| **Eye contact**                | Irritating to eyes. |
| **Route of exposure**          | Ingestion Inhalation Skin and/or eye contact |
| **Target organs**              | No specific target organs known. |
| **Medical considerations**     | Skin disorders and allergies. |

Oxirane, (chloromethyl)-, polymer with \( \alpha \)-hydro-\( \omega \)-hydroxypoly(oxy(methyl-1,2-ethanediyl))

| **Acute toxicity - oral**      | Based on available data the classification criteria are not met. |
| **Notes (oral LD₅₀)**          | Based on available data the classification criteria are not met. |
| **Acute toxicity - dermal**    | Based on available data the classification criteria are not met. |
| **Notes (dermal LD₅₀)**        | Based on available data the classification criteria are not met. |
| **Acute toxicity - Inhalation**|                                                                               |
## Epoxy Resin ER1448, Part A

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes (inhalation LC₅₀)</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
</tr>
<tr>
<td>Animal data</td>
<td>Irritating.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td></td>
</tr>
<tr>
<td>Genotoxicity - in vitro</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>IARC carcinogenicity</td>
<td>None of the ingredients are listed or exempt.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity - fertility</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Reproductive toxicity - development</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Not classified as a specific target organ toxicant after a single exposure.</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Not classified as a specific target organ toxicant after repeated exposure.</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>General information</td>
<td>The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific symptoms known.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Irritating to eyes.</td>
</tr>
<tr>
<td>Route of exposure</td>
<td>Ingestion Inhalation Skin and/or eye contact</td>
</tr>
<tr>
<td>Target organs</td>
<td>No specific target organs known.</td>
</tr>
<tr>
<td>Medical considerations</td>
<td>Skin disorders and allergies.</td>
</tr>
<tr>
<td>Property</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Acute toxicity - oral</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute toxicity - dermal</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute toxicity - inhalation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Animal data</td>
<td>Irritating.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Genotoxicity - in vitro</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>IARC carcinogenicity</td>
<td>None of the ingredients are listed or exempt.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Reproductive toxicity - fertility</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Reproductive toxicity - development</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Not classified as a specific target organ toxicant after a single exposure.</td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Not classified as a specific target organ toxicant after repeated exposure.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>General information</td>
<td>The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific symptoms known.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.</td>
</tr>
</tbody>
</table>
**Epoxy Resin ER1448, Part A**

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No specific symptoms known.</td>
</tr>
<tr>
<td>Route of exposure</td>
<td>Ingestion Inhalation Skin and/or eye contact</td>
</tr>
<tr>
<td>Target organs</td>
<td>No specific target organs known.</td>
</tr>
<tr>
<td>Medical considerations</td>
<td>Skin disorders and allergies.</td>
</tr>
</tbody>
</table>

**formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol**

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - dermal</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute toxicity - inhalation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

<table>
<thead>
<tr>
<th>Animal data</th>
<th>Irritating.</th>
</tr>
</thead>
</table>

**Serious eye damage/irritation**

<table>
<thead>
<tr>
<th>Serious eye damage/irritation</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Respiratory sensitisation**

<table>
<thead>
<tr>
<th>Respiratory sensitisation</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Skin sensitisation**

<table>
<thead>
<tr>
<th>Skin sensitisation</th>
<th>May cause skin sensitisation or allergic reactions in sensitive individuals.</th>
</tr>
</thead>
</table>

**Germ cell mutagenicity**

<table>
<thead>
<tr>
<th>Genotoxicity - in vitro</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Carcinogenicity**

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC carcinogenicity</td>
<td>None of the ingredients are listed or exempt.</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

<table>
<thead>
<tr>
<th>Reproductive toxicity - fertility</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity - development</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity - single exposure**

<table>
<thead>
<tr>
<th>STOT - single exposure</th>
<th>Not classified as a specific target organ toxicant after a single exposure.</th>
</tr>
</thead>
</table>

**Specific target organ toxicity - repeated exposure**

<table>
<thead>
<tr>
<th>STOT - repeated exposure</th>
<th>Not classified as a specific target organ toxicant after repeated exposure.</th>
</tr>
</thead>
</table>

**Aspiration hazard**
**Epoxy Resin ER1448, Part A**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>General information</strong></td>
<td>The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>No specific symptoms known.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>No specific symptoms known.</td>
</tr>
<tr>
<td><strong>Route of exposure</strong></td>
<td>Ingestion Inhalation Skin and/or eye contact</td>
</tr>
<tr>
<td><strong>Target organs</strong></td>
<td>No specific target organs known.</td>
</tr>
<tr>
<td><strong>Medical considerations</strong></td>
<td>Skin disorders and allergies.</td>
</tr>
</tbody>
</table>

**Acute toxicity - oral**

**Notes (oral LD₅₀)**

Based on available data the classification criteria are not met.

