

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/13/2020

Reviewed on 04/13/2020

## 1 Identification

- **Product identifier**
- **Trade name:** EPOFIX HARDENER
- **Article number:** 1232-B, 1232-H, 1232-SP
- **CAS Number:**  
112-24-3
- **EC number:**  
203-950-6
- **Index number:**  
612-059-00-5
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS07

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**  
3,6-diazaoctanethylenediamin
- **Hazard statements**  
*Harmful in contact with skin.*

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*Causes severe skin burns and eye damage.*

*May cause an allergic skin reaction.*

· **Precautionary statements**

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Contaminated work clothing must not be allowed out of the workplace.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation or rash occurs: Get medical advice/attention.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

112-24-3 3,6-diazaoctanethylenediamin

· **Identification number(s)**

· **EC number:** 203-950-6

· **Index number:** 612-059-00-5

## 4 First-aid measures

· **Description of first aid measures**

· **General information:**

*Immediately remove any clothing soiled by the product.*

*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*

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- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

3 ppm

· **PAC-2:**

14 ppm

· **PAC-3:**

83 ppm

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

**112-24-3 3,6-diazaoctanethylenediamin**

WEEL	Long-term value: 6 mg/m <sup>3</sup> , 1 ppm
	Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**

Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Light yellow
· <b>Odor:</b>	Amine-like
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· <b>Melting point/Melting range:</b>	12 °C (53.6 °F)
· <b>Boiling point/Boiling range:</b>	~278 °C (~532.4 °F)

· **Flash point:** 135 °C (275 °F)· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:** 335 °C (635 °F)· **Decomposition temperature:** Not determined.· **Auto igniting:** Not determined.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 0.01 hPa (0 mm Hg)· **Density at 20 °C (68 °F):** 0.982 g/cm<sup>3</sup> (8.19479 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.
· <b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal

· **Solids content:** 0.0 %

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· **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**112-24-3 3,6-diazaoctanethylenediamin**

Oral	LD50	2,500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** Strong caustic effect on skin and mucous membranes.

· **on the eye:** Strong caustic effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety Health Administration)**

Substance is not listed.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxic effects:**

· **Remark:** Harmful to fish

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- **Additional ecological information:**
- **General notes:**  
*Water hazard class 2 (Assessment by list): hazardous for water  
 Do not allow product to reach ground water, water course or sewage system.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Danger to drinking water if even small quantities leak into the ground.  
 Harmful to aquatic organisms*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>   | <p style="text-align: right;">UN2259</p>  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p style="text-align: right;">Triethylenetetramine<br/>2259 TRIETHYLENETETRAMINE<br/>TRIETHYLENETETRAMINE</p>                                       |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>   | <div style="text-align: center;">  <p>CORROSIVE<br/>8</p> </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p style="text-align: right;">8 Corrosive substances<br/>8</p>  |
| <ul style="list-style-type: none"> <li>· <b>ADR, IMDG, IATA</b></li> </ul>  | <div style="text-align: center;">  <p>8</p> </div>               |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p style="text-align: right;">8 Corrosive substances<br/>8</p>  |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>   | <p style="text-align: right;">II</p>  |

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· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Warning: Corrosive substances
· <b>Hazard identification number (Kemler code):</b>	80
· <b>EMS Number:</b>	8-05
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	B
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2259 TRIETHYLENETETRAMINE, 8, II

## 15 Regulatory information

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

· <b>Section 355 (extremely hazardous substances):</b>
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Substance is not listed.
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· <b>Section 313 (Specific toxic chemical listings):</b>
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Substance is not listed.
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· <b>TSCA (Toxic Substances Control Act):</b>
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ACTIVE
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· <b>Hazardous Air Pollutants</b>
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Substance is not listed.
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· <b>Proposition 65</b>
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· <b>Chemicals known to cause cancer:</b>
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Substance is not listed.
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· <b>Chemicals known to cause reproductive toxicity for females:</b>
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Substance is not listed.
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· <b>Chemicals known to cause reproductive toxicity for males:</b>
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Substance is not listed.
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**Trade name: EPOFIX HARDENER**

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**· Chemicals known to cause developmental toxicity:**

Substance is not listed.

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

Substance is not listed.

**· TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

**· GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms**


GHS05 GHS07

**· Signal word** Danger

**· Hazard-determining components of labeling:**

3,6-diazaoctanethylenediamin

**· Hazard statements**

Harmful in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

**· Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**· Date of preparation / last revision** 04/13/2020 / -

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**Trade name: EPOFIX HARDENER**

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**· Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety **Health***

***TLV: Threshold Limit Value***

***PEL: Permissible Exposure Limit***

***REL: Recommended Exposure Limit***

***Acute Tox. 4: Acute toxicity – Category 4***

***Skin Corr. 1B: Skin corrosion/irritation – Category 1B***

***Skin Sens. 1: Skin sensitisation – Category 1***

US

# Safety Data Sheet

## according to WHS Regulations

Printing date 13.04.2020

Revision: 13.04.2020

### 1 Identification

- **Product identifier**
- **Trade name:** EPOFIX HARDENER
- **Article number:** 1232-B, 1232-H, 1232-SP
- **CAS Number:**  
112-24-3
- **EC number:**  
203-950-6
- **Index number:**  
612-059-00-5
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
  
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
  
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: ems.proscitech.com
  
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: www.emgrid.com.au
  
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Sens. 1 H317 May cause an allergic skin reaction.

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Trade name: **EPOFIX HARDENER**

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- **Label elements**

- **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**



GHS05 GHS07

- **Signal word** *Danger*

- **Hazard-determining components of labelling:**

3,6-diazaoctanethylenediamin

- **Hazard statements**

Harmful in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

- **Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

- **Chemical characterisation: Substances**

- **CAS No. Description**

112-24-3 3,6-diazaoctanethylenediamin

- **Identification number(s)**

- **EC number:** 203-950-6

- **Index number:** 612-059-00-5

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Trade name: **EPOFIX HARDENER**

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### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Call for a doctor immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.

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- Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

AU

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# Safety Data Sheet

## according to WHS Regulations

Printing date 13.04.2020

Revision: 13.04.2020

Trade name: **EPOFIX HARDENER**

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### 9 Physical and Chemical Properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
Form:	Liquid
Colour:	Light yellow
· <b>Odour:</b>	Amine-like
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
Melting point/freezing point:	12 °C
Initial boiling point and boiling range:	~278 °C
· <b>Flash point:</b>	135 °C
· <b>Flammability (solid, gas):</b>	Not applicable.
· <b>Ignition temperature:</b>	335 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapour pressure at 20 °C:</b>	0.01 hPa
· <b>Density at 20 °C:</b>	0.982 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Solvent content:</b>	
VOC (EC)	0.00 %
Solids content:	0.0 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.

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# Safety Data Sheet

## according to WHS Regulations

Printing date 13.04.2020

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Trade name: **EPOFIX HARDENER**

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- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

- **LD/LC50 values relevant for classification:**

#### 112-24-3 3,6-diazaoctanethylenediamin

Oral	LD50	2,500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation** Strong caustic effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even small quantities leak into the ground.  
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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# Safety Data Sheet

according to WHS Regulations

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Trade name: EPOFIX HARDENER

(Contd. of page 6)

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· ADG, IMDG, IATA</li> </ul>	UN2259
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· ADG</li> <li>· IMDG, IATA</li> </ul>	2259 TRIETHYLENETETRAMINE TRIETHYLENETETRAMINE
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· ADG, IMDG, IATA</li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	8 Corrosive substances. 8
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· ADG, IMDG, IATA</li> </ul>	II
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Stowage Code</li> <li>· Segregation Code</li> </ul>	Warning: Corrosive substances. 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of Marpol and the IBC Code</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· Transport category</li> <li>· Tunnel restriction code</li> </ul>	2 E
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· UN "Model Regulation":</li> </ul>	UN 2259 TRIETHYLENETETRAMINE, 8, II

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# Safety Data Sheet

## according to WHS Regulations

Printing date 13.04.2020

Revision: 13.04.2020

Trade name: **EPOFIX HARDENER**

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### 15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

Substance is listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

Substance is not listed.

· **Australia: Priority Existing Chemicals**

Substance is not listed.

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

3,6-diazaoctanethylenediamin

· **Hazard statements**

Harmful in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

· **Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** Substance is not listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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**Safety Data Sheet**  
according to WHS Regulations

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**Trade name: EPOFIX HARDENER**

(Contd. of page 8)

**· Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Acute Tox. 4: Acute toxicity - dermal – Category 4*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Skin Sens. 1: Skin sensitisation – Category 1*

AU

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020

Reviewed on 04/13/2020

### 1 Identification

- **Product identifier**
- **Trade name:** EPOFIX HARDENER
- **Article number:** 1232-B, 1232-H, 1232-SP
- **CAS Number:**  
112-24-3
- **EC number:**  
203-950-6
- **Index number:**  
612-059-00-5
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corrosion - Category 1B

H314 Causes severe skin burns and eye damage.



GHS07

Acute Toxicity (Dermal) – Category 4 H312 Harmful in contact with skin.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
3,6-diazaoctanethylenediamin
- **Hazard statements**  
Harmful in contact with skin.

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# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020

Reviewed on 04/13/2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 1)

*Causes severe skin burns and eye damage.*

*May cause an allergic skin reaction.*

**· Precautionary statements**

*Do not breathe dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Contaminated work clothing should not be allowed out of the workplace.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a poison center/doctor.*

*Take off contaminated clothing and wash it before reuse.*

*Specific measures (see on this label).*

*If skin irritation or rash occurs: Get medical advice/attention.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

**· Classification system:**

**· NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

### 3 Composition/Information on ingredients

**· Chemical characterization: Substances**

**· CAS No. Description**

112-24-3 3,6-diazaoctanethylenediamin

**· Identification number(s)**

**· EC number:** 203-950-6

**· Index number:** 612-059-00-5

### 4 First-aid measures

**· Description of first aid measures**

**· General information:**

*Immediately remove any clothing soiled by the product.*

*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*

**· After inhalation:**

*Supply fresh air and to be sure call for a doctor.*

*In case of unconsciousness place patient stably in side position for transportation.*

**· After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*

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## Safety Data Sheet according to HPR, Schedule 1

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Reviewed on 04/13/2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 2)

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

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# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020

Reviewed on 04/13/2020

Trade name: **EPOFIX HARDENER**

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### 8 Exposure controls/ Personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**112-24-3 3,6-diazaoctanethylenediamin**

EV	TWA: 3 mg/m <sup>3</sup> , 0.5 ppm
	Skin

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Light yellow
<b>Odor:</b>	Amine-like

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## Safety Data Sheet

according to HPR, Schedule 1

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Trade name: EPOFIX HARDENER

(Contd. of page 4)

· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	12 °C
<b>Boiling point/Boiling range:</b>	~278 °C
· <b>Flash point:</b>	135 °C
· <b>Flammability (solid, gaseous):</b>	Not flammable.
· <b>Ignition temperature:</b>	335 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C:</b>	0.01 hPa
· <b>Density at 20 °C:</b>	0.982 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020

Reviewed on 04/13/2020

Trade name: **EPOFIX HARDENER**

(Contd. of page 5)

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### 112-24-3 3,6-diazaoctanethylenediamin

Oral	LD50	2,500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.  
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020



Reviewed on 04/13/2020

Trade name: **EPOFIX HARDENER**

(Contd. of page 6)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· <b>UN-Number</b> · <b>DOT/TDG, ADR, IMDG, IATA</b>	UN2259
· <b>UN proper shipping name</b> · <b>DOT/TDG</b> · <b>ADR</b> · <b>IMDG, IATA</b>	Triethylenetetramine 2259 TRIETHYLENETETRAMINE TRIETHYLENETETRAMINE
· <b>Transport hazard class(es)</b> · <b>DOT/TDG (Transport dangerous goods):</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>ADR, IMDG, IATA</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>Packing group</b> · <b>DOT/TDG, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Stowage Code</b> · <b>Segregation Code</b>	Warning: Corrosive substances 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b> · <b>DOT/TDG</b> · <b>Quantity limitations</b>	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L

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CA

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020

Reviewed on 04/13/2020

Trade name: **EPOFIX HARDENER**

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- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>  | <p>Code: E2<br/>Maximum net quantity per inner packaging: 30 ml<br/>Maximum net quantity per outer packaging: 500 ml</p>        |
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | <p>1L<br/>Code: E2<br/>Maximum net quantity per inner packaging: 30 ml<br/>Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>  | <p>UN 2259 TRIETHYLENETETRAMINE, 8, II</p>  |

### 15 Regulatory information

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

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

ACTIVE

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

Substance is listed.

