

Product name: EPOFIX RESIN
Revision date: 2018-11-28
Document No.: M0025

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SDS-ID: SG-EN/20.0

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

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: 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.

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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 1
- Aquatic, Chronic Cat 2

2.2. 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.

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. (*)

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GHS:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
60-90	25068-38-6	500-033-5	-	Reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight <= 700)	Serious eye damage/eye irritation 2 Skin corrosion/irritation Cat 2 Skin sensitizer Cat 1 Aquatic, Chronic Cat 2	
10-40	68609-97-2	271-846-8	-	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Skin corrosion/irritation Cat 2 Skin sensitizer Cat 1	

Reference: The full text for all hazard statements is displayed in section 16.

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

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Protective equipment: Avoid inhalation of vapours and aerosols and contact with skin and eyes. For personal protection, see section 8. (*)

Emergency procedures: No specific recommendations. For personal protection, see section 8. (*)

6.2. Environmental precautions

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.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No occupational exposure limit assigned.

8.2. Exposure controls

<u>Engineering measures:</u>	Mix and prepare in a place with efficient exhaust ventilation. An eye wash bottle must be available at the work site.
<u>Personal protection:</u>	Personal protection equipment should be chosen according to the ANSI standards and in discussion with the supplier of the personal protective equipment.
<u>Respiratory equipment:</u>	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
<u>Hand protection:</u>	Use disposable gloves protecting against epoxy along with cotton gloves closest to the skin. Laminate (PE/EVOH) 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.
<u>Eye protection:</u>	Wear goggles/face shield.
<u>Skin protection:</u>	Risk of contact: Wear apron or protective clothing in case of splashes.
<u>Hygiene measures:</u>	Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke.
<u>Environmental Exposure Controls:</u>	Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

(*)

<u>Form:</u>	Liquid.
<u>Colour:</u>	Colourless to pale yellow.
<u>Odour:</u>	Mild.
<u>Odour threshold:</u>	Not available.
<u>pH:</u>	Not available.
<u>Melting point:</u>	Not available.
<u>Boiling point:</u>	>148°C
<u>Flash point:</u>	176,7 - 190,6°C
<u>Evaporation rate:</u>	Not available.
<u>Flammability (solid, gas):</u>	Not available.
<u>Explosion limits:</u>	Not available.
<u>Vapour pressure:</u>	0,06 mmHg (21°C)
<u>Vapour density:</u>	Not available.
<u>Relative density:</u>	1,11 - 1,14
<u>Solubility:</u>	Insoluble in water.
<u>Partition coefficient (n-octanol/water):</u>	Not available.
<u>Auto-ignition temperature (°C):</u>	Not available.
<u>Decomposition temperature (°C):</u>	Not available.
<u>Viscosity:</u>	600 - 800 cP (25°C)
<u>Explosive properties:</u>	Not available.
<u>Oxidising properties:</u>	Not available.

9.2. Other information

Other data: Volatile Organic Compound (VOC): 0 g/l

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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.

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: Toxic to aquatic life with long lasting effects.

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)
Reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight <= 700) (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.

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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 Yes.

Substance:

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:

Singapore Standard SS 586: Part 2 : 2014; Globally harmonised system of classification and labelling of chemicals - Singapore's adaptations.
Singapore Standard SS 586: Part 3 : 2014; Preparation of safety data sheets (SDS).
Guidelines on prevention and control of chemical hazard.

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SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.
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: 3, 6, 9.
The (*) indicates the changes made with respect to the previous version.

Approved by DHI.



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.
www.dhigroup.com.