**Acute toxicity - dermal**

**Notes (dermal LD₅₀)**

Based on available data the classification criteria are not met.

**Acute toxicity - inhalation**

**Notes (inhalation LC₅₀)**

Based on available data the classification criteria are not met.

**Skin corrosion/irritation**

**Animal data**

Irritating.

**Serious eye damage/irritation**

**Serious eye damage/irritation**

Based on available data the classification criteria are not met.

**Respiratory sensitisation**

**Respiratory sensitisation**

Based on available data the classification criteria are not met.

**Skin sensitisation**

**Skin sensitisation**

May cause skin sensitisation or allergic reactions in sensitive individuals.

**Germ cell mutagenicity**

**Genotoxicity - in vitro**

Based on available data the classification criteria are not met.

**Carcinogenicity**

**Carcinogenicity**

Based on available data the classification criteria are not met.

**IARC carcinogenicity**

None of the ingredients are listed or exempt.

**Reproductive toxicity**

**Reproductive toxicity - fertility**

Based on available data the classification criteria are not met.
Epoxy Resin ER1448, Part A

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Aspiration hazard Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
No specific symptoms known.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

Eye contact
No specific symptoms known.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

Medical considerations
Skin disorders and allergies.

Cyclohexanone

Acute toxicity - oral
Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀) Acute Tox. 4 - H332 Harmful if inhaled.

ATE inhalation (gases ppm) 4,500.0

ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 1.5

Skin corrosion/irritation
Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation
Serious eye damage/irritation Based on available data the classification criteria are not met.
Epoxy Resin ER1448, Part A

Respiratory sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
Based on available data the classification criteria are not met.

Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.

Ingestion
No specific symptoms known.

Skin contact
No specific symptoms known.

Eye contact
No specific symptoms known.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

SECTION 12: Ecological information

Ecological information on ingredients.

1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane
Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Epoxy Resin ER1448, Part A

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Cyclohexanone

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity
Toxicity
Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Toxicity
Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish
LC₉₀, 96 hours: 1.3 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 2.1 mg/l, Daphnia magna

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates
NOEC, 21 days: 0.3 mg/l, Daphnia magna

Oxirane, (chloromethyl)-, polymer with .alpha.-hydro-.omega.-hydroxypropoxy(methyl-1,2-ethanediyl))

Toxicity
Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane

Toxicity
Based on available data the classification criteria are not met.

formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

Toxicity
Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

oxirane, mono[(C12-14-alkyloxy)methyl] deriv.

Toxicity
Based on available data the classification criteria are not met.

Cyclohexanone

Toxicity
Based on available data the classification criteria are not met.

Acute aquatic toxicity

Acute toxicity - fish
Data lacking.

12.2. Persistence and degradability
Persistence and degradability
The degradability of the product is not known.

Ecological information on ingredients.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
### Epoxy Resin ER1448, Part A

**Persistence and degradability**

The degradability of the product is not known.

**Oxirane, (chloromethyl)-, polymer with \(\text{\alpha.-hydro-\omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))}\)**

**Persistence and degradability**

The degradability of the product is not known.

**1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane**

**Persistence and degradability**

The degradability of the product is not known.

**formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol**

**Persistence and degradability**

The degradability of the product is not known.

**oxirane, mono\([(C12-14-alkyloxy)methyl] derivs.**

**Persistence and degradability**

The degradability of the product is not known.

**Cyclohexanone**

**Persistence and degradability**

The degradability of the product is not known.

**Biodegradation**

Data lacking.

#### 12.3. Bioaccumulative potential

**Bioaccumulative potential**: No data available on bioaccumulation.

**Partition coefficient**: Not available.

**Ecological information on ingredients**

**Reaction product**: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \(\leq 700\))

**Bioaccumulative potential**: No data available on bioaccumulation.

**Partition coefficient**: \(\log K_{ow}: 2.64-3.78\)

**Oxirane, (chloromethyl)-, polymer with \(\text{\alpha.-hydro-\omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))}\)**

**Bioaccumulative potential**: No data available on bioaccumulation.

**1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane**

**Bioaccumulative potential**: No data available on bioaccumulation.

**formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol**

**Bioaccumulative potential**: No data available on bioaccumulation.

**oxirane, mono\([(C12-14-alkyloxy)methyl] derivs.**
Epoxy Resin ER1448, Part A

Bioaccumulative potential No data available on bioaccumulation.

Cyclohexanone

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Mobility No data available.

Oxirane, (chloromethyl)_, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))

Mobility No data available.

1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane

Mobility No data available.

formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

Mobility No data available.

oxirane, mono[(C12-14-alkyloxy)methyl] deriv.

Mobility No data available.