- **Canadian Ingredient Disclosure list (limit 0.1%)**

Substance is listed.

- **Canadian Ingredient Disclosure list (limit 1%)**

Substance is not listed.

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05    GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

3,6-diazaoctanethylenediamin

- **Hazard statements**

Harmful in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

- **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

(Contd. on page 9)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/13/2020

Reviewed on 04/13/2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 8)

*Wear protective gloves/protective clothing/eye protection/face protection.*

*IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

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

*Immediately call a poison center/doctor.*

*Take off contaminated clothing and wash it before reuse.*

*Specific measures (see on this label).*

*If skin irritation or rash occurs: Get medical advice/attention.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Date of the latest revision of the safety data sheet** 04/13/2020 / -

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** EPOFIX HARDENER
- **Article number:** 1232-B, 1232-H, 1232-SP
- **CAS Number:**  
112-24-3
- **EC number:**  
203-950-6
- **Index number:**  
612-059-00-5
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazards identification

- **Classification of the substance or mixture**



corrosion

Skin Corr. 1B      H314 Causes severe skin burns and eye damage.



Acute Tox. 4      H312 Harmful in contact with skin.

Skin Sens. 1      H317 May cause an allergic skin reaction.

Acute Tox. 5      H303 May be harmful if swallowed.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**

- **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**



GHS05

GHS07

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 1)

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
*3,6-diazaoctanethylenediamin*
- **Hazard statements**  
*May be harmful if swallowed.*  
*Harmful in contact with skin.*  
*Causes severe skin burns and eye damage.*  
*May cause an allergic skin reaction.*  
*Harmful to aquatic life with long lasting effects.*
- **Precautionary statements**  
*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*Immediately call a POISON CENTER/doctor.*  
*Specific treatment (see on this label).*  
*Take off contaminated clothing and wash it before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

### 3 Composition/information on ingredients

- **Chemical characterisation: Substances**
- **CAS No. Description**  
*112-24-3 3,6-diazaoctanethylenediamin*
- **Identification number(s)**
- **EC number:** *203-950-6*
- **Index number:** *612-059-00-5*

### 4 First aid measures

- **Description of first aid measures**
- **General information:**  
*Immediately remove any clothing soiled by the product.*  
*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*
- **After inhalation:**  
*Supply fresh air and to be sure call for a doctor.*  
*In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- **After swallowing:**  
*Call for a doctor immediately.*  
*Drink plenty of water and provide fresh air. Call for a doctor immediately.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

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## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.

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**Safety data sheet**  
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Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 3)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Light yellow
<b>Odour:</b>	Amine-like
<b>Odour threshold:</b>	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

<b>Melting point/freezing point:</b>	12 °C
<b>Initial boiling point and boiling range:</b>	~278 °C

- **Flash point:** 135 °C

- **Flammability (solid, gas):** Not applicable.

- **Ignition temperature:** 335 °C

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**Safety data sheet**  
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**Trade name: EPOFIX HARDENER**

(Contd. of page 4)

· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	0.01 hPa
· <b>Density at 20 °C:</b>	0.982 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>VOC (EC)</b>	0.00 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

**112-24-3 3,6-diazaoctanethylenediamin**

Oral LD50 2,500 mg/kg (rat)

Dermal LD50 805 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation** Strong caustic effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.

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IL

**Safety data sheet**  
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Trade name: **EPOFIX HARDENER**

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· **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**12 Ecological information**· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Behaviour in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Ecotoxic effects:**· **Remark:** Harmful to fish· **Additional ecological information:**· **General notes:**

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.**13 Disposal considerations**· **Waste treatment methods**· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.**14 Transport information**· **UN-Number**· **ADR, IMDG, IATA**

UN2259

· **UN proper shipping name**· **ADR**· **IMDG, IATA**

2259 TRIETHYLENETETRAMINE

TRIETHYLENETETRAMINE

(Contd. on page 7)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 6)

· **Transport hazard class(es)**· **ADR, IMDG, IATA**· **Class**

8 Corrosive substances.

· **Label**

8

· **Packing group**· **ADR, IMDG, IATA**

II

· **Environmental hazards:**

Not applicable.

· **Special precautions for user**

Warning: Corrosive substances.

· **Hazard identification number (Kemler code):**

80

· **EMS Number:**

8-05

· **Segregation groups**

Alkalis

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **Segregation Code**

SG35 Stow "separated from" SGG1-acids

· **Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

E

· **IMDG**· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 2259 TRIETHYLENETETRAMINE, 8, II

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**

GHS05

GHS07

(Contd. on page 8)

IL

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 7)

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
*3,6-diazaoctanethylenediamin*
- **Hazard statements**  
*May be harmful if swallowed.*  
*Harmful in contact with skin.*  
*Causes severe skin burns and eye damage.*  
*May cause an allergic skin reaction.*  
*Harmful to aquatic life with long lasting effects.*
- **Precautionary statements**  
*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*Immediately call a POISON CENTER/doctor.*  
*Specific treatment (see on this label).*  
*Take off contaminated clothing and wash it before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** *Substance is not listed.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Abbreviations and acronyms:**  
*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*IATA: International Air Transport Association*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*Acute Tox. 5: Acute toxicity - oral – Category 5*  
*Acute Tox. 4: Acute toxicity - dermal – Category 4*  
*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*

IL

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** EPOFIX HARDENER
- **Article number:** 1232-B, 1232-H, 1232-SP
- **CAS Number:**  
112-24-3
- **EC number:**  
203-950-6
- **Index number:**  
612-059-00-5
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Skin Corr. 1B      H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4      H312 Harmful in contact with skin.

Skin Sens. 1      H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05



GHS07

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

Trade name: **EPOFIX HARDENER**

(Contd. of page 1)

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
3,6-diazaoctanethylenediamin
- **Hazard statements**  
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.
- **Precautionary statements**  
P303+P361+P353 **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER/doctor.  
P321 Specific treatment (see on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**  
112-24-3 3,6-diazaoctanethylenediamin
- **Identification number(s)**
- **EC number:** 203-950-6
- **Index number:** 612-059-00-5

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Call for a doctor immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.

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## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

Trade name: **EPOFIX HARDENER**

(Contd. of page 3)

- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes and skin.
- **Respiratory protection:**  
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

<b>Form:</b>	Liquid
<b>Colour:</b>	Light yellow
<b>Odour:</b>	Amine-like
<b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

##### · Change in condition

<b>Melting point/freezing point:</b>	12 °C
<b>Initial boiling point and boiling range:</b>	~278 °C

· **Flash point:** 135 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 335 °C

(Contd. on page 5)



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 4)

· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	0.01 hPa
· <b>Density at 20 °C:</b>	0.982 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>VOC (EC)</b>	0.00 %
<b>Solids content:</b>	0.0 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Harmful in contact with skin.

· <b>LD/LC50 values relevant for classification:</b>		
<b>112-24-3 3,6-diazaoctanethylenediamin</b>		
Oral	LD50	2,500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

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- **Serious eye damage/irritation**  
Causes severe skin burns and eye damage.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **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.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even small quantities leak into the ground.  
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- |                                       |                           |
|---------------------------------------|---------------------------|
| · <b>14.1 UN-Number</b>               |                           |
| · <b>ADR, IMDG, IATA</b>              | UN2259                    |
| · <b>14.2 UN proper shipping name</b> |                           |
| · <b>ADR</b>                          | 2259 TRIETHYLENETETRAMINE |
| · <b>IMDG, IATA</b>                   | TRIETHYLENETETRAMINE      |

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

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## · 14.3 Transport hazard class(es)

· ADR, IMDG, IATA



· Class 8 Corrosive substances.  
· Label 8

## · 14.4 Packing group

· ADR, IMDG, IATA II

· 14.5 Environmental hazards: Not applicable.

## · 14.6 Special precautions for user

Warning: Corrosive substances.  
· Hazard identification number (Kemler code): 80  
· EMS Number: 8-05  
· Segregation groups Alkalis  
· Stowage Category B  
· Stowage Code SW2 Clear of living quarters.  
· Segregation Code SG35 Stow "separated from" SGG1-acids

## · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

## · Transport/Additional information:

## · ADR

· Limited quantities (LQ) 1L  
· Excepted quantities (EQ) Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml  
· Transport category 2  
· Tunnel restriction code E

## · IMDG

· Limited quantities (LQ) 1L  
· Excepted quantities (EQ) Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

## · UN "Model Regulation":

UN 2259 TRIETHYLENETETRAMINE, 8, II

**SECTION 15: Regulatory information**

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I Substance is not listed.

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

GB

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 13.04.2020

Revision: 13.04.2020

**Trade name: EPOFIX HARDENER**

(Contd. of page 7)

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**· Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Acute Tox. 4: Acute toxicity - dermal – Category 4*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*

GB

# 化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

## 1 化学品及企业标识

- **产品识别者**
- **化学品中文名称/英文名称/化学品俗名或商品名:** EPOFIX HARDENER
- **商品编号:** 1232-B, 1232-H, 1232-SP
- **编号/编号/编号**  
112-24-3
- **欧盟编号:**  
203-950-6
- **欧盟编号:**  
612-059-00-5
- **相应纯物质或者混合物的相关下位用途及禁止用途** 无相关详细资料。
- **原材料的应用/准备工作进行** 实验室化学物
- **安全技术说明书内供应商详细信息**
- **企业名称:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **可获取更多资料的部门:** Product safety department
- **紧急联系电话号码:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 危险性概述

- **紧急情况概述:**

浅黄色，液体，吞咽可能有害。皮肤接触有害。造成严重皮肤灼伤和眼损伤。可能导致皮肤过敏反应。对水生生物有害并具有长期持续影响。

- **GHS危险性类别**



腐蚀

皮肤腐蚀/刺激 第1B类      H314 造成严重皮肤灼伤和眼损伤



急性毒性(经皮肤) 第4类      H312 皮肤接触有害

敏化(皮肤) 第1类      H317 可能导致皮肤过敏反应

急性毒性(经口) 第5类      H303 吞咽可能有害

对水环境的危害(慢性) 第3类      H412 对水生生物有害并具有长期持续影响

- **标签因素**

- **GHS卷标要素** 本化学物质根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

(在 2 页继续)

# 化学品安全技术说明书

据根据据据T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

化学品中文名称: 三乙撑四胺  
 化学品俗名或商品名: EPOFIX HARDENER

(在 1 页继续)

图示图示图示



GHS05 GHS07

名称名称名称

## · 标签上辨别危险的成份:

三乙撑四胺 (100 %)

## · 危险字句

吞咽可能有害

皮肤接触有害

造成严重皮肤灼伤和眼损伤

可能导致皮肤过敏反应

对水生生物有害并具有长期持续影响

## · 警戒字句

## · 事故响应

如皮肤(或头发)沾染:立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗

立即呼叫急救中心/医生

具体治疗(见本标签上的)

脱掉沾染的衣服,清洗后方可重新使用

## · 安全储存

存放处须加锁

## · 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

## · 其他有害性

· PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果

· PBT(残留性、生物浓缩性、毒性物质) 不适用的

· vPvB(高残留性、高生物浓缩性物质): 不适用的

## 3 成分/组成信息

纯品纯品纯品

## · CAS号 化学名, 通用名

112-24-3 三乙撑四胺

## · 鉴别编号:

· 欧盟编号: 203-950-6

· 欧盟编号: 612-059-00-5

## 4 急救措施

## · 应急措施要领

## · 总说明:

马上脱下染有该产品的衣服。

中毒的症状可能会在几个小时以后才出现;因此在发生事故之后起码要有 48 小时的医疗观察。

吸入吸入吸入

供给新鲜空气并且确保会叫医生。

万一病人不清醒时,请让病人侧躺以便移动。

· 皮肤接触: 马上用水和肥皂进行彻底的冲洗。

· 眼睛接触: 张开眼睛在流水下冲洗数分钟。然后咨询医生。

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# 化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

化学品中文名称: 产品名称: 化学品俗名或商品名: EPOFIX HARDENER

(在 2 页继续)

## 食入

- 马上召唤医生.
- 喝大量的清水和提供新鲜的空气. 马上召唤医生.
- **给医生的资料:**
- **最重要的急慢性症状及其影响** 无相关详细资料。
- **需要及时的医疗处理及特别处理的症状** 无相关详细资料。

## 5 消防措施

- **灭火方法**
- **灭火的方法和灭火剂:** 使用适合四周环境的灭火措施.
- **特别危险性** 无相关详细资料。
- **特殊灭火方法**
- **消防人员特殊的防护装备:** 没有要求特别的措施.

