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

<table>
<thead>
<tr>
<th>Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name:</td>
</tr>
<tr>
<td>Cat. No.</td>
</tr>
<tr>
<td>Container size:</td>
</tr>
</tbody>
</table>

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. (*)

Details of the supplier of the safety data sheet

- **Supplier:** Struers ApS
  - Pederstrupvej 84
  - DK-2750 Ballerup
  - Tel:+45 44 600 800

- **Responsible for material safety data sheet authoring:** Responsible for material safety data sheet authoring: DHI

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

Emergency telephone number

- National Capital Poison Center: 1-800-222-1222
- Infotrac: 1-800-535-5053
- Struers US: 1-440-871-0071
SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

OSHA 2012:
- Skin Irritant Category 2
- Eye Irritant Category 2A
- Skin Sensitizer Category 1
- Aquatic Chronic Toxicity Category 2

Label elements

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.

Other hazards

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

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

Description of first aid measures

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

Most important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Treat symptomatically.
SECTION 5: FIREFIGHTING MEASURES

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.

Special hazards arising from the substance or mixture

Specific hazards: When heated and in case of fire, irritating vapors/gases may be formed.

Advice for firefighters

Protection equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

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

Environmental precautions

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

Methods and material for containment and cleaning up

Spill Cleanup Methods: Absorb spillage with suitable absorbent material.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Safe handling advice: Observe good chemical hygiene practices. Avoid 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 minimize contact. Technical aids: 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.

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.

Specific end use(s)

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

Control parameters

No occupational exposure limit assigned.

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. Use NIOSH-certified respirator with at least an APF 50. It is recommended to use respiratory equipment with combination filter, type ABEK.

Hand protection: Use chemically impervious gloves. Use disposable gloves protecting against epoxy and amines along with cotton gloves closest to the skin. The most suitable glove must be chosen in consultation 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

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Colorless</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Characteristic</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>&gt;392°F</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>&gt;201.2°F</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>1.09</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature (°F)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Decomposition temperature (°F)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Dynamic viscosity: 300 - 440 mPas</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Other information**

**Other data:**

No information available.
SECTION 10: STABILITY AND REACTIVITY

Reactivity
Reactivity: None under normal conditions.

Chemical stability
Stability: Stable under normal temperature conditions.

Possibility of hazardous reactions
Hazardous Reactions: Stable under normal temperature conditions.

Conditions to avoid
Conditions/materials to avoid: No information available.

Incompatible materials
Incompatible materials: No information available.

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

SECTION 11: TOXICOLOGICAL INFORMATION

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 sensitization: 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.
National Toxicology Program (NTP): No.
I.A.R.C. Monographs: No.
OSHA: No.
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 vapors may be formed.
Ingestion: Irritating. May cause nausea, stomach pain and vomiting.
SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Bis[4-(2,3-epoxypropoxy)phenyl]propane: 1.3 (LC50 96 hours, fish, mg/l)

Reaction product: bisphenol-F-(epichlorhydrin), epoxy resin (number average molecular weight <= 700): 2.54 (LC50 96 hours, fish, mg/l)

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.: 1800 (LC50 96 hours, fish, mg/l)

Persistence and degradability

Degradability: This product is expected to be heavily biodegradable.

Bioaccumulative potential

Bioaccumulative potential: Bis[4-(2,3-epoxypropoxy)phenyl]propane: log Pow 2.64 - 3.78

Reaction product: bisphenol-F-(epichlorhydrin), epoxy resin (number average molecular weight <= 700): log Pow 3.3

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.: log Pow 3.77

Mobility in soil

Mobility: No data available.

Results of PBT and vPvB assessment

PBT/vPvB: This product does not contain any PBT or vPvB substances.

Other adverse effects

Other adverse effects: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues: Dispose of waste and residues in accordance with local authority requirements. Note that fully cured material is not considered as hazardous waste.

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).

**UN number**

UN-No: 3082

**UN proper shipping name**

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)

**Transport hazard class(es)**

Class: 9

**Packing group**

PG: III

**Environmental hazards**

Marine pollutant: Yes.

Environmentally Hazardous substance: Yes.

**Special precautions for user**

Special precautions: None known.

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

Transport in bulk: Not relevant.
 SECTION 15: REGULATORY INFORMATION

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

Special provisions: State and local regulation may apply.

TSCA: Listed.

NFPA Rating: Health: 2 Fire: 1 Reactivity: 0 Other:-

SARA Section 302: No.
SARA Section 304: No.
SARA Section 313: No.
SARA (311/312) Hazard categories: Yes.

National regulation: The following lists have been checked:

Threshold Limit Values (2019), ACGIH, by the American Conference on Governmental Industrial Hygienists.
NIOSH Pocket Guide to Chemical Hazards.
The Code of Federal Regulation, Title 40, part 261.33. Identification and listing of hazardous waste.
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, 8. 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 HCS 2012: Calculation method.

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. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.