Cyclohexanone

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Cyclohexanone

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.

Ecological information on ingredients.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Other adverse effects None known.
Epoxy Resin ER1448, Part A

Oxirane, (chloromethyl)-, polymer with .alpha.-hydro-.omega.-hydroxy.poly(oxy(methyl-1,2-ethanediyl))

Other adverse effects None known.

1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane

Other adverse effects None known.

formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

Other adverse effects None known.

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Other adverse effects None known.

Cyclohexanone

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General

For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number

UN No. (ADR/RID) 3082
UN No. (IMDG) 3082
UN No. (ICAO) 3082
UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) , formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
Epoxy Resin ER1448, Part A

**Proper shipping name (IMDG)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)

**Proper shipping name (ICAO)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)

**Proper shipping name (ADN)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)

**14.3. Transport hazard class(es)**

ADR/RID class 9
ADR/RID classification code M6
ADR/RID label 9
IMDG class 9
ICAO class/division 9
ADN class 9

**Transport labels**

**14.4. Packing group**

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

**14.5. Environmental hazards**

Environmentally hazardous substance/marine pollutant

**14.6. Special precautions for user**

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-A, S-F
ADR transport category 3
Emergency Action Code •3Z
Hazard Identification Number (ADR/RID) 90
Tunnel restriction code (E)

**14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**
Epoxy Resin ER1448, Part A

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

Not applicable.

SECTION 15: Regulatory information

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

National regulations
Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

EU legislation

Product Registration Number

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations and acronyms
Eye Irrit. = Eye irritation
Skin Irrit. = Skin irritation
Skin Sens. = Skin sensitisation
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Classification procedures according to Regulation (EC) 1272/2008
Epoxy Resin ER1448, Part A

Training advice
Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Issued by
Bethan Massey

Revision date
18/02/2019

Revision
1

SDS number
1696

Hazard statements in full
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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  
Epoxy Resin ER1448, Part B  

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

1.1. Product identifier
Product name: Epoxy Resin ER1448, Part B
Product number: ER1448B, EER1448RP250G, EER1448K5K, EER1448BB200K, ZE

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Hardener.
Uses advised against: No specific uses advised against are identified.

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
Emergency telephone: IN CASE OF EMERGENCY CALL:  
+44 1865 407333 (24hr, Provided by Carechem 24)  
+353 (0)1 809 2166 (Beaumont Hospital, Republic of Ireland only, 8am-10pm, 7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical hazards: Not Classified
Health hazards: Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317
Environmental hazards: Aquatic Chronic 2 - H411

2.2. Label elements
Hazard pictograms

Signal word: Danger
Hazard statements: H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.
Epoxy Resin ER1448, Part B

Precautionary statements
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container in accordance with national regulations.

Contains
Fatty acids, tall-oil, reaction products with tetraethylenepentamine, Phenol, styrenated, 2-Piperazin-1-ylethylamine, 3,6,9-Triazaundecamethylenediamine

Supplementary precautionary statements
P261 Avoid breathing vapour/ spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.

2.3. Other hazards
This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>Fatty acids, tall-oil, reaction products with tetraethylenepentamine</th>
<th>30-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 68953-36-6</td>
<td>EC number: 273-201-6</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2-Piperazin-1-ylethylamine</th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 140-31-8</td>
<td>EC number: 205-411-0</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>REACH registration number: 01-2119471486-30-XXXX</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4 - H302</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4 - H312</td>
<td></td>
</tr>
<tr>
<td>Skin Corr. 1B - H314</td>
<td></td>
</tr>
<tr>
<td>Eye Dam. 1 - H318</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 3 - H412</td>
<td></td>
</tr>
</tbody>
</table>
Epoxy Resin ER1448, Part B

<table>
<thead>
<tr>
<th>Phenol, styrenated</th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 61788-44-1</td>
<td>EC number: 262-975-0</td>
</tr>
</tbody>
</table>

**Classification**
- Skin Irrit. 2 - H315
- Skin Sens. 1 - H317
- Aquatic Chronic 2 - H411

<table>
<thead>
<tr>
<th>3,6,9-Triazaundecamethylenediamine</th>
<th>1-5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 112-57-2</td>
<td>EC number: 203-986-2</td>
</tr>
</tbody>
</table>

**Classification**
- Acute Tox. 4 - H302
- Acute Tox. 4 - H312
- Skin Corr. 1B - H314
- Eye Dam. 1 - H318
- Skin Sens. 1 - H317
- Aquatic Chronic 2 - H411

The full text for all hazard statements is displayed in Section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**
- Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

**Inhalation**
- Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

**Ingestion**
- Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. When vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

**Skin contact**
- It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

**Eye contact**
- Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

**Protection of first aiders**
- First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.
**Epoxy Resin ER1448, Part B**

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

**General information**
See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.

**Ingestion**
May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

**Skin contact**
May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

**Eye contact**
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

**Notes for the doctor**
Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.

---

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**
The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**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**

**Specific hazards**
Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

**Hazardous combustion products**
Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours.

**5.3. Advice for firefighters**

**Protective actions during firefighting**
Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters**
Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter’s clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

---

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**
Epoxy Resin ER1448, Part B

Personal precautions
No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

6.2. Environmental precautions
Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Provide adequate ventilation. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections
Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Usage precautions
Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities
Storage precautions
Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.
Epoxy Resin ER1448, Part B

Storage class
Corrosive storage.