## 6 泄漏应急处理

- **保护措施** 带上保护仪器. 让未受到保护的人们远离.
- **环境保护措施:**
- 如果渗入了水源或污水系统, 请通知有关当局.
- 用大量的水进行稀释.
- 切勿让其进入下水道/水面或地下水.
- **密封及净化方法和材料:**
- 吸收液体粘合原料 (沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑).
- 使用中和剂.
- 根据第 13 条条款弃置受污染物.
- 确保有足够的通风装置.
- **参照其他部分**
- 有关安全处理的资料请参阅第 7 节.
- 有关个人防护装备的资料请参阅第 8 节.
- 有关弃置的资料请参阅第 13 节.

## 7 操作处置与储存

- **操作处置**
- **储存** 储存 储存
- 确保工作间有良好的通风/排气装置.
- 防止气溶胶的形成.
- **有关火灾及防止爆炸的资料:** 不需特别的措施.
- **混合危险性等安全储存条件**
- **储存** 储存 储存
- **储存库和容器须要达到的要求:** 没有特别的要求.
- **有关使用一个普通的储存设施来储存的资料:** 不需要.
- **有关储存条件的更多资料:** 将容器密封.
- **具体的最终用户** 无相关详细资料.

## 8 接触控制和个体防护

- **工程控制方法:** 没有进一步数据; 见第 7 项.

(在 4 页继续)

# 化学品安全技术说明书

据根据据据T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

化学品中文名称: 环氧树脂  
 化学品英文名称: 环氧树脂  
 化学品俗名或商品名: EPOFIX HARDENER

(在 3 页继续)

- **控制变数**
- **在工作场需要监控的限值成分** 不要求.
- **额外的资料:** 制作期间有效的清单将作为基础来使用.
- **泄漏控制**
- **个人防护设备:**
- **一般保护和卫生措施:**
  - 远离食品、饮料和饲料.
  - 立即除去所有的不洁的和被污染的衣服.
  - 在休息之前和工作完毕后请清洗双手.
  - 避免和眼睛及皮肤接触.
- **呼吸系统防护:**
  - 如果曾短暂接触或在低污染的情况下,请使用呼吸过滤装置. 如果曾深入或较长时间接触,请使用独立的呼吸保护装置.
- **手防护:**



保护手套

- 手套的物料必须是不渗透性的,且能抵抗该产品/物质/添加剂.  
 基于缺乏测试,对于产品/制剂/化学混合物,并不会提供手套材料的建议  
 选择手套材料时,请注意材料的渗透时间,渗透率和降解参数
- **手套材料** 选择合适的手套不单取决于材料,亦取决于质量特征,以及来自哪一间生产厂家
  - **渗入手套材料的时间** 请向劳保手套生产厂家获取准确的破裂时间并观察实际的破裂时间
  - **眼睛防护:**



密封的护目镜

## 9 理化特性

· <b>有关基本物理及化学特性的信息</b>	
· <b>一般说明</b>	
外观外观外观	
· 形状形状形状	液体
· 颜色颜色颜色	浅黄色
· 气味气味气味	类似胺
· <b>嗅觉阈限</b>	未决定.
· <b>pH值:</b>	未决定.
· <b>条件的更改</b>	
· 熔点熔点熔点	12 °C
· 沸点沸点沸点	沸点和沸程: ~278 °C
· 闪点闪点闪点	135 °C
· <b>可燃性 (固体、气体):</b> 不适用的	
· <b>点火温度:</b>	335 °C
· <b>分解温度:</b>	未决定.

(在 5 页继续)



# 化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

化学品中文名称: 产品名称: 化学品俗名或商品名: EPOFIX HARDENER

(在 4 页继续)

· 自燃温度:	未决定.
· 爆炸的危险性:	该产品并没有爆炸的危险
· 爆炸极限: 较低较低较低 较高较高较高	未决定. 未决定.
· 蒸气压 在 20 °C:	0.01 hPa
密度密度密度 在 20 °C:	0.982 g/cm <sup>3</sup>
· 相对密度	未决定.
· 蒸气密度	未决定.
· 蒸发速率	未决定.
溶解性 水:	完全可拌和的
辛醇/水分配系数	未决定.
· 黏性: 动态动态动态 运动运动的学的	未决定. 未决定.
· 固体成份:	0.0 %
· 其他信息	无相关详细资料。

## 10 稳定性和反应性

- 稳定性: 无相关详细资料。
- 稳定性: 稳定
- 分解: 分解
- 有害分解产物: 如果遵照规格使用则不会分解。
- 有害分解产物: 未有已知的危险反应。
- 避免的条件: 无相关详细资料。
- 不相容的物质: 无相关详细资料。
- 危险的分解产物: 未知有危险的分解产品。

## 11 毒理学信息

- 对毒性学影响的信息
  - 急性毒性:
- |                      |      |                    |
|----------------------|------|--------------------|
| · 与分类相关的 LD/ LC50 值: |      |                    |
| 112-24-3 三乙撑四胺       |      |                    |
| 口腔                   | LD50 | 2,500 mg/kg (rat)  |
| 皮肤                   | LD50 | 805 mg/kg (rabbit) |
- 重要的刺激/腐蚀性影响:  
皮肤皮肤皮肤皮肤和粘膜上造成强烈的腐蚀性影响。
  - 在眼睛上面: 强烈的腐蚀性影响。
  - 致敏/致敏作用: 通过皮肤接触可能造成敏化作用。
  - 更多毒物的资料:  
吞咽该产品除了导致口部和喉咙出现强烈的腐蚀性现象之外,还有对食道和胃部造成穿孔的危险。

CN

(在 6 页继续)



# 化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

**化学品中文名称:** 三乙撑四胺  
**化学品俗名或商品名:** EPOFIX HARDENER

(在 6 页继续)

· 危害环境:	不适用的
· 用户特别预防措施	警告: 腐蚀性物质
· 危险编码:	80
· E 号码	8-05
· Segregation groups	Alkalis
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG35 Stow "separated from" SGG1-acids
· MARPOL73/78(针对船舶引起的海洋污染预防协议附件 I 根据国际国际船舶货物编码) 大量大量运送运送运送	不适用的
<b>运输运输运输的资料:</b>	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· 标准标准标准规定	UN 2259 三亚乙基四胺, 8, II

## 15 法规信息

- 对相应纯物质或者混合物的安全、保健及环境法规/法律
- 危险化学品安全管理条例

· 危险化学品目录

112-24-3 三乙撑四胺

· 新化学物质环境管理办法

· 国家环境优先物质名录

有列出物质.

· GHS 卷标元素 本化学物质根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

图示图示图示



GHS05 GHS07

名称名称名称

· 标签上辨别危险的成份:

三乙撑四胺 (100 %)

· 危险字句

吞咽可能有害

皮肤接触有害

造成严重皮肤灼伤和眼损伤

(在 8 页继续)

# 化学品安全技术说明书

据根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.13

在 2020.04.13 审核

化学品中文名称: 化学品俗名或商品名: EPOFIX HARDENER

(在 7 页继续)

可能导致皮肤过敏反应

对水生生物有害并具有长期持续影响

**警戒字句**

**事故响应**

如皮肤(或头发)沾染:立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗

立即呼叫急救中心/医生

具体治疗(见本标签上的)

脱掉沾染的衣服,清洗后方可重新使用

**安全储存**

存放处须加锁

**废弃处置**

处置内装物/容器按照地方/区域/国家/国际规章

**化学物质安全性评价:** 尚未进行化学物质安全性评价

## 16 其他信息

该资料是基于我们目前的知识。然而,这并不构成对任何特定产品特性的担保并且不建立一个法律上有效的合同关系。

**缩写:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累积性有毒物质

vPvB: very Persistent and very Bioaccumulative

急性毒性(经口) 第5类: Acute toxicity – Category 5

急性毒性(经皮肤) 第4类: Acute toxicity – Category 4

皮肤腐蚀/刺激 第1B类: Skin corrosion/irritation – Category 1B

敏化(皮肤) 第1类: Skin sensitisation – Category 1

对水环境的危害(慢性) 第3类: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

-CN-

# Bezpečnostní list podle 1907/2006/ES, Článek 31

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## ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** EPOFIX HARDENER
- **Číslo výrobku:** 1232-B, 1232-H, 1232-SP
- **Číslo CAS:**  
112-24-3
- **Číslo ES:**  
203-950-6
- **Indexové číslo:**  
612-059-00-5
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**  
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## ODDÍL 2: Identifikace nebezpečnosti

- **2.1 Klasifikace látky nebo směsi**
- **Klasifikace v souladu s nařízením (ES) č. 1272/2008**



GHS05 korozivita

Skin Corr. 1B      H314 Způsobuje těžké poleptání kůže a poškození očí.



GHS07

Acute Tox. 4      H312 Zdraví škodlivý při styku s kůží.

Skin Sens. 1      H317 Může vyvolat alergickou kožní reakci.

Aquatic Chronic 3 H412 Škodlivý pro vodní organismy, s dlouhodobými účinky.

- **2.2 Prvky označení**
- **Označování v souladu s nařízením (ES) č. 1272/2008** Látka je klasifikována a označena podle nařízení CLP.
- **Výstražné symboly nebezpečnosti**



GHS05



GHS07

- **Signální slovo** Nebezpečí

(pokračování na straně 2)

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**Obchodní označení: EPOFIX HARDENER**

(pokračování strany 1)

- **Nebezpečné komponenty k etiketování:**  
triethylentetramin
- **Standardní věty o nebezpečnosti**  
H312 Zdraví škodlivý při styku s kůží.  
H314 Způsobuje těžké poleptání kůže a poškození očí.  
H317 Může vyvolat alergickou kožní reakci.  
H412 Škodlivý pro vodní organismy, s dlouhodobými účinky.
- **Pokyny pro bezpečné zacházení**  
P303+P361+P353 PŘI STYKU S KŮŽÍ (nebo s vlasy): Veškeré kontaminované části oděvu okamžitě svlékněte.  
Opláchněte kůži vodou [nebo osprchujte].  
P305+P351+P338 PŘI ZASAŽENÍ OČÍ: Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.  
Okamžitě volejte TOXIKOLOGICKÉ INFORMAČNÍ STŘEDISKO/lékaře.  
P310 Odborné ošetření (viz na tomto štítku).  
P321 Odborné ošetření (viz na tomto štítku).  
P362+P364 Kontaminovaný oděv svlékněte a před opětovným použitím vyperte.  
P405 Skladujte uzamčené.  
P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.
- **2.3 Další nebezpečnost**
- **Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.

