

Product name:	EPOFIX HARDENER	Page:	1/10
Revision Date:	2012-11-23	Print date:	2012-11-23
Document No.:	M0026	SDS-ID:	GB-EN/12.0

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

### **1.1. 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

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

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:  
Lisbeth.Mygind@struers.dk

### **1.4. Emergency telephone number**

Emergency telephone: +45 44 600 800  
(Only during office hours)

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## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

The product is classified:

67/548/EEC: C;R34 Xn;R21 R43 R52/53

GHS/CLP: Acute Tox. 4;H312 - Skin Corr. 1B;H314 - Skin Sens. 1;H317 - Aquatic Chronic 3;H412

Human health: Corrosive. Prolonged contact causes serious eye and tissue damage. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. The product contains a sensitising substance which may provoke an allergic reaction among sensitive individuals.

Environment: Harmful to aquatic life with long lasting effects.

### 2.2. 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.

P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309/311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

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### 2.3. Other hazards

PBT/vPvB: Not relevant.

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

The product contains: hardener.

67/548/EEC:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
100	112-24-3	203-950-6	-	Triethylenetetramine	C;R34 Xn;R21 R43 R52-53	

GHS/CLP:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
100	112-24-3	203-950-6	-	Triethylenetetramine	Acute Tox. 4;H312 Skin Corr. 1B;H314 Skin Sens. 1;H317 Aquatic Chronic 3;H412	

References: The full text for all R-phrases and hazard statements are displayed in section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

Inhalation: Move into fresh air and keep at rest. Be aware that symptoms of lung oedema (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. Bring 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: Not known.

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## SECTION 5: FIREFIGHTING MEASURES

### **5.1. Extinguishing media**

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

### **5.2. Special hazards arising from the substance or mixture**

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### **6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Avoid contact with skin and eyes.

### **6.2. Environmental precautions**

Environmental precautions: Do not 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 non-combustible, absorbent material.

### **6.4. Reference to other sections**

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

Technical measures: Work practice should minimise contact.

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

### **7.2. 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.

### **7.3. Specific end use(s)**

Specific use(s): Not relevant.

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## 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. Local exhaust is recommended. An eye wash bottle must be available at the work site.

Personal protection: Personal protection equipment should be chosen according to the CEN 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 respiratory equipment with gas filter, type K.

Hand protection: 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 consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection: Wear goggles/face shield.

Skin protection: Wear suitable protective clothing as protection against splashing or contamination.

Environmental Exposure Controls: Not available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Appearance: yellow liquid

Odour: Amine.

pH: 10,7 (ISO 8975)

Melting point: -35°C

Boiling point: 270-300°C

Flash point: 129°C

Explosion limits: Not available.

Vapour 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)

### 9.2. Other information

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

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## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Reactivity: None known.

### 10.2. Chemical stability

Stability: Stable under normal temperature conditions.

### 10.3. Possibility of hazardous reactions

Hazardous Reactions: None known.

### 10.4. Conditions to avoid

Conditions/materials to avoid: Heating. Direct sunlight.

### 10.5. Incompatible materials

Incompatible materials: None known.

### 10.6. Hazardous decomposition products

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

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Inhalation: Not relevant at normal room temperatures. When heated, toxic vapours may be formed.

Skin contact: Corrosive. Prolonged contact causes serious tissue damage. Risk of sensitisation or allergic reactions among sensitive individuals.

LD50(Rabbit,Dermal): 675 mg/kg

Eye contact: Corrosive. Immediate first aid is necessary.

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

LD50 (oral, rat): 1080 mg/kg

Specific effects: May cause sensitisation.

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## SECTION 12: ECOLOGICAL INFORMATION

### **12.1. Toxicity**

Ecotoxicity: Harmful to aquatic life with long lasting effects.

### **12.2. Persistence and degradability**

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

### **12.3. Bioaccumulative potential**

Bioaccumulative potential: No data available on bioaccumulation.

### **12.4. Mobility in soil**

Mobility: No data available.

### **12.5. Results of PBT and vPvB assessment**

PBT/vPvB: Not relevant.

### **12.6. Other adverse effects**

Other adverse effects: None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### **13.1. 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

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## SECTION 14: TRANSPORT INFORMATION

### **14.1. UN number**

UN-No: 2259

### **14.2. UN proper shipping name**

Proper Shipping Name: TRIETHYLENETETRAMINE

Additional IMDG information:

EmS: F-A,S-B

MFAG: 1

Segregation Group: Alkali

### **14.3. Transport hazard class(es)**

Class: 8

### **14.4. Packing group**

PG: II

### **14.5. Environmental hazards**

Marine pollutant: No.

Environmentally Hazardous substance: No.

### **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.

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## SECTION 15: REGULATORY INFORMATION

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Special provisions: 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: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.  
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).  
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.  
The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242).  
The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).

### **15.2. Chemical Safety Assessment**

CSA status: Not relevant.

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## SECTION 16: OTHER INFORMATION

For restrictions on use see section 15.

The following sections contain revisions or new statements: 2.  
The (\*) indicates the changes made with respect to the previous version.

Approved by DHI.

Allan Vorup

Wording of  
R-phrases/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.
H412	Harmful to aquatic life with long lasting effects.

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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 Hørsholm, Denmark.  
[www.dhigroup.com](http://www.dhigroup.com).

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