7.3. Specific end use(s)
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

Appropriate engineering controls
Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. 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. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection
Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures
Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
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>Dark. Amber.</td>
</tr>
<tr>
<td>Odour</td>
<td>Amine.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>Not available.</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Bulk density</td>
<td>0.95 kg/l</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>300 mPa s @ 23°C/73.4°F</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not considered to be explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Does not meet the criteria for classification as oxidising.</td>
</tr>
</tbody>
</table>

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity: See the other subsections of this section for further details.

10.2. Chemical stability

Stability: Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions: No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid: There are no known conditions that are likely to result in a hazardous situation.

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

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀)  
Acute Tox. 4 - H302 Harmful if swallowed.

ATE oral (mg/kg)  
1,834.86

Acute toxicity - dermal

Notes (dermal LD₅₀)  
Based on available data the classification criteria are not met.

ATE dermal (mg/kg)  
4,036.7

Acute toxicity - inhalation

Notes (inhalation LC₅₀)  
Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data  
Skin Corr. 1B - H314 Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation  
Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation  
Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation  
May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity

Genotoxicity - in vitro  
Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity  
Based on available data the classification criteria are not met.

IARC carcinogenicity  
None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility  
Based on available data the classification criteria are not met.

Reproductive toxicity - development  
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure  
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure  
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard  
Based on available data the classification criteria are not met.

General information  
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Epoxy Resin ER1448, Part B

Inhalation
Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

Medical considerations
Skin disorders and allergies.

SECTION 12: Ecological information

12.1. Toxicity
Toxicity
Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
Persistence and degradability
The degradability of the product is not known.

12.3. Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation.

Partition coefficient
Not available.

12.4. Mobility in soil
Mobility
No data available.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects
Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General information
The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.
Epoxy Resin ER1448, Part B

General

For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number

UN No. (ADR/RID)  1760
UN No. (IMDG)  1760
UN No. (ICAO)  1760
UN No. (ADN)  1760

14.2. UN proper shipping name

Proper shipping name
(ADR/RID)  CORROSIVE LIQUID, N.O.S. (CONTAINS 2-Piperazin-1-ylethylamine, Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
Proper shipping name (IMDG)  CORROSIVE LIQUID, N.O.S. (CONTAINS 2-Piperazin-1-ylethylamine, Fatty acids, tall-oil, reaction products with tetraethylenepentamine, Phenol, styrenated, 3,6,9-Triazaundecamethylenediamine)
Proper shipping name (ICAO)  CORROSIVE LIQUID, N.O.S. (CONTAINS 2-Piperazin-1-ylethylamine, Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
Proper shipping name (ADN)  CORROSIVE LIQUID, N.O.S. (CONTAINS 2-Piperazin-1-ylethylamine, Fatty acids, tall-oil, reaction products with tetraethylenepentamine)

14.3. Transport hazard class(es)

ADR/RID class  8
ADR/RID classification code  C9
ADR/RID label  8
IMDG class  8
ICAO class/division  8
ADN class  8

Transport labels

14.4. Packing group

ADR/RID packing group  II
IMDG packing group  II
ICAO packing group  II
ADN packing group  II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user
Epoxy Resin ER1448, Part B

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS
F-A, S-B

ADR transport category
2

Emergency Action Code
2X

Hazard Identification Number
80 (ADR/RID)

Tunnel restriction code
(E)

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.

SECTION 15: Regulatory information

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

National regulations

EU legislation

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

SECTION 16: Other information
Epoxy Resin ER1448, Part B

Abbreviations and acronyms used in the safety data sheet

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
Eye Dam. = Serious eye damage
Skin Corr. = Skin corrosion
Skin Sens. = Skin sensitisation
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Classification procedures according to Regulation (EC) 1272/2008

Acute Tox. 4 - H302: Eye Dam. 1 - H318: Skin Corr. 1B - H314: Skin Sens. 1 - H317: 
Calculation method. Aquatic Chronic 2 - H411: 
Calculation method.

Training advice
Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Issued by
Bethan Massey

Revision date
09/10/2019

Revision
1.2

SDS number
730

Hazard statements in full
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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.