### ODDÍL 3: Složení/informace o složkách

- **3.1 Chemická charakteristika: Látky**
- **Číslo CAS:**  
112-24-3 triethylentetramin
- **Identifikační číslo(čísla)**
- **Číslo ES:** 203-950-6
- **Indexové číslo:** 612-059-00-5

### ODDÍL 4: Pokyny pro první pomoc

- **4.1 Popis první pomoci**
- **Všeobecné pokyny:**  
Neprodleně odstranit části oděvu znečištěné produktem.  
Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nehodě.
- **Při nadýchání:**  
Bohatý přívod čerstvého vzduchu a pro jistotu vyhledat lékaře.  
Při bezvědomí uložit a přepravit ve stabilní poloze na boku.
- **Při styku s kůží:** Ihned omýt vodou a mýdlem a dobře opláchnout.
- **Při zasažení očí:** Otevřené oči po více minut oplachovat pod tekoucí vodou a poradit se s lékařem.
- **Při požití:**  
Ihned vyhledat lékaře.  
Bohatě zapíjet vodou a dýchat čerstvý vzduch. Neprodleně vyhledat lékaře.
- **4.2 Nejdůležitější akutní a opožděné symptomy a účinky** Další relevantní informace nejsou k dispozici.

(pokračování na straně 3)

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(pokračování strany 2)

- **4.3 Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření**  
Další relevantní informace nejsou k dispozici.

### ODDÍL 5: Opatření pro hašení požáru

- **5.1 Hasiva**
- **Vhodná hasiva:** Způsob hašení přizpůsobit podmínkám v okolí.
- **5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi** Další relevantní informace nejsou k dispozici.
- **5.3 Pokyny pro hasiče**
- **Zvláštní ochranné prostředky pro hasiče:** Nejsou nutná žádná zvláštní opatření.

### ODDÍL 6: Opatření v případě náhodného úniku

- **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy**  
Nosit ochrannou výstroj. Nechráněné osoby se nesmí přibližovat.
- **6.2 Opatření na ochranu životního prostředí:**  
Při vniknutí do kanalizace nebo vodního toku informovat příslušné orgány.  
Zředit velkým množstvím vody.  
Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.
- **6.3 Metody a materiál pro omezení úniku a pro čištění:**  
Sebrat s materiály, vázícími kapaliny (písek, šterkový písek, pojidla kyselin, universální pojidla, piliny).  
Použít neutralizační prostředky.  
Kontaminovaný materiál odstranit jako odpad podle bodu 13.  
Zajistit dostatečné větrání.
- **6.4 Odkaz na jiné oddíly**  
Informace o bezpečnému zacházení viz kapitola 7.  
Informace o osobní ochranné výstroji viz kapitola 8.  
Informace k odstranění viz kapitola 13.

### ODDÍL 7: Zacházení a skladování

- **7.1 Opatření pro bezpečné zacházení**  
Na pracovišti zabezpečit dobré větrání a odsávání.  
Zamezit vytváření aerosolů.
- **Upozornění k ochraně před ohněm a explozí:** Nejsou nutná žádná zvláštní opatření.
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** Žádné zvláštní požadavky.
- **Upozornění k hromadnému skladování:** Není nutné.
- **Další údaje k podmínkám skladování:** Nádrž držet neprodyšně uzavřenou.
- **7.3 Specifické konečné / specifická konečná použití** Další relevantní informace nejsou k dispozici.

### ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **Technická opatření:** Žádné další údaje, viz bod 7.
- **8.1 Kontrolní parametry**
- **Kontrolní parametry:** Odpadá
- **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.

(pokračování na straně 4)

# Bezpečnostní list

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(pokračování strany 3)

- **8.2 Omezování expozice**
- **Osobní ochranné prostředky:**
- **Všeobecná ochranná a hygienická opatření:**  
Zdržovat od potravin, nápojů a krmiv.  
Zašpiněné, nasáknuté šaty ihned vysvléci.  
Před přestávkami a po práci umýt ruce.  
Zamezit styku s pokožkou a zrakem.
- **Ochrana dýchacích orgánů:**  
Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.
- **Ochrana rukou:**



Ochranné rukavice

Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.  
Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs.  
Výběr materiálu rukavic proveďte podle času průniku, permeability a degradace.

- **Materiál rukavic**  
Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce.
- **Doba průniku materiálem rukavic**  
Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.
- **Ochrana očí:**



Uzavřené ochranné brýle

### ODDÍL 9: Fyzikální a chemické vlastnosti

#### · 9.1 Informace o základních fyzikálních a chemických vlastnostech

##### · Všeobecné údaje

##### · Vzhled:

Skupenství:	Tekutina
Barva:	Světležlutá
Zápach:	Aminovitý
Prahová hodnota zápachu:	Není určeno.

· **Hodnota pH:** Není určeno.

##### · Změna stavu

Bod tání/bod tuhnutí:	12 °C
Počáteční bod varu a rozmezí bodu varu:	~278 °C

· **Bod vzplanutí:** 135 °C

· **Hořlavost (pevné látky, plyny):** Nedá se použít.

· **Zápalná teplota:** 335 °C

· **Teplota rozkladu:** Není určeno.

· **Teplota samovznícení:** Není určeno.

(pokračování na straně 5)



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(pokračování strany 4)

· <b>Výbušné vlastnosti:</b>	<i>U produktu nehrozí nebezpečí exploze.</i>
· <b>Meze výbušnosti:</b>	
<i>Dolní mez:</i>	<i>Není určeno.</i>
<i>Horní mez:</i>	<i>Není určeno.</i>
· <b>Tlak páry při 20 °C:</b>	<i>0,01 hPa</i>
· <b>Hustota při 20 °C:</b>	<i>0,982 g/cm<sup>3</sup></i>
· <b>Relativní hustota</b>	<i>Není určeno.</i>
· <b>Hustota páry:</b>	<i>Není určeno.</i>
· <b>Rychlost odpařování</b>	<i>Není určeno.</i>
· <b>Rozpuštnost ve / směřitelnost s vodě:</b>	<i>Úplně mísitelná.</i>
· <b>Rozdělovací koeficient: n-oktanol/voda:</b>	<i>Není určeno.</i>
· <b>Viskozita:</b>	
<i>Dynamicky:</i>	<i>Není určeno.</i>
<i>Kinematicky:</i>	<i>Není určeno.</i>
· <b>Obsah ředidel:</b>	
<b>VOC (EC)</b>	<i>0,00 %</i>
<b>Obsah netěkavých složek:</b>	<i>0,0 %</i>
· <b>9.2 Další informace</b>	<i>Další relevantní informace nejsou k dispozici.</i>

### ODDÍL 10: Stálost a reaktivita

- **10.1 Reaktivita** *Další relevantní informace nejsou k dispozici.*
- **10.2 Chemická stabilita**
- **Termický rozklad / Podmínky, kterých je nutno se vyvarovat:**  
*Nedochází k rozkladu při doporučeném způsobu použití.*
- **10.3 Možnost nebezpečných reakcí** *Žádné nebezpečné reakce nejsou známy.*
- **10.4 Podmínky, kterým je třeba zabránit** *Další relevantní informace nejsou k dispozici.*
- **10.5 Neslučitelné materiály:** *Další relevantní informace nejsou k dispozici.*
- **10.6 Nebezpečné produkty rozkladu:** *Nejsou známy žádné nebezpečné produkty při rozkladu.*

### ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
  - **Akutní toxicita**  
*Zdraví škodlivý při styku s kůží.*
  - **Zařazení relevantní hodnoty LD/LC 50:**
- |                                    |      |                    |
|------------------------------------|------|--------------------|
| <b>112-24-3 triethylentetramin</b> |      |                    |
| Orálně                             | LD50 | 2.500 mg/kg (rat)  |
| Pokožkou                           | LD50 | 805 mg/kg (rabbit) |
- **Primární dráždivé účinky:**
  - **Žíravost/dráždivost pro kůži**  
*Způsobuje těžké poleptání kůže a poškození očí.*
  - **Vážné poškození očí / podráždění očí**  
*Způsobuje těžké poleptání kůže a poškození očí.*

(pokračování na straně 6)

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(pokračování strany 5)

- **Senzibilizace dýchacích cest / senzibilizace kůže**  
Může vyvolat alergickou kožní reakci.
- **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
- **Mutagenita v zárodečných buňkách** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Karcinogenita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – jednorázová expozice**  
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – opakovaná expozice**  
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

### ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.
- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Ekotoxické účinky:**
- **Poznámka:** Škodlivý pro ryby.
- **Další ekologické údaje:**
- **Všeobecná upozornění:**  
Třída ohrožení vody 2 (zařazení v listině): ohrožuje vodu  
Nesmí vniknout do spodní vody, povodí nebo kanalizace.  
Nesmí nezředěno nebo nezneutralizováno proniknout do odpadních vod nebo jám.  
Ohrožuje pitnou vodu už při proniknutí malého množství do zeminy.  
Škodlivá pro vodní organismy
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

### ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.
- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.
- **Doporučený čisticí prostředek:** Voda, případně s přísadami čisticích prostředků.

### ODDÍL 14: Informace pro přepravu

- **14.1 UN číslo**
- **ADR, IMDG, IATA** UN2259
- **14.2 Oficiální (OSN) pojmenování pro přepravu**
- **ADR** 2259 TRIETHYLENTETRAMIN
- **IMDG, IATA** TRIETHYLENETETRAMINE

(pokračování na straně 7)

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(pokračování strany 6)

· 14.3 Třída/třídy nebezpečnosti pro přepravu

· ADR, IMDG, IATA



· třída 8 Žíravé látky  
 · Etiketa 8

· 14.4 Obalová skupina

· ADR, IMDG, IATA II

· 14.5 Nebezpečnost pro životní prostředí: Nedá se použít.

· 14.6 Zvláštní bezpečnostní opatření pro uživatele Varování: Žíravé látky

· Identifikační číslo nebezpečnosti (Kemlerovo číslo): 80

· EMS-skupina: 8-05

· Segregation groups Alkalis

· Stowage Category B

· Stowage Code SW2 Clear of living quarters.

· Segregation Code SG35 Stow "separated from" SGG1-acids

· 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC

Nedá se použít.

· Přeprava/další údaje:

· ADR

· Omezené množství (LQ) 1L

· Vyňatá množství (EQ) Kód: E2

Nejvyšší čisté množství na vnitřní obal: 30 ml

Nejvyšší čisté množství na vnější obal: 500 ml

· Přepravní kategorie 2

· Kód omezení pro tunely: E

· IMDG

· Limited quantities (LQ) 1L

· Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 2259 TRIETHYLENTETRAMIN, 8, II

### ODDÍL 15: Informace o předpisech

· 15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi

· Rady 2012/18/EU

· Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I Látka neobsažena.

· Rady (ES) č. 1907/2006 PŘÍLOHA XVII Omezující podmínky: 3

· 15.2 Posouzení chemické bezpečnosti: Posouzení chemické bezpečnosti nebylo provedeno.

CZ

(pokračování na straně 8)

# Bezpečnostní list

## podle 1907/2006/ES, Článek 31

Datum vydání: 13.04.2020

Revize: 13.04.2020

**Obchodní označení: EPOFIX HARDENER**

(pokračování strany 7)

### ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

· **Zkratky a akronymy:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Acute Tox. 4: Akutní toxicita - dermální – Kategorie 4*

*Skin Corr. 1B: Žíravost/dráždivost pro kůži – Kategorie 1B*

*Skin Sens. 1: Senzibilizace kůže – Kategorie 1*

*Aquatic Chronic 3: Nebezpečnost pro vodní prostředí - dlouhodobá nebezpečnost pro vodní prostředí – Kategorie 3*

-CZ-

# Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

datum van de druk: 13.04.2020

Herziening van: 13.04.2020

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- **1.1 Productidentificatie**
- **Handelsnaam:** EPOFIX HARDENER
- **Artikelnummer:** 1232-B, 1232-H, 1232-SP
- **CAS-nummer:**  
112-24-3
- **EC-nummer:**  
203-950-6
- **Catalogusnummer:**  
612-059-00-5
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Aurion**  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS05 corrosie

Skin Corr. 1B      H314 Veroorzaakt ernstige brandwonden en oogletsel.



