SAFETY DATA SHEET
Epoxy Resin ER2188, Part A

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

1.1. Product identifier
Product name: Epoxy Resin ER2188, Part A

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 3 - H412

2.2. Label elements
Hazard pictograms:

Signal word: Warning
Epoxy Resin ER2188, Part A

**Hazard statements**
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H412 Harmful to aquatic life with long lasting effects.

**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), 2,3-epoxypropyl neodecanoate, formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane 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.
- P321 Specific treatment (see medical advice on this label).
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- 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.

### 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

**Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin**
- **Number:** 10-30%
- **CAS number:** 25068-38-6
- **EC number:** 500-033-5
- **REACH registration number:** 01-2119456619-26-XXXX

**Classification**
- Skin Irrit. 2 - H315
- Eye Irrit. 2 - H319
- Skin Sens. 1 - H317
- Aquatic Chronic 2 - H411

**2,3-epoxypropyl neodecanoate**
- **Number:** 1-5%
- **CAS number:** 26761-45-5
- **EC number:** 247-979-2
- **REACH registration number:** 01-2119431597-33-XXXX

**Classification**
- Skin Sens. 1 - H317
- Aquatic Chronic 2 - H411
Epoxy Resin ER2188, Part A

### Kaolin
- CAS number: 1332-58-7
- EC number: 310-194-1
- **Classification**: Not Classified

### formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
- CAS number: 9003-36-5
- EC number: 500-006-8
- REACH registration number: 01-2119454392-40-0000
- **Classification**: Skin Irrit. 2 - H315, Skin Sens. 1 - H317, Aquatic Chronic 2 - H411

### oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
- CAS number: 68609-97-2
- EC number: 271-846-8
- REACH registration number: 01-2119485289-22-XXXX
- **Classification**: Skin Irrit. 2 - H315, Skin Sens. 1 - H317

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.

**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.
Epoxy Resin ER2188, Part A

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

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.
Epoxy Resin ER2188, Part A

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.

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
Epoxy Resin ER2188, Part A

Kaolin
Long-term exposure limit (8-hour TWA): WEL 2 mg/m³ respirable dust
WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment

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
### Epoxy Resin ER2188, Part A

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark-coloured 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 explosive limits</td>
<td>Not available.</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>1.83 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>150000 mPa s @ 23°C</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.
Epoxy Resin ER2188, Part A

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

Serious eye damage/irritation

Causes serious eye irritation.

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

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

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 ER2188, Part A

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.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

Medical considerations
Skin disorders and allergies.

Toxicological information on ingredients.

Aluminium Hydroxide

Toxicological effects
Not regarded as a health hazard under current legislation.

Acute toxicity - oral
Based on available data the classification criteria are not met.

Notes (oral LD₅₀)

Acute toxicity - dermal
Based on available data the classification criteria are not met.

Notes (dermal LD₅₀)

Acute toxicity - inhalation
Based on available data the classification criteria are not met.

Notes (inhalation LC₅₀)

Skin corrosion/irritation
Not irritating.

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

Serious eye damage/irritation
Based on available data the classification criteria are not met.

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

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

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

Skin sensitisation

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.
Epoxy Resin ER2188, Part A

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  Not relevant. Solid.

General information  No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation  No specific symptoms known.

Ingestion  No specific symptoms known. May cause discomfort if swallowed.

Skin contact  Prolonged contact may cause dryness of the skin.

Eye contact  No specific symptoms known. May be slightly irritating to eyes.

Route of exposure  Ingestion Inhalation Skin and/or eye contact

Target organs  No specific target organs known.

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
Serious eye damage/irritation  Causes serious eye irritation.

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.
Epoxy Resin ER2188, Part A

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.

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.

2,3-epoxypropyl neodecanoate

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 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.

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

Skin sensitisation
Epoxy Resin ER2188, Part A

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.

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

Specific target organ toxicity - 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
No specific symptoms known.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals.

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

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.

Kaolin

Toxicological effects
Not regarded as a health hazard under current legislation.

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
Based on available data the classification criteria are not met.

