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

Product identifier

Product name: EPOFIX HARDENER
Cat. No. 40200031, 40200029
CAS-No.: 112-24-3
EC No.: 203-950-6
Container size: 130 ml, 500 ml

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

Application: For embedding and impregnation of materialographic specimens

Details of the supplier of the safety data sheet

Supplier: Struers A/S
Pederstrupvej 84
DK-2750 Ballerup
Tel:+45 44 600 800

Responsible for material safety data sheet authoring: DHI

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

Emergency telephone number

Emergency telephone: Infotrac:
1-800-535-5053
Struers US:
1-440-871-0071
SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

The product is classified:
67/548/EEC / 1999/45/EC: C;R34 Xn;R21 R43 R52/53
GHS: Acute Tox. 4; H312 - Skin Corr. 1B; H314 - Eye Dam. 1; H318 - Skin Sens. 1; H317 - Aquatic Chronic 3; H412 (*)

Label elements

Danger

Contains:
Triethylenetetramine
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
P101 If medical advice is needed, have product container or label at hand.
P262 Do not get in eyes, on skin, or on clothing.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309 + P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
NFPA Rating: Health: 3  Fire: 1  Reactivity: 0  Other:-

Other hazards
Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. (*)
PBT/vPvB: Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances
The product contains: hardener.
67/548/EEC:

<table>
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<th>EC No.</th>
<th>REACH Reg. No:</th>
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<td>C;R34 Xn;R21 R43 R52/53</td>
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</tbody>
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SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation: Move into fresh air and keep at rest. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Immediately call an ambulance.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

Eye contact: Immediately flush with plenty of water. Remove any contact lenses and open eyes wide apart. Call an ambulance and continue flushing during transportation to hospital taking 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: Not known.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Special hazards arising from the substance or mixture

Specific hazards: When heated and in case of fire, very toxic nitrogen oxides may be formed.

Advice for firefighters

Protective 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

Personal precautions: Avoid contact with skin and eyes.

Environmental precautions

Environmental precautions: Do not discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up

Spill Cleanup Methods: Absorb spillage with non-combustible, absorbent material.

Reference to other sections

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

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Safe handling advice: Avoid contact with skin and eyes. Immediately change drenched clothing. Observe good chemical hygiene practices.

Technical measures: Work practice should minimize contact.

Technical precautions: Local exhaust is recommended. Provide easy access to water supply and eye wash facilities.

Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: No special precautions.

Storage conditions: Store in a cool and well-ventilated place.

Specific end use(s)

Specific use(s): Not relevant.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: yellow liquid
Odor: Amine.
\( \text{pH}: 10,7 \) (ISO 8975)
Melting point: \(-35^\circ C\)
Boiling point: 270-300°C
Flash point: 129°C
Explosion limits: Not available.
Vapor pressure: < 0,1 hPa (20 °C)
Relative density: Not available.
Solubility: soluble in water
Partition coefficient (n-octanol/water): Not available.

Viscosity: Dynamic viscosity: 20 - 30 mPa.s (25 °C)

Other information

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

Reactivity
Reactivity: None known.

Chemical stability
Stability: Stable under normal temperature conditions.

Possibility of hazardous reactions
Hazardous Reactions: None known.

Conditions to avoid
Conditions/materials to avoid: Heating. Direct sunlight.

Incompatible materials
Incompatible materials: None known.

Hazardous decomposition products
Hazardous decomposition products: When heated and in case of fire, very toxic nitrogen oxides are formed.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhalation: Not relevant at normal room temperatures. When heated, corrosive and toxic vapors may be formed. (*)

Skin contact: Corrosive. Prolonged contact causes serious tissue damage. May cause an allergic skin reaction. (*)

Eye contact: Causes serious eye damage. (*)

Ingestion: Corrosive. Even small amounts may cause serious damage.

LD50 (oral, rat): 2500 mg/kg

Specific effects: May cause sensitization.

Carcinogenicity:
National Toxicology Program (NTP): No.
I.A.R.C. Monographs: No.
OSHA: No.
### SECTION 12: ECOLOGICAL INFORMATION

**Toxicity**

Ecotoxicity: Harmful to aquatic life with long lasting effects.

**Persistence and degradability**

Degradability: The degradability of the product has not been stated.

**Bioaccumulative potential**

Bioaccumulative potential: No data available on bioaccumulation.

**Mobility in soil**

Mobility: No data available.

**Results of PBT and vPvB assessment**

PBT/vPvB: Not relevant.

**Other adverse effects**

Other adverse effects: None known.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

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

Waste from residues: EWC-code: 16 05 08
SECTION 14: TRANSPORT INFORMATION

**UN number**

UN-No: 2259

**UN proper shipping name**

Proper Shipping Name: TRIETHYLENETETRAMINE

Additional IMDG information:
EmS: F-A,S-B
MFAG: 1
Segregation Group: Alkali

**Transport hazard class(es)**

Class: 8

**Packing group**

PG: II

**Environmental hazards**

Marine pollutant: No.
Environmentally Hazardous substance: No.

**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:**
TSCA: Listed.
As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

**National regulation:**
Europe/USA:
This Material Safety Data Sheet has been prepared according to the EU-regulation.

**Chemical Safety Assessment**

**CSA status:**
Not relevant.
Additional information: Classification according to Regulation (EC) No. 1272/2008: Calculation method.

Wording of H-statements:

R21  Harmful in contact with skin.
R34  Causes burns.
R43  May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H312  Harmful in contact with skin.
H314  Causes severe skin burns and eye damage.
H317  May cause an allergic skin reaction.
H318  Causes serious eye damage.
H412  Harmful 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. 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.

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