GHS07

Acute Tox. 4      H312 Schadelijk bij contact met de huid.

Skin Sens. 1      H317 Kan een allergische huidreactie veroorzaken.

Aquatic Chronic 3 H412 Schadelijk voor in het water levende organismen, met langdurige gevolgen.

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**  
De stof/product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

(Vervolg op blz. 2)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

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**Handelsnaam: EPOFIX HARDENER**

(Vervolg van blz. 1)

### · Gevarenpictogrammen



GHS05 GHS07

### · Signaalwoord Gevaar

#### · Gevaaraanduidende componenten voor de etikettering:

1,8-diamino-3,6-diazaoctaan

#### · Gevarenaanduidingen

H312 Schadelijk bij contact met de huid.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H317 Kan een allergische huidreactie veroorzaken.

H412 Schadelijk voor in het water levende organismen, met langdurige gevolgen.

#### · Veiligheidsaanbevelingen

P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken.  
Huid met water afspoelen [of afdouchen].

P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.

P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.

P321 Specifieke behandeling vereist (zie op dit etiket).

P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.

P405 Achter slot bewaren.

P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

#### · 2.3 Andere gevaren

#### · Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

### · 3.1 Chemische karakterisering: Stoffen

#### · CAS-Nr. omschrijving

112-24-3 1,8-diamino-3,6-diazaoctaan

#### · Identificatienummer(s)

· **EC-nummer:** 203-950-6

· **Catalogusnummer:** 612-059-00-5

## RUBRIEK 4: Eerstehulpmaatregelen

### · 4.1 Beschrijving van de eerstehulpmaatregelen

#### · Algemene informatie:

Verontreinigde kleding onmiddellijk uittrekken.

Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

#### · Na het inademen:

Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

· **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.

· **Na oogcontact:** Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.

(Vervolg op blz. 3)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

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Herziening van: 13.04.2020

**Handelsnaam: EPOFIX HARDENER**

(Vervolg van blz. 2)

- **Na inslikken:**  
Onmiddellijk arts raadplegen.  
Drink zeer veel water en voer verse lucht aan. Onmiddellijk een dokter waarschuwen.
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**  
Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** Brandblusmaatregelen op omgeving afstemmen.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**  
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures**  
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvoorzorgsmaatregelen:**  
Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.  
Met veel water verdunnen.  
Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**  
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.  
Neutralisatiemiddel gebruiken.  
Besmet materiaal zoals afval volgens punt 13 verwijderen.  
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**  
Informatie inzake veilig gebruik - zie hoofdstuk 7.  
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.  
Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**  
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.  
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Geen bijzondere maatregelen noodzakelijk.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.

(Vervolg op blz. 4)

# Veiligheidsinformatieblad

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Handelsnaam: EPOFIX HARDENER

(Vervolg van blz. 3)

- **8.1 Controleparameters**
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:** Vervalt.
- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**  
Verwijderd houden van eet- en drinkwaren.  
Verontreinigde kleding onmiddellijk uittrekken.  
Vóór de pauze en aan het einde van werktijd handen wassen.  
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**  
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

- Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.  
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.  
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.
- **Handschoenmateriaal**  
De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant.
  - **Doordringingstijd van het handschoenmateriaal**  
De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
  - **Oogbescherming:**



Nauw aansluitende veiligheidsbril

### RUBRIEK 9: Fysische en chemische eigenschappen

- **9.1 Informatie over fysische en chemische basiseigenschappen**
- **Algemene gegevens**
- **Voorkomen:**

<b>Vorm:</b>	Vloeistof
<b>Kleur:</b>	Lichtgeel
<b>Geur:</b>	Amine-achtig
<b>Geurdrempelwaarde:</b>	Niet bepaald.
- **pH-waarde:** Niet bepaald.
- **Toestandsverandering**

<b>Smelt-/vriespunt:</b>	12 °C
<b>Beginkookpunt en kooktraject:</b>	~278 °C
- **Vlampunt:** 135 °C
- **Ontvlambaarheid (vast, gas):** Niet bruikbaar.

(Vervolg op blz. 5)

NL



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(Vervolg van blz. 4)

· <b>Ontstekingstemperatuur:</b>	335 °C
· <b>Ontledingstemperatuur:</b>	Niet bepaald.
· <b>Zelfontbrandingstemperatuur:</b>	Niet bepaald.
· <b>Ontploffingseigenschappen:</b>	Het produkt is niet ontploffingsgevaarlijk.
· <b>Ontploffingsgrenzen:</b>	
<b>Onderste:</b>	Niet bepaald.
<b>Bovenste:</b>	Niet bepaald.
· <b>Dampspanning bij 20 °C:</b>	0,01 hPa
· <b>Dichtheid bij 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bepaald.
· <b>Verdampingsnelheid</b>	Niet bepaald.
· <b>Oplosbaarheid in/mengbaarheid met Water:</b>	Volledig mengbaar.
· <b>Verdelingscoëfficiënt: n-octanol/water:</b>	Niet bepaald.
· <b>Viscositeit</b>	
<b>Dynamisch:</b>	Niet bepaald.
<b>Kinematisch:</b>	Niet bepaald.
· <b>Oplosmiddelgehalte:</b>	
<b>VOC (EG)</b>	0,00 %
<b>Gehalte aan vaste bestanddelen:</b>	0,0 %
· <b>9.2 Overige informatie</b>	Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

## RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**  
Schadelijk bij contact met de huid.

· <b>Indelingsrelevantie LD/LC50-waarden:</b>		
<b>112-24-3 1,8-diamino-3,6-diazaoctaan</b>		
Oraal	LD50	2.500 mg/kg (rat)
Dermaal	LD50	805 mg/kg (rabbiet)

(Vervolg op blz. 6)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

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**Handelsnaam: EPOFIX HARDENER**

(Vervolg van blz. 5)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**  
Veroorzaakt ernstige brandwonden en oogletsel.
- **Ernstig oogletsel/oogirritatie**  
Veroorzaakt ernstige brandwonden en oogletsel.
- **Sensibilisatie van de luchtwegen/de huid**  
Kan een allergische huidreactie veroorzaken.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Ecotoxische effecten:**
- **Opmerking:** Schadelijk voor vissen.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
Waterbezwaarlijkheid (NL): A(3) schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken  
Gevaar voor water klasse 2 (D) (Lijstclassificatie): gevaar voor water  
Niet lozen in grondwater, in oppervlaktewater of in riolering.  
Mag niet onverdund of niet geneutraliseerd in oppervlaktewater of in afwateringskanaal geloosd worden.  
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.  
schadelijk voor in het water levende organismen
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

NL

(Vervolg op blz. 7)

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31


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(Vervolg van blz. 6)

## RUBRIEK 14: Informatie met betrekking tot het vervoer

· 14.1 VN-nummer	UN2259
· ADR, IMDG, IATA	
· 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN	
· ADR	2259 TRIETHYLEENTETRAMINE
· IMDG, IATA	TRIETHYLENETETRAMINE
· 14.3 Transportgevaarenklasse(n)	
· ADR, IMDG, IATA	
	
· klasse	8 Bijtende stoffen
· Etiket	8
· 14.4 Verpakkingsgroep:	
· ADR, IMDG, IATA	II
· 14.5 Milieugevaren:	Niet bruikbaar.
· 14.6 Bijzondere voorzorgen voor de gebruiker	Waarschuwing: Bijtende stoffen
· Gevaarsidentificatienummer (Kemler-getal):	80
· EMS-nummer:	8-05
· Segregation groups	Alkalis
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG35 Stow "separated from" SGG1-acids
· 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code	Niet bruikbaar.
· Transport/verdere gegevens:	
· ADR	
· Beperkte hoeveelheden (LQ)	1L
· Uitgezonderde hoeveelheden (EQ)	Code: E2 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 500 ml
· Vervoerscategorie	2
· Tunnelbeperkingscode	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· VN "Model Regulation":	UN 2259 TRIETHYLEENTETRAMINE, 8, II

NL

(Vervolg op blz. 8)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

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(Vervolg van blz. 7)

### RUBRIEK 15: Regelgeving

#### · 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel

##### · SZW-lijst van kankerverwekkende stoffen

De stof is niet aanwezig.

##### · SZW-lijst van mutagene stoffen

De stof is niet aanwezig.

##### · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid

De stof is niet aanwezig.

##### · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling

De stof is niet aanwezig.

##### · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding

De stof is niet aanwezig.

##### · Lijst Zeer Zorgwekkende Stoffen (ZZS)

De stof is niet aanwezig.

##### · Lijst van Potentieel Zeer Zorgwekkende Stoffen

De stof is niet aanwezig.

#### · Richtlijn 2012/18/EU

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** De stof is niet aanwezig.

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3

#### · Nationale voorschriften:

##### · Gevaarklasse v. water:

Waterbezwaarlijkheid (NL): A(3) schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

### RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van producteigenschappen en vestigen geen contractuele rechtsbetrekking.

#### · Afkortingen en acroniemen:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxiciteit - dermaal – Categorie 4

Skin Corr. 1B: Huidcorrosie/-irritatie – Categorie 1B

Skin Sens. 1: Sensibilisatie van de huid – Categorie 1

Aquatic Chronic 3: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 3

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 13.04.2020

Révision: 13.04.2020

### RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** EPOFIX HARDENER
- **Code du produit:** 1232-B, 1232-H, 1232-SP
- **No CAS:**  
112-24-3
- **Numéro CE:**  
203-950-6
- **Numéro index:**  
612-059-00-5
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS05 corrosion

Skin Corr. 1B      H314 Provoque des brûlures de la peau et de graves lésions des yeux.



GHS07

Acute Tox. 4      H312 Nocif par contact cutané.

Skin Sens. 1      H317 Peut provoquer une allergie cutanée.

Aquatic Chronic 3 H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** La substance est classifiée et étiquetée selon le règlement CLP.
- **Pictogrammes de danger**



GHS05    GHS07

- **Mention d'avertissement** Danger

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- **Composants dangereux déterminants pour l'étiquetage:**  
3,6-diazaoctane-1,8-diamine
- **Mentions de danger**  
H312 Nocif par contact cutané.  
H314 Provoque des brûlures de la peau et de graves lésions des yeux.  
H317 Peut provoquer une allergie cutanée.  
H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.
- **Conseils de prudence**  
P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].  
P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.  
P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.  
P321 Traitement spécifique (voir sur cette étiquette).  
P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.  
P405 Garder sous clef.  
P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
- **2.3 Autres dangers**
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

- **3.1 Caractérisation chimique: Substances**
- **No CAS Désignation**  
112-24-3 3,6-diazaoctane-1,8-diamine
- **Code(s) d'identification**
- **Numéro CE:** 203-950-6
- **Numéro index:** 612-059-00-5

### RUBRIQUE 4: Premiers secours

- **4.1 Description des premiers secours**
- **Remarques générales:**  
Enlever immédiatement les vêtements contaminés par le produit.  
Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
- **Après inhalation:**  
Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.  
En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**  
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.
- **Après ingestion:**  
Consulter immédiatement un médecin.  
Boire de l'eau en abondance et donner de l'air frais. Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.

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- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**  
Pas d'autres informations importantes disponibles.

### RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** Adapter les mesures d'extinction d'incendie à l'environnement.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**  
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**  
En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.  
Diluer avec beaucoup d'eau.  
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**  
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).  
Utiliser un neutralisant.  
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:** Aucune mesure particulière n'est requise.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**  
Sans autre indication, voir point 7.
- **8.1 Paramètres de contrôle**
- **Composants présentant des valeurs-seuil à surveiller par poste de travail:** Néant

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· **Remarques supplémentaires:**

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

· **8.2 Contrôles de l'exposition**

· **Equipement de protection individuel:**

· **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Eviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

· **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· **Matériau des gants**

Le choix de gants appropriés ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.