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

Skin corrosion/irritation

**Epoxy Resin ER2188, Part A**

<table>
<thead>
<tr>
<th>Toxicological Effects</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Animal data</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Respiratory sensitisation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Skin sensitisation</strong></td>
<td>Based on available data the classification criteria are not met.</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>STOT - 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>Not relevant. Solid.</td>
</tr>
<tr>
<td><strong>General information</strong></td>
<td>No specific health hazards known. 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>No specific symptoms known. May cause discomfort if swallowed.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Prolonged contact may cause dryness of the skin.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>No specific symptoms known. May be slightly irritating to eyes.</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>
</tbody>
</table>

**Amorphous Silica**

<table>
<thead>
<tr>
<th>Toxicological effects</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicological effects</strong></td>
<td>Not regarded as a health hazard under current legislation.</td>
</tr>
<tr>
<td><strong>Acute toxicity - oral</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Notes (oral LD₅₀)</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
</tbody>
</table>
### Epoxy Resin ER2188, Part A

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute toxicity - dermal</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Notes (dermal LD₅₀)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Acute toxicity - inhalation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Notes (inhalation LC₅₀)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Animal data</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Respiratory sensitisation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Skin sensitisation</strong></td>
<td>Based on available data the classification criteria are not met.</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></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>STOT - repeated exposure</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td>Not relevant. Solid.</td>
</tr>
<tr>
<td><strong>General information</strong></td>
<td>No specific health hazards known. 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>No specific symptoms known. May cause discomfort if swallowed.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Prolonged contact may cause dryness of the skin.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>No specific symptoms known. May be slightly irritating to eyes.</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>
</tbody>
</table>
Epoxy Resin ER2188, Part A

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

**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**

Based on available data the classification criteria are not met.

**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.

**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**

**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** 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** No specific symptoms known.

**Ingestion** May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.
Epoxy Resin ER2188, Part A

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.

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.

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
Epoxy Resin ER2188, Part A

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.

SECTION 12: Ecological information

Ecological information on ingredients.

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

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

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

oxirane, mono[(C12-14-alkyloxy)methyl] deriv.
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 3 - H412 Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.

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

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
Epoxy Resin ER2188, Part A

Acute toxicity - fish
LC₅₀, 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
NOEC, 21 days: 0.3 mg/l, Daphnia magna

2,3-epoxypropyl neodecanoate
Toxicity
Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

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

Amorphous Silica
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.

oxiran, mono[(C12-14-alkyloxy)methyl] derivs.
Toxicity
Based on available data the classification criteria are not met.

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

Ecological information on ingredients.

Aluminium Hydroxide
Persistence and degradability
The degradability of the product is not known.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Persistence and degradability
The degradability of the product is not known.

2,3-epoxypropyl neodecanoate
Persistence and degradability
The degradability of the product is not known.

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

Amorphous Silica
Epoxy Resin ER2188, Part A

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.

12.3. Bioaccumulative potential

Bioaccumulative potential
No data available on bioaccumulation.

Partition coefficient
Not available.

Ecological information on ingredients.

Aluminium Hydroxide

Bioaccumulative potential
No data available on bioaccumulation.

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

Bioaccumulative potential
No data available on bioaccumulation.

Partition coefficient
log Kow: 2.64-3.78

2,3-epoxypropyl neodecanoate

Bioaccumulative potential
No data available on bioaccumulation.

Kaolin

Bioaccumulative potential
No data available on bioaccumulation.

Amorphous Silica

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.

Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil

Mobility
No data available.

Ecological information on ingredients.

Aluminium Hydroxide

Mobility
No data available.
Epoxy Resin ER2188, Part A

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

**Mobility**
No data available.

**2,3-epoxypropyl neodecanoate**

**Mobility**
No data available.

**Kaolin**

**Mobility**
No data available.

**Amorphous Silica**

**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] derivs.

**Mobility**
No data available.

12.5. Results of PBT and vPvB assessment

**Ecological information on ingredients.**

**Aluminium Hydroxide**

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

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.

12.6. Other adverse effects

**Other adverse effects**
None known.

**Ecological information on ingredients.**

**Aluminium Hydroxide**

**Other adverse effects**
None known.

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

**Other adverse effects**
None known.

**2,3-epoxypropyl neodecanoate**

**Other adverse effects**
None known.

**Kaolin**

**Other adverse effects**
None known.
Epoxy Resin ER2188, Part A

Amorphous Silica

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.

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 The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number Not applicable.

14.2. UN proper shipping name Not applicable.

14.3. Transport hazard class(es) No transport warning sign required.

Transport labels No transport warning sign required.

