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

1.1. Product identifier

Product name: EPOFIX RESIN
Cat. No. 40200030, 40200029

Container size: 1 l

1.2. Relevant identified uses of the substance or mixture and uses advised against

Application: For embedding and impregnation of materialographic specimens (*)

Uses advised against: No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier: Struers ApS, Singapore Branch
627A Aljunied Road
#07-08 BizTech Centre
389842 Singapore
Tel:+65 6299 2268

Responsible for safety data sheet authoring: DHI

Any questions to the contents of this safety data sheet should be sent to: struers@struers.dk

1.4. Emergency telephone number

24-hour Emergency Medical Service (EMS): 995.
SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS:
- Skin corrosion/irritation Cat 2
- Serious eye damage/eye irritation 2
- Skin sensitizer Cat 1B (*)
- Aquatic, Chronic Cat 2

2.2. Label elements

(*)

![Warning symbol]

Warning

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.

P273   Avoid release to the environment.
P280   Wear protective clothing, gloves, eye and 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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.

P101   If medical advice is needed, have product container or label at hand.
P103   Read label before use.
P261   Avoid breathing gas, fume, vapours or spray.
P272   Contaminated work clothing should not be allowed out of the workplace.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391   Collect spillage.
P501   Dispose of contents/container in accordance with local regulations.

2.3. Other hazards

PBT/vPvB: Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: epoxy resin. (*)
SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

**Inhalation:** Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring along these instructions.

**Skin contact:** Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.

**Ingestion:** Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions. Do not induce vomiting.

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

**Symptoms/effects:** See section 11 for more detailed information on health effects and symptoms.

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

**Medical attention/treatments:** Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

**Extinguishing media:** Extinguish with foam, carbon dioxide, dry powder or water fog.

**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:** When heated and in case of fire, irritating vapours/gases may be formed.

5.3. Advice for firefighters

**Protective equipment for firefighters:** Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
Avoid inhalation of vapours and aerosols and contact with skin and eyes. For personal protection, see section 8.

For emergency responders:
No specific recommendations. For personal protection, see section 8.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:
Absorb spillage with suitable absorbing material.

6.4. Reference to other sections

Reference:
For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice:
Observe good chemical hygiene practices. Avoid inhalation of vapours and aerosols and contact with skin and eyes.
Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site.

Technical measures:
Work practice should minimise contact. Technical aid: Use disposable equipment (rags, brushes, spatulas, putty knives, etc.), if possible.

Technical precautions:
First-aid equipment, including eye wash bottle, must be available at the work site.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage:
No special precautions.

Storage conditions:
Store in closed original container in a dry place. Avoid contact with oxidizing agents.

7.3. Specific end use(s)

Specific use(s):
No information available.
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No occupational exposure limit assigned.

8.2. Exposure controls

**Engineering measures:** Mix and prepare in a place with efficient exhaust ventilation. An eye wash bottle must be available at the work site.

**Personal protection:** Personal protection equipment should be chosen according to the ANSI standards and in discussion with the supplier of the personal protective equipment.

**Respiratory equipment:** In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment. It is recommended to use respiratory equipment with combination filter, type ABEK.

**Hand protection:** Use disposable gloves protecting against epoxy along with cotton gloves closest to the skin. Butyl rubber gloves are recommended. The most suitable glove must be chosen in collaboration with the gloves supplier, who can inform about the breakthrough time of the glove material. (*)

**Eye protection:** Wear goggles/face shield.

**Skin protection:** Risk of contact: Wear apron or protective clothing in case of splashes.

**Hygiene measures:** Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke.

**Environmental Exposure Controls:** Not available.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless to pale yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild</td>
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<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>Boiling point</td>
<td>&gt;148°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>176,7 - 190,6°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
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<tr>
<td>Explosion limits</td>
<td>Not available</td>
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<tr>
<td>Vapour pressure</td>
<td>0,06 mmHg (21°C)</td>
</tr>
<tr>
<td>Vapour density</td>
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<tr>
<td>Relative density</td>
<td>1,11 - 1,14</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient</td>
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</tr>
<tr>
<td>(n-octanol/water)</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
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</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>600 - 800 cP (25°C)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available</td>
</tr>
</tbody>
</table>

9.2. Other information

Other data: Volatile Organic Compound (VOC): 0 g/l
SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reactivity: No data available.

10.2. Chemical stability
Stability: Stable under normal temperature conditions.
Curing time: 12 hours

10.3. Possibility of hazardous reactions
Hazardous reactions: Reacts with alkalis and amines generating excessive heat.

10.4. Conditions to avoid
Conditions/materials to avoid: Heating, moisture, water and amines. Strong oxidising substances, strong acids and strong bases.

10.5. Incompatible materials
Incompatible materials: Strong oxidising substances, strong acids and strong bases.

10.6. Hazardous decomposition products
Hazardous decomposition products: When heated and in case of fire, irritating vapours/gases may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Acute Toxicity (Oral): Based on available data, the classification criteria are not met.
Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.
Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.
Skin Corrosion/Irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive Toxicity: Based on available data, the classification criteria are not met.
STOT - Single exposure: Based on available data, the classification criteria are not met.
STOT - Repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Inhalation: Not relevant at normal room temperatures. When heated, irritating vapours may be formed.
Ingestion: Irritating. May cause nausea, stomach pain and vomiting.
SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity: Toxic to aquatic life with long lasting effects.

2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane: 
LC50 (Oncorhynchus mykiss, 96 h): 2 mg/l (*)

12.2. Persistence and degradability
Degradability: This product is expected to be not readily biodegradable.

12.3. Bioaccumulative potential
Bioaccumulative potential: The product contains potentially bioaccumulating substances.
log Pow: 3-5

12.4. Mobility in soil
Mobility: Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. (Koc: >5000)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (Koc: 500-2000)

12.5. Results of PBT and vPvB assessment
PBT/vPvB: This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects
Other adverse effects: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste from residues: Dispose of waste and residues in accordance with local authority requirements.
Contaminated packaging: Dispose of waste and residues in accordance with local authority requirements.
SECTION 14: TRANSPORT INFORMATION
The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number
UN-No: 3082

14.2. UN proper shipping name
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)

Additional IMDG information:
EmS: F-A, S-F
MFAG: 1

14.3. Transport hazard class(es)
Class: 9

14.4. Packing group
PG: III

14.5. Environmental hazards
Marine pollutant: Yes.
Environmentally Hazardous Substance: Yes.

14.6. Special precautions for user
Special precautions: None known.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Transport in bulk: Not relevant.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulation:
Workplace Safety and Health (General Provisions) Regulations, with amendments.
Guidelines on prevention and control of chemical hazard.
SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions. The following sections contain revisions or new statements: 1, 2, 3, 8, 12. The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

Abbreviations and acronyms used in the safety data sheet:
PBT = Persistent, Bioaccumulative and Toxic.
vPvB = very Persistent and very Bioaccumulative.

Additional information: Classification according to Singapore Standard SS 586: Part 2 : 2014:
Calculation method.

Wording of H-statements:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.