· **Temps de pénétration du matériau des gants**

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

· **Protection des yeux:**



Lunettes de protection hermétiques

### RUBRIQUE 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**

· **Indications générales**

· **Aspect:**

Forme: Liquide

Couleur: Jaune clair

· **Odeur:** Aminée

· **Seuil olfactif:** Non déterminé.

· **valeur du pH:** Non déterminé.

· **Changement d'état**

Point de fusion/point de congélation: 12 °C

Point initial d'ébullition et intervalle d'ébullition: ~278 °C

· **Point d'éclair** 135 °C

· **Inflammabilité (solide, gaz):** Non applicable.

· **Température d'inflammation:** 335 °C

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· <b>Température de décomposition:</b>	Non déterminé.
· <b>Température d'auto-inflammabilité:</b>	Non déterminé.
· <b>Propriétés explosives:</b>	Le produit n'est pas explosif.
· <b>Limites d'explosion:</b> <b>Inférieure:</b>	Non déterminé.
<b>Supérieure:</b>	Non déterminé.
· <b>Pression de vapeur à 20 °C:</b>	0,01 hPa
· <b>Densité à 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Densité relative</b>	Non déterminé.
· <b>Densité de vapeur:</b>	Non déterminé.
· <b>Taux d'évaporation:</b>	Non déterminé.
· <b>Solubilité dans/miscibilité avec l'eau:</b>	Entièrement miscible
· <b>Coefficient de partage: n-octanol/eau:</b>	Non déterminé.
· <b>Viscosité:</b> <b>Dynamique:</b>	Non déterminé.
<b>Cinématique:</b>	Non déterminé.
· <b>Teneur en solvants:</b> <b>VOC (CE)</b>	0,00 %
<b>Teneur en substances solides:</b>	0,0 %
· <b>9.2 Autres informations</b>	Pas d'autres informations importantes disponibles.

### RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### RUBRIQUE 11: Informations toxicologiques

#### · 11.1 Informations sur les effets toxicologiques

- **Toxicité aiguë**  
Nocif par contact cutané.

#### · Valeurs LD/LC50 déterminantes pour la classification:

**112-24-3 3,6-diazaoctane-1,8-diamine**

Oral	LD50	2.500 mg/kg (rat)
Dermique	LD50	805 mg/kg (lapin)

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque des brûlures de la peau et de graves lésions des yeux.

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- **Lésions oculaires graves/irritation oculaire**  
Provoque des brûlures de la peau et de graves lésions des yeux.
- **Sensibilisation respiratoire ou cutanée**  
Peut provoquer une allergie cutanée.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

### RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Effets écotoxiques:**
- **Remarque:** Nocif pour les poissons.
- **Autres indications écologiques:**
- **Indications générales:**  
Catégorie de pollution des eaux 2 (D) (classification selon liste): polluant  
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.  
Ne doit pas pénétrer à l'état non dilué ou non neutralisé dans les eaux usées ou le collecteur.  
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.  
Nocif pour les organismes aquatiques.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.
- **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

### RUBRIQUE 14: Informations relatives au transport

- **14.1 Numéro ONU**
- **ADR, IMDG, IATA** UN2259

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<ul style="list-style-type: none"> <li>· 14.2 Désignation officielle de transport de l'ONU</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>	<p style="text-align: right;">2259 TRIÉTHYLÈNETÉTAMINE TRIETHYLENETETRAMINE</p>
<ul style="list-style-type: none"> <li>· 14.3 Classe(s) de danger pour le transport</li> <li>· ADR, IMDG, IATA</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Classe</li> <li>· Étiquette</li> </ul>	<p style="text-align: right;">8 Matières corrosives. 8</p>
<ul style="list-style-type: none"> <li>· 14.4 Groupe d'emballage</li> <li>· ADR, IMDG, IATA</li> </ul>	II
<ul style="list-style-type: none"> <li>· 14.5 Dangers pour l'environnement:</li> </ul>	Non applicable.
<ul style="list-style-type: none"> <li>· 14.6 Précautions particulières à prendre par l'utilisateur</li> <li>· Numéro d'identification du danger (Indice Kemler):</li> <li>· No EMS:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Stowage Code</li> <li>· Segregation Code</li> </ul>	<p style="text-align: right;">Attention: Matières corrosives. 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids</p>
<ul style="list-style-type: none"> <li>· 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC</li> </ul>	Non applicable.
<ul style="list-style-type: none"> <li>· Indications complémentaires de transport:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· Quantités limitées (LQ)</li> <li>· Quantités exceptées (EQ)</li> </ul>	<p style="text-align: right;">1L Code: E2 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 500 ml</p>
<ul style="list-style-type: none"> <li>· Catégorie de transport</li> <li>· Code de restriction en tunnels</li> </ul>	<p>2 E</p>
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	<p style="text-align: right;">1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> <li>· "Règlement type" de l'ONU:</li> </ul>	UN 2259 TRIÉTHYLÈNETÉTAMINE, 8, II

### RUBRIQUE 15: Informations relatives à la réglementation

- 15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement
- Directive 2012/18/UE
- Substances dangereuses désignées - ANNEXE I la substance n'est pas comprise

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**Nom du produit: EPOFIX HARDENER**

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- **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### **RUBRIQUE 16: Autres informations**

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

#### · **Acronymes et abréviations:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicité aiguë - voie cutanée – Catégorie 4

Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B

Skin Sens. 1: Sensibilisation cutanée – Catégorie 1

Aquatic Chronic 3: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 3

FR

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 13.04.2020

überarbeitet am: 13.04.2020

### ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

#### · 1.1 Produktidentifikator

- **Handelsname:** EPOFIX HARDENER
- **Artikelnummer:** 1232-B, 1232-H, 1232-SP
- **CAS-Nummer:**  
112-24-3
- **EG-Nummer:**  
203-950-6
- **Indexnummer:**  
612-059-00-5

#### · 1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird

Keine weiteren relevanten Informationen verfügbar.

- **Verwendung des Stoffes / des Gemischs** Laborchemikalien

#### · 1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt

##### · **Hersteller/Lieferant:**

Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com

Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany

Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de

Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org

Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h

- **Auskunftgebender Bereich:** Product safety department

#### · 1.4 Notrufnummer:

ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

#### · 2.1 Einstufung des Stoffs oder Gemischs

- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS05 Ätzwirkung

Skin Corr. 1B      H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.



GHS07

Acute Tox. 4      H312 Gesundheitsschädlich bei Hautkontakt.

Skin Sens. 1      H317 Kann allergische Hautreaktionen verursachen.

(Fortsetzung auf Seite 2)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 13.04.2020

überarbeitet am: 13.04.2020

**Handelsname: EPOFIX HARDENER**

(Fortsetzung von Seite 1)

*Aquatic Chronic 3 H412 Schädlich für Wasserorganismen, mit langfristiger Wirkung.*

- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**  
Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.
- **Gefahrenpiktogramme**



GHS05 GHS07

- **Signalwort Gefahr**
- **Gefahrbestimmende Komponenten zur Etikettierung:**  
3,6-Diazaoctan-1,8-diamin
- **Gefahrenhinweise**  
H312 Gesundheitsschädlich bei Hautkontakt.  
H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.  
H317 Kann allergische Hautreaktionen verursachen.  
H412 Schädlich für Wasserorganismen, mit langfristiger Wirkung.
- **Sicherheitshinweise**  
P303+P361+P353 **BEI BERÜHRUNG MIT DER HAUT (oder dem Haar):** Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen [oder duschen].  
P305+P351+P338 **BEI KONTAKT MIT DEN AUGEN:** Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.  
P310 **Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.**  
P321 **Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).**  
P362+P364 **Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.**  
P405 **Unter Verschluss aufbewahren.**  
P501 **Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen/ internationalen Vorschriften.**
- **2.3 Sonstige Gefahren**
- **Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

### ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

- **3.1 Chemische Charakterisierung: Stoffe**
- **CAS-Nr. Bezeichnung**  
112-24-3 3,6-Diazaoctan-1,8-diamin
- **Identifikationsnummer(n)**
- **EG-Nummer:** 203-950-6
- **Indexnummer:** 612-059-00-5

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Allgemeine Hinweise:**  
Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.  
Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.

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# Sicherheitsdatenblatt

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- **Nach Einatmen:**  
Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.  
Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:**  
Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.
- **Nach Verschlucken:**  
Sofort Arzt aufsuchen.  
Reichlich Wasser nachtrinken und Frischluftzufuhr. Unverzüglich Arzt hinzuziehen.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**  
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**  
Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** Feuerlöschmaßnahmen auf die Umgebung abstimmen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**  
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**  
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**  
Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.  
Mit viel Wasser verdünnen.  
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**  
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.  
Neutralisationsmittel anwenden.  
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.  
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**  
Informationen zur sicheren Handhabung siehe Abschnitt 7.  
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.  
Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**  
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.  
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.

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- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.
- **8.1 Zu überwachende Parameter**

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

<b>112-24-3 3,6-Diazaoctan-1,8-diamin</b>
---

MAK als Dampf und Aerosol; vgl. Abschn. IV
--

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.
- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**  
*Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.  
 Beschmutzte, getränkte Kleidung sofort ausziehen.  
 Vor den Pausen und bei Arbeitsende Hände waschen.  
 Berührung mit den Augen und der Haut vermeiden.*
- **Atemschutz:**  
*Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition umluftunabhängiges Atemschutzgerät verwenden.*
- **Handschutz:**



Schutzhandschuhe

*Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.*

*Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.*

- **Handschuhmaterial**  
*Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich.*
- **Durchdringungszeit des Handschuhmaterials**  
*Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.*
- **Augenschutz:**



Dichtschließende Schutzbrille

DE

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### ABSCHNITT 9: Physikalische und chemische Eigenschaften

#### · 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

##### · Allgemeine Angaben

##### · Aussehen:

Form: Flüssigkeit

Farbe: Hellgelb

· Geruch: Aminartig

· Geruchsschwelle: Nicht bestimmt.

· pH-Wert: Nicht bestimmt.

##### · Zustandsänderung

Schmelzpunkt/Gefrierpunkt: 12 °C

Siedebeginn und Siedebereich: ~278 °C

· Flammpunkt: 135 °C

· Entzündbarkeit (fest, gasförmig): Nicht anwendbar.

· Zündtemperatur: 335 °C

· Zersetzungstemperatur: Nicht bestimmt.

· Selbstentzündungstemperatur: Nicht bestimmt.

· Explosive Eigenschaften: Das Produkt ist nicht explosionsgefährlich.

##### · Explosionsgrenzen:

Untere: Nicht bestimmt.

Obere: Nicht bestimmt.

· Dampfdruck bei 20 °C: 0,01 hPa

· Dichte bei 20 °C: 0,982 g/cm<sup>3</sup>

· Relative Dichte: Nicht bestimmt.

· Dampfichte: Nicht bestimmt.

· Verdampfungsgeschwindigkeit: Nicht bestimmt.

##### · Löslichkeit in / Mischbarkeit mit

Wasser: Vollständig mischbar.

· Verteilungskoeffizient: n-Octanol/Wasser: Nicht bestimmt.

##### · Viskosität:

Dynamisch: Nicht bestimmt.

Kinematisch: Nicht bestimmt.

##### · Lösemittelgehalt:

VOC (EU) 0,00 %

Festkörpergehalt: 0,0 %

· 9.2 Sonstige Angaben: Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

· 10.1 Reaktivität: Keine weiteren relevanten Informationen verfügbar.

#### · 10.2 Chemische Stabilität

##### · Thermische Zersetzung / zu vermeidende Bedingungen:

Keine Zersetzung bei bestimmungsgemäßer Verwendung.