14.4. Packing group Not applicable.

14.5. Environmental hazards Environmentally hazardous substance/marine pollutant No.

14.6. Special precautions for user Not applicable.
Epoxy Resin ER2188, Part A

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

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


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 ER2188, Part A

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

**Issued by**
Toni Ashford

**Revision date**
21/11/2018

**Revision**
1.1

**SDS number**
699

**Hazard statements in full**
- 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.
- 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 ER2188, Part B  

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

1.1. Product identifier

Product name  Epoxy Resin ER2188, Part B

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)  Not Classified
Physical hazards  Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317
Health hazards  Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410
Environmental hazards  Not Classified

2.2. Label elements

Hazard pictograms

Signal word  Danger
Epoxy Resin ER2188, Part B

Hazard statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
P260 Do not breathe vapour/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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
3-aminomethyl-3,5,5-trimethylcyclohexylamine, Isononylphenol, ethoxylated, 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine, Amines, coco alkyl

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.
P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see medical advice on this label).
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.

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>3-aminomethyl-3,5,5-trimethylcyclohexylamine</th>
<th>30-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 2855-13-2</td>
<td></td>
</tr>
<tr>
<td>EC number: 220-666-8</td>
<td></td>
</tr>
<tr>
<td>REACH registration number: 01-2119514687-32-XXXX</td>
<td></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 3 - H412
# Epoxy Resin ER2188, Part B

## Isononylphenol, ethoxylated
- **CAS number:** 37205-87-1
- **Amount:** 30-60%
- **Classification**
  - Acute Tox. 4 - H302
  - Eye Dam. 1 - H318
  - Aquatic Chronic 2 - H411

## 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
- **CAS number:** 25513-64-8
- **Amount:** 5-10%
- **EC number:** 247-063-2
- **REACH registration number:** 01-2119560598-25-XXXX
- **Classification**
  - Acute Tox. 4 - H302
  - Skin Corr. 1B - H314
  - Eye Dam. 1 - H318
  - Skin Sens. 1B - H317
  - Aquatic Chronic 3 - H412

## Amines, coco alkyl
- **CAS number:** 61788-46-3
- **Amount:** 5-10%
- **EC number:** 262-977-1
- **M factor (Acute):** 10
- **M factor (Chronic):** 10
- **Classification**
  - Acute Tox. 4 - H302
  - Skin Corr. 1B - H314
  - Eye Dam. 1 - H318
  - STOT SE 3 - H335
  - STOT RE 2 - H373
  - Asp. Tox. 1 - H304
  - Aquatic Acute 1 - H400
  - Aquatic Chronic 1 - H410

## salicylic acid
- **CAS number:** 69-72-7
- **Amount:** 1-5%
- **Classification**
  - Acute Tox. 4 - H302
  - Eye Dam. 1 - H318
**Epoxy Resin ER2188, Part B**

<table>
<thead>
<tr>
<th>xylene</th>
<th>&lt;1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 1330-20-7</td>
<td>EC number: 215-535-7</td>
</tr>
</tbody>
</table>

**Classification**
- Flam. Liq. 3 - H226
- Acute Tox. 4 - H312
- Acute Tox. 4 - H332
- Skin Irrit. 2 - H315

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. 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. 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.

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.
Epoxy Resin ER2188, Part B

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
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).
Epoxy Resin ER2188, Part B

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.

**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

**Occupational exposure limits**

**xylene**

Long-term exposure limit (8-hour TWA): WEL 50 ppm 220 mg/m³
Short-term exposure limit (15-minute): WEL 100 ppm 441 mg/m³
Sk
Epoxy Resin ER2188, Part B

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.

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

Appearance

Clear liquid.

Colour

Amber.
Epoxy Resin ER2188, Part B

Odour
Not known.

Odour threshold
Not available.

pH
Not available.

Melting point
Not available.

Initial boiling point and range
Not available.

Flash point
Not available.

Evaporation rate
Not available.

Evaporation factor
Not available.

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits
Not available.

Other flammability
Not available.

Vapour pressure
Not available.

Vapour density
Not available.

Relative density
Not available.

Bulk density
0.92 kg/l

Solubility(ies)
Not available.

Partition coefficient
Not available.

Auto-ignition temperature
Not available.

Decomposition Temperature
Not available.

Viscosity
200 mPa s @ 23°C

Explosive properties
Not considered to be explosive.