· 10.3 Möglichkeit gefährlicher Reaktionen: Keine gefährlichen Reaktionen bekannt.

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- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**

- **Akute Toxizität**

Gesundheitsschädlich bei Hautkontakt.

- **Einstufungsrelevante LD/LC50-Werte:**

#### 112-24-3 3,6-Diazaoctan-1,8-diamin

Oral	LD50	2.500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**  
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- **Schwere Augenschädigung/-reizung**  
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- **Sensibilisierung der Atemwege/Haut**  
Kann allergische Hautreaktionen verursachen.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Ökotoxische Wirkungen:**
- **Bemerkung:** Schädlich für Fische.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
Wassergefährdungsklasse 2 (Listeneinstufung): deutlich wassergefährdend  
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.  
Darf nicht unverdünnt bzw. unneutralisiert ins Abwasser bzw. in den Vorfluter gelangen.  
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.  
schädlich für Wasserorganismen
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

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· 12.6 Andere schädliche Wirkungen Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- 13.1 Verfahren der Abfallbehandlung
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

### ABSCHNITT 14: Angaben zum Transport

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· 14.1 UN-Nummer</li> <li>· ADR, IMDG, IATA</li> </ul>  | <p style="text-align: right;">UN2259</p>   |
| <ul style="list-style-type: none"> <li>· 14.2 Ordnungsgemäße UN-Versandbezeichnung</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>   | <p style="text-align: right;">2259 TRIETHYLENTETRAMIN<br/>TRIETHYLENETETRAMINE</p>   |
| <ul style="list-style-type: none"> <li>· 14.3 Transportgefahrenklassen</li> <li>· ADR, IMDG, IATA</li> </ul>   | <div style="text-align: center;">  </div> <p style="text-align: right;">8 Ätzende Stoffe<br/>8</p> |
| <ul style="list-style-type: none"> <li>· 14.4 Verpackungsgruppe</li> <li>· ADR, IMDG, IATA</li> </ul>  | <p style="text-align: right;">II</p>   |
| <ul style="list-style-type: none"> <li>· 14.5 Umweltgefahren:</li> </ul>   | <p style="text-align: right;">Nicht anwendbar.</p>   |
| <ul style="list-style-type: none"> <li>· 14.6 Besondere Vorsichtsmaßnahmen für den Verwender</li> <li>· Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl):</li> <li>· EMS-Nummer:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Stowage Code</li> <li>· Segregation Code</li> </ul> | <p style="text-align: right;">Achtung: Ätzende Stoffe<br/>80<br/>8-05<br/>Alkalis<br/>B<br/>SW2 Clear of living quarters.<br/>SG35 Stow "separated from" SGG1-acids</p>              |
| <ul style="list-style-type: none"> <li>· 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</li> </ul>   | <p style="text-align: right;">Nicht anwendbar.</p>   |
| <ul style="list-style-type: none"> <li>· Transport/weitere Angaben:</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>· ADR</li> <li>· Begrenzte Menge (LQ)</li> <li>· Freigestellte Mengen (EQ)</li> <li>· Beförderungskategorie</li> </ul>  | <p style="text-align: right;">1L<br/>Code: E2<br/>Höchste Nettomenge je Innenverpackung: 30 ml<br/>Höchste Nettomenge je Außenverpackung: 500 ml<br/>2</p>                           |

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· <b>Tunnelbeschränkungscode</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2259 TRIETHYLENTETRAMIN, 8, II

### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Der Stoff ist nicht enthalten.
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 2** (Listeneinstufung): deutlich wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

- **Abkürzungen und Akronyme:**  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Acute Tox. 4: Akute Toxizität - dermal – Kategorie 4  
 Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B  
 Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1  
 Aquatic Chronic 3: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 3

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 13.04.2020

Revisione: 13.04.2020

### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** EPOFIX HARDENER

· **Articolo numero:** 1232-B, 1232-H, 1232-SP

· **Numero CAS:**

112-24-3

· **Numeri CE:**

203-950-6

· **Numero indice:**

612-059-00-5

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**

Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: info@emsdiasum.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS05 corrosione

Skin Corr. 1B

H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.



GHS07

Acute Tox. 4

H312 Nocivo per contatto con la pelle.

Skin Sens. 1

H317 Può provocare una reazione allergica cutanea.

Aquatic Chronic 3 H412 Nocivo per gli organismi acquatici con effetti di lunga durata.

· **2.2 Elementi dell'etichetta**

· **Etichettatura secondo il regolamento (CE) n. 1272/2008**

La sostanza è classificata ed etichettata conformemente al regolamento CLP.

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**· Pittogrammi di pericolo**

GHS05 GHS07

**· Avvertenza Pericolo****· Componenti pericolosi che ne determinano l'etichettatura:**

3,6-diazaottano-1,8-diamina

**· Indicazioni di pericolo**

H312 Nocivo per contatto con la pelle.

H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

H317 Può provocare una reazione allergica cutanea.

H412 Nocivo per gli organismi acquatici con effetti di lunga durata.

**· Consigli di prudenza**

P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].

P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.

P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.

P321 Trattamento specifico (vedere su questa etichetta).

P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.

P405 Conservare sotto chiave.

P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

**· 2.3 Altri pericoli****· Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

### SEZIONE 3: Composizione/informazioni sugli ingredienti

**· 3.1 Caratteristiche chimiche: Sostanze****· Numero CAS**

112-24-3 3,6-diazaottano-1,8-diamina

**· Numeri di identificazione**

· **Numeri CE:** 203-950-6

· **Numero indice:** 612-059-00-5

### SEZIONE 4: Misure di primo soccorso

**· 4.1 Descrizione delle misure di primo soccorso****· Indicazioni generali:**

Allontanare immediatamente gli abiti contaminati dal prodotto.

I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.

**· Inalazione:**

Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.

Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.

· **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.

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- **Contatto con gli occhi:**  
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte e consultare il medico.
- **Ingestione:**  
Chiamare subito il medico.  
Bere abbondante acqua e sostare in zona ben areata. Richiedere immediatamente l'intervento del medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
Non sono disponibili altre informazioni.

### **SEZIONE 5: Misure antincendio**

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:** Adottare provvedimenti antiincendio nei dintorni della zona colpita.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

### **SEZIONE 6: Misure in caso di rilascio accidentale**

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**  
Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.
- **6.2 Precauzioni ambientali:**  
In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.  
Diluire abbondantemente con acqua.  
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**  
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).  
Utilizzare mezzi di neutralizzazione.  
Smaltimento del materiale contaminato conformemente al punto 13.  
Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**  
Per informazioni relative ad una manipolazione sicura, vedere capitolo 7.  
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
Per informazioni relative allo smaltimento vedere Capitolo 13.

### **SEZIONE 7: Manipolazione e immagazzinamento**

- **7.1 Precauzioni per la manipolazione sicura**  
Accurata ventilazione/aspirazione nei luoghi di lavoro.  
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:** Non sono richiesti provvedimenti particolari.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.
- **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

IT  
(continua a pagina 4)

**Scheda di dati di sicurezza**  
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### SEZIONE 8: Controllo dell'esposizione/protezione individuale

- *Ulteriori indicazioni sulla struttura di impianti tecnici: Nessun dato ulteriore, vedere punto 7.*
- **8.1 Parametri di controllo**
- *Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro: Non Necessario.*
- *Ulteriori indicazioni: Le liste valide alla data di compilazione sono state usate come base.*
- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**  
Tenere lontano da cibo, bevande e foraggi.  
Togliere immediatamente gli abiti contaminati.  
Lavarsi le mani prima dell'intervallo o a lavoro terminato.  
Evitare il contatto con gli occhi e la pelle.
- **Maschera protettiva:**  
Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.
- **Guanti protettivi:**



Guanti protettivi

*Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione. A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche. Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.*

- **Materiale dei guanti**  
*La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro.*
- **Tempo di permeazione del materiale dei guanti**  
*Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.*
- **Occhiali protettivi:**



Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

- **9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**
- **Indicazioni generali**
- **Aspetto:**
- **Forma:** Liquido
- **Colore:** Giallo chiaro
- **Odore:** Amminico
- **Soglia olfattiva:** Non definito.
- **valori di pH:** Non definito.

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**Scheda di dati di sicurezza**  
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· <b>Cambiamento di stato</b>	
Punto di fusione/punto di congelamento:	12 °C
Punto di ebollizione iniziale e intervallo di ebollizione:	~278 °C
· <b>Punto di infiammabilità:</b>	135 °C
· <b>Infiammabilità (solidi, gas):</b>	Non applicabile.
· <b>Temperatura di accensione:</b>	335 °C
· <b>Temperatura di decomposizione:</b>	Non definito.
· <b>Temperatura di autoaccensione:</b>	Non definito.
· <b>Proprietà esplosive:</b>	Prodotto non esplosivo.
· <b>Limiti di infiammabilità:</b>	
Inferiore:	Non definito.
Superiore:	Non definito.
· <b>Tensione di vapore a 20 °C:</b>	0,01 hPa
· <b>Densità a 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Densità relativa</b>	Non definito.
· <b>Densità di vapore:</b>	Non definito.
· <b>Velocità di evaporazione</b>	Non definito.
· <b>Solubilità in/Miscibilità con acqua:</b>	Completamente miscibile.
· <b>Coefficiente di ripartizione: n-ottanolo/acqua:</b>	Non definito.
· <b>Viscosità:</b>	
Dinamica:	Non definito.
Cinematica:	Non definito.
· <b>Tenore del solvente:</b>	
VOC (CE)	0,00 %
Contenuto solido:	0,0 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

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### SEZIONE 11: Informazioni tossicologiche

· **11.1 Informazioni sugli effetti tossicologici**

· **Tossicità acuta**

Nocivo per contatto con la pelle.

· **Valori LD/LC50 rilevanti per la classificazione:**

**112-24-3 3,6-diazaottano-1,8-diamina**

Orale	LD50	2.500 mg/kg (rat)
Cutaneo	LD50	805 mg/kg (rabbit)

· **Irritabilità primaria:**

· **Corrosione/irritazione cutanea**

Provoca gravi ustioni cutanee e gravi lesioni oculari.

· **Lesioni oculari gravi/irritazioni oculari gravi**

Provoca gravi ustioni cutanee e gravi lesioni oculari.

· **Sensibilizzazione respiratoria o cutanea**

Può provocare una reazione allergica cutanea.

· **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**

· **Mutagenicità delle cellule germinali**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

### SEZIONE 12: Informazioni ecologiche

· **12.1 Tossicità**

· **Tossicità acquatica:** Non sono disponibili altre informazioni.

· **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.

· **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.

· **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.

· **Effetti tossici per l'ambiente:**

· **Osservazioni:** Nocivo per i pesci.

· **Ulteriori indicazioni in materia ambientale:**

· **Ulteriori indicazioni:**

Pericolosità per le acque classe 2 (D) (Classif. secondo le liste): pericoloso

Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.

Non immettere il prodotto non diluito o non neutralizzato nelle acque di scarico e nei canali di raccolta.

Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.

nocivo per gli organismi acquatici

· **12.5 Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

· **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

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### SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.
- **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

### SEZIONE 14: Informazioni sul trasporto

- |  |   |
|--|---|
| · <b>14.1 Numero ONU</b><br>· <b>ADR, IMDG, IATA</b>   | UN2259  |
| · <b>14.2 Nome di spedizione dell'ONU</b><br>· <b>ADR</b><br>· <b>IMDG, IATA</b>   | 2259 TRIETILENTETRAMMINA<br>TRIETHYLENETETRAMINE  |
| · <b>14.3 Classi di pericolo connesso al trasporto</b><br>· <b>ADR, IMDG, IATA</b>   |   |
|    |   |
| · <b>Classe</b><br>· <b>Etichetta</b>  | 8 Materie corrosive<br>8  |
| · <b>14.4 Gruppo di imballaggio</b><br>· <b>ADR, IMDG, IATA</b>  | II  |
| · <b>14.5 Pericoli per l'ambiente:</b>   | Non applicabile.  |
| · <b>14.6 Precauzioni speciali per gli utilizzatori</b><br>· <b>N° identificazione pericolo (Numero Kemler):</b><br>· <b>Numero EMS:</b><br>· <b>Segregation groups</b><br>· <b>Stowage Category</b><br>· <b>Stowage Code</b><br>· <b>Segregation Code</b> | Attenzione: Materie corrosive<br>80<br>8-05<br>Alkalis<br>B<br>SW2 Clear of living quarters.<br>SG35 Stow "separated from" SGG1-acids |
| · <b>14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC</b>  | Non applicabile.  |
| · <b>Trasporto/ulteriori indicazioni:</b>  |   |
| · <b>ADR</b><br>· <b>Quantità limitate (LQ)</b><br>· <b>Quantità esenti (EQ)</b>   | 1L<br>Codice: E2<br>Quantità massima netta per imballaggio interno: 30 ml<br>Quantità massima netta per imballaggio esterno: 500 ml   |
| · <b>Categoria di trasporto</b><br>· <b>Codice di restrizione in galleria</b>  | 2<br>E  |

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**Scheda di dati di sicurezza**  
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· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2259 TRIETILENTETRAMMINA, 8, II

### SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** La sostanza non è contenuta
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

### SEZIONE 16: Altre informazioni

*I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.*

· **Abbreviazioni e acronimi:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Tossicità acuta per via cutanea – Categoria 4

Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B

Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1

Aquatic Chronic 3: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 3

# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2020.04.13

개정: 2020.04.13

## 1 화학제품과 회사에 관한 정보

### 제품제품제명

- 제품명: **EPOFIX HARDENER**
- 상품번호: 1232-B, 1232-H, 1232-SP
- ~~번호~~번호번호  
112-24-3
- EC 의번호:  
203-950-6

### 색인색인번호:

612-059-00-5

해당 해당 제품 집이나 혼합물과 관련 권위용도 및 사용 금지용도 추가적인 정보가 존재하지 않습니다.

- ~~제품의 권고 용도와 사용 생애의 제한 사항~~ 실 화 학 품
- 안전데이터표(Safety Data Sheet)내 공급업체 권고사항 정보
- 제조자/수입자/유통업체 정보정보  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com

Samchang Commercial Co., Ltd.  
Yeo Eui Do  
PO Box 1110  
Seoul, Korea  
Tel: 82 2 703 3040  
Fax: 82 2 717 3298

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Daedok Science, Co. Ltd.  
34141 E10 Korea Advanced Institute of Science  
Guseong-Dong, Yuseong-gu, Daejeon,  
Korea  
Phone: 82 42 710 2091  
Fax: 82 42 367 0005  
Website: www.labsmro.com

- 추가적인 정보 및 문의는 해당 제품 안전 데이터 시트(SDS)의 11항을 참조하십시오.
- 비상 연락 전화번호:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 유해성·위험성

- 순물질 또는 혼합물 분류 분류



부식

피부 부식성/피부 자극성 - 구분 1 H314 피부에 심한 화상과 눈에 손상을 일으킴



급성 독성 - 경피 - 구분 4

H312 피부와 접촉하면 유해함

(2 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

인쇄일자: 2020.04.13

개정: 2020.04.13

### 제품명: EPOFIX HARDENER

(1 쪽부터계속)

피부 과민성 - 구분 1 H317 알레르기성 피부 반응을 일으킬 수 있음

수생환경 유해성 - 만성3 H412 장기적 영향에 의해 수생생물에 유해함

· 라벨표기요소요소

· 라벨라벨라벨요소

본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· 그림문자



GHS05 GHS07

· 신호어 위험

· 상표상에명확히위험성이표시된성분:

3,6-diazaoctanethylenediamin

유해위험성구분문구

피부와 접촉하면 유해함

피부에 심한 화상과 눈에 손상을 일으킴

알레르기성 피부 반응을 일으킬 수 있음

장기적 영향에 의해 수생생물에 유해함

· 예방조치문구문구

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오

· 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.

즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하시오.

오염된 의복은 벗고 다시 사용 전 세척하십시오.

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

기타기타유해성

· PBT(잔류성, 생물농축성, 물질분해성) vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음.

· PBT(잔류성, 생물농축성, 물질분해성) 당사항 없음.

· vPvB(고 잔류성, 고 생물농축성, 물질분해성) 당사항 없음.

### 3 구성성분의 명칭 및 함유량

· 화학적 특성: 화학물질

· CAS-번호표시

112-24-3 3,6-diazaoctanethylenediamin

식별식별번호

· EC 의번호: 203-950-6

색인색인번호: 612-059-00-5

### 4 응급조치 요령

· 응급조치요령 내용내용

· 일반적정보정보

이 제품에 의해 오염된 의상은 즉시 제거한다.

중독 증상은 몇 시간이지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간동안은 의료진의 관찰을 받아야 한다.

(3 쪽에계속)



# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2020.04.13

개정: 2020.04.13

제품명: EPOFIX HARDENER

(3 쪽부터 계속)

· ~~구체적~~ ~~최종~~ ~~최종자~~ 추가적인 정보가 존재하지 않습니다.

## 8 노출방지 및 개인보호구

· ~~첨단시설~~ ~~디자~~ ~~업에~~ ~~대한~~ ~~추가~~ ~~정보~~: 더 이상 의 자료는 없음. 항 목 7 을 참고하시 오.

통제 ~~물질~~ ~~변수~~ 변수

· ~~화학~~ ~~물질~~ ~~의~~ ~~노출~~ ~~기준~~, ~~생물~~ ~~학적~~ ~~노출~~ ~~기준~~ 등:

112-24-3 3,6-diazaoctanethylenediamin

WEEL (US) 장기간의값: 6 mg/m<sup>3</sup>, 1 ppm

Skin

· ~~추가~~ ~~정보~~ ~~정~~ ~~보~~ ~~조~~ 할 당시에 유 효 한 목 록 을 기 초 로 사 용 했 다.

노출 ~~통제~~ ~~통제~~ 통제

개인 ~~개인~~ ~~보호~~ 구

· ~~일반~~ ~~적~~ ~~보호~~ ~~조~~ ~~치~~ ~~및~~ ~~위~~ ~~생~~ ~~조~~ ~~치~~:

· 식료 품, 음 료 수 와 사 료 로 부 터 멀 리 떨 어 뜨 려 놓 는 다.

· 더 러 워 지 거 나 음 료 수 가 물 은 옷 은 즉 시 탈 의 한 다.

· 휴 식 전 이 나 작 업 이 끝 날 때 마 다 손 을 씻 는 다.

· 눈 과 피 부 와 의 접 촉 은 피 한 다.

· ~~호흡~~ ~~기~~ ~~보호~~ ~~보호~~

· 단 시 간 또 는 경 미 한 오 염 의 경 우 에 는 호 흡 여 과 기 를 사 용 한 다. 심 각 한 또 는 장 기 간 노 출 시 에 는

· 호 흡 보 호 장 비 를 사 용 한 다.

~~보~~ ~~호~~ ~~보~~ ~~호~~ ~~보~~ ~~호~~



보 호 용 장 갑

· 장 갑 재 질 은 제 품 / 원 료 / 조 제 를 투 과 시 키 지 않 아 야 하 고, 내 구 성 이 있 어 야 한 다.

· 테 슷 를 하 지 않 았 기 때 문 에 제 품 / 조 제 / 화 학 혼 합 물 에 적 합 한 장 갑 재 질 에 대 한 추 천 이 없 다.

· 투 과 시 간, 침 투 율 과 저 하 를 고 려 해 서 장 갑 재 료 를 선 택 한 다.

· ~~장~~ ~~갑~~ ~~의~~ ~~재~~ ~~료~~

· 적 합 한 장 갑 의 선 정 은 재 질 차 이 뿐 아 니 라 품 질 기 준 의 차 이 도 고 려 하 여 이 루 어 져 야 하 고 제 조 업 자 에 따 라 서 도 다 르 게 선 정 되 어 야 한 다.

· ~~장~~ ~~갑~~ ~~재~~ ~~료~~ ~~의~~ ~~투~~ ~~과~~ ~~시~~ ~~간~~ 정 확 한 관 통 시 간 은 보 호 장 갑 제 조 자 에 의 하 여 인 지 되 고, 준 수 되 어 야 한 다.

~~보~~ ~~호~~ ~~보~~ ~~호~~ ~~보~~ ~~호~~



확 조 이 는 보 안 경

## 9 물리화학적 특성

기 본 ~~물~~ ~~리~~ ~~화~~ ~~학~~ ~~적~~ ~~특~~ ~~성~~ ~~에~~ ~~대~~ ~~한~~ ~~기~~ ~~본~~ ~~정~~ ~~보~~

· ~~일~~ ~~반~~ ~~정~~ ~~보~~

외 형 ~~외~~ ~~형~~ ~~외~~ ~~형~~

· ~~물~~ ~~리~~ ~~적~~ ~~상~~ ~~태~~ ~~상~~ ~~태~~

액 체

· 색:

연 한 노 랑

· ~~냄~~ ~~새~~ ~~냄~~ ~~새~~ ~~냄~~ ~~새~~

아 민 종 류 의

· 후 각 ~~역~~ ~~치~~

알 맞 지 않 다.

(5 쪽에 계속)





# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2020.04.13

개정: 2020.04.13

**제품명: EPOFIX HARDENER**

(5 쪽부터계속)

## 11 독성에 관한 정보

· **독성학적 영향에 대한 정보**  
급성독성독성독성

· LD/LC50-수치에 따른 분류

112-24-3 3,6-diazaoctanethylenediamin

구강의 LD50 2,500 mg/kg (rat)

피부의 LD50 805 mg/kg (rabbit)

· **일차적 자극효과**  
피부피부 **부식성** 또는 **자극성**: 피부와점막에강한부식작용.  
심한심한 **부식성** 또는 **자극성**: 강한부식작용  
· **감각화**: 피부접촉을통하여감각화가능성이있다.  
· **추가적인 독성에 관한 정보**  
삼킬경우식도나위등의내장기관벽에상처를주는위험과마찬가지로입주변이나구강에강한부식작용을한다

## 12 환경에 미치는 영향

독성독성독성

- **수생독성**: 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성**: 추가적인 정보가 존재하지 않습니다.
- **환경 시스템에서의 행동**:
- **생물농축 잠재성**: 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성**: 추가적인 정보가 존재하지 않습니다.

· **생태독성**:

의견의견의견류 에 해 로움

· **추가적인 생태학 정보정보**

일반 **오염물질** 특징

- 수질오염등급 2 (목록분류): 수질오염이된 지하수나, 하천으로또는하수도망에도달하지않게한다.
- 희석시키지않은채또는중화시키지않은채하수도나배수로에도달하지않게해야한다.
- 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
- 물속의유기체에해가되는것

· PBT(잔류성, 생물농축성, 물질물질물질) 및 vPvB(고 잔류성, 고 생물농축성 물질물질물질) 결과

· PBT(잔류성, 생물농축성, 물질물질물질) 당사항 없음.

· vPvB(고 잔류성, 고 생물농축성 물질물질물질) 당사항 없음.

기타기타 **부작용** 추가적인 정보가 존재하지 않습니다.

## 13 폐기시 주의사항

· **폐기물 처리방법**  
권고 권고 **생물**쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.

· **비위생적 포장포장**  
권고 권고 **생물**쓰레기의지침에입각한쓰레기처리.

· **추천 세정제**: 경우에따라서세제가첨가된물

# 물질안전보건자료

## GHS에 따라 라다


인쇄일자: 2020.04.13

개정: 2020.04.13

**제품명: EPOFIX HARDENER**

(6 쪽부터 계속)

### 14 운송에 필요한 정보

유엔 유엔번호 · ADR, IMDG, IATA	UN2259
적정적정적정명 · ADR · IMDG