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

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
Epoxy Resin ER2188, Part B

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 LC₅₀) Acute Tox. 4 - H302 Harmful if swallowed.
ATE oral (mg/kg) 769.84

Acute toxicity - dermal
Notes (dermal LD₅₀) Based on available data the classification criteria are not met.
ATE dermal (mg/kg) 2,450.98

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

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 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
Aspiration hazard Based on available data the classification criteria are not met.
# Epoxy Resin ER2188, Part B

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

### 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.

### Toxicological information on ingredients.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - oral</td>
<td></td>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
</tr>
<tr>
<td>Notes (oral LD₅₀)</td>
<td></td>
<td>Acute Tox. 4 - H302 Harmful if swallowed.</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>500.0</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity - dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes (dermal LD₅₀)</td>
<td></td>
<td>Acute Tox. 4 - H312 Harmful in contact with skin.</td>
</tr>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>1,100.0</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity - inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes (inhalation LC₅₀)</td>
<td>Based on available data the classification criteria are not met.</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal data</td>
<td>Skin Corr. 1B - H314 Causes severe burns.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td></td>
<td>Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.</td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>Based on available data the classification criteria are not met.</td>
<td></td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genotoxicity - in vitro</td>
<td>Based on available data the classification criteria are not met.</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Based on available data the classification criteria are not met.</td>
<td></td>
</tr>
<tr>
<td>IARC carcinogenicity</td>
<td></td>
<td>None of the ingredients are listed or exempt.</td>
</tr>
</tbody>
</table>
Epoxy Resin ER2188, Part B

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
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.

Isononylphenol, ethoxylated

Acute toxicity - oral
Notes (oral LD₅₀)
Acute Tox. 4 - H302 Harmful if swallowed.
ATE oral (mg/kg)
500.0

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
Based on available data the classification criteria are not met.

Serious eye damage/irritation
Epoxy Resin ER2188, Part B

Serious eye damage/irritation
Eye Dam. 1 - H318 Causes serious eye damage.

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.

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
No specific symptoms known.

Ingestion
May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.

Skin contact
No specific symptoms known.

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.

Acute toxicity - oral

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

ATE oral (mg/kg)
500.0

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
Epoxy Resin ER2188, Part B

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  Skin Corr. 1B - H314 Causes severe burns.

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.

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.
Epoxy Resin ER2188, Part B

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.

Amines, coco alkyl

Acute toxicity - oral
Notes (oral LD₅₀)
Acute Tox. 4 - H302 Harmful if swallowed.
ATE oral (mg/kg)
500.0

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
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
Based on available data the classification criteria are not met.

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
STOT SE 3 - H335 May cause respiratory irritation.

Target organs
Respiratory system, lungs

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
STOT RE 2 - H373 May cause damage to organs through prolonged or repeated exposure.
Epoxy Resin ER2188, Part B

Aspiration hazard
Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

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

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

Ingestion
May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Skin contact
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
Respiratory system, lungs

Salicylic acid

Acute toxicity - oral
Acute toxicity oral (LD₅₀ mg/kg) 890.0
Species Rat
Notes (oral LD₅₀) Acute Tox. 4 - H302 Harmful if swallowed.
ATE oral (mg/kg) 890.0

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 Based on available data the classification criteria are not met.

Serious eye damage/irritation
Serious eye damage/irritation Eye Dam. 1 - H318 Causes serious eye damage.

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

### Epoxy Resin ER2188, Part B

**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.

**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**
Not relevant. Solid.

**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 discomfort if swallowed. Stomach pain. Nausea, vomiting.

**Skin contact**
Prolonged contact may cause dryness of the skin.

**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.

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

**Acute toxicity - dermal**
**Notes (dermal LD₅₀)**
Acute Tox. 4 - H312 Harmful in contact with skin.

**ATE dermal (mg/kg)**
1,100.0

**Acute toxicity - Inhalation**
**Acute toxicity inhalation (LC₅₀ vapours mg/l)**
27.571

**Notes (Inhalation LC₅₀)**
Acute Tox. 4 - H332 Harmful if inhaled.

**ATE inhalation (vapours mg/l)**
27.571

**Skin corrosion/Irritation**

---

**xylene**

---
Epoxy Resin ER2188, Part B

Animal data
Irritating.

Serious eye damage/irritation
Based on available data the classification criteria are not met.

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.

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

Skin contact
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.

Dimethyl Siloxane

Toxicological effects
Not regarded as a health hazard under current legislation.

Acute toxicity - oral
Epoxy Resin ER2188, Part B

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  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.

Respiratory sensitisation

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

Skin sensitisation

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

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  No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation  No specific symptoms known. Spray/mists may cause respiratory tract irritation.

Ingestion  No specific symptoms known. May cause discomfort if swallowed.

Skin contact  No specific symptoms known. May cause discomfort.

Eye contact  No specific symptoms known. May be slightly irritating to eyes.

Route of exposure  Ingestion Inhalation Skin and/or eye contact
Epoxy Resin ER2188, Part B

Target organs
No specific target organs known.

SECTION 12: Ecological information

Ecological information on ingredients.

**Amines, coco alkyl**

Ecotoxicity
Dangerous for the environment. Toxic to aquatic life with long lasting effects.

**salicylic acid**

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

**xylene**

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

**Dimethyl Siloxane**

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 Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

**3-aminomethyl-3,5,5-trimethylcyclohexylamine**

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

**Isononylphenol, ethoxylated**

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

**2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine**

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

**Acute aquatic toxicity**

**Acute toxicity - fish**
LC₅₀, 48 hours: 174 mg/l, Leuciscus idus (Golden orfe)

**Acute toxicity - aquatic invertebrates**
EC₅₀, 24 hours: 31.5 mg/l, Daphnia magna

**Amines, coco alkyl**

Toxicity
Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

**Acute aquatic toxicity**

**M factor (Acute)**
10

**Acute toxicity - fish**
LC₅₀, 96 hours: 1.16 mg/l,
Epoxy Resin ER2188, Part B

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 0.1-1.0 mg/l, Daphnia magna

Chronic aquatic toxicity
M factor (Chronic) 10

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

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

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

12.2. Persistence and degradability

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

Ecological information on ingredients.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Persistence and degradability The degradability of the product is not known.

Isononylphenol, ethoxylated
Persistence and degradability The degradability of the product is not known.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
Persistence and degradability The degradability of the product is not known.

Amines, coco alkyl
Persistence and degradability The degradability of the product is not known.

Salicylic acid
Persistence and degradability The degradability of the product is not known.

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

Dimethyl Siloxane
Epoxy Resin ER2188, Part B

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.

Ecological information on ingredients.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Bioaccumulative potential No data available on bioaccumulation.

Isononylphenol, ethoxylated
Bioaccumulative potential No data available on bioaccumulation.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
Bioaccumulative potential No data available on bioaccumulation.

Amines, coco alkyl
Bioaccumulative potential No data available on bioaccumulation.

Salicylic acid
Bioaccumulative potential No data available on bioaccumulation.

Xylene
Bioaccumulative potential No data available on bioaccumulation.

Dimethyl Siloxane
Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil
Mobility No data available.

Ecological information on ingredients.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Mobility No data available.

Isononylphenol, ethoxylated
Mobility No data available.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
Mobility No data available.

Amines, coco alkyl
Epoxy Resin ER2188, Part B

Mobility No data available.

salicylic acid

Mobility No data available.

xylene

Mobility No data available.

Dimethyl Siloxane

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

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.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Other adverse effects None known.

Isononylphenol, ethoxylated

Other adverse effects None known.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

Other adverse effects None known.

Amines, coco alkyl

Other adverse effects None known.

salicylic acid

Other adverse effects None known.

xylene

Other adverse effects None known.

Dimethyl Siloxane

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Epoxy Resin ER2188, Part B

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) 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 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Amines, coco alkyl)
Proper shipping name (IMDG) CORROSIVE LIQUID, N.O.S. (CONTAINS 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Amines, coco alkyl, Isononylphenol, ethoxylated)
Proper shipping name (ICAO) CORROSIVE LIQUID, N.O.S. (CONTAINS 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Amines, coco alkyl)
Proper shipping name (ADN) CORROSIVE LIQUID, N.O.S. (CONTAINS 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Amines, coco alkyl)

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
Epoxy Resin ER2188, Part B

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
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 (ADR/RID)  80
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
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

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 ER2188, 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 Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Classification procedures according to Regulation (EC) 1272/2008
Calculation method. Aquatic Acute 1 - H400: Aquatic Chronic 1 - H410: :
Calculation method.

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

Issued by
Toni Ashford

Revision date
23/11/2018

Revision
2.1

SDS number
701

Hazard statements in full
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
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.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs (Gastro-intestinal tract) through prolonged or repeated exposure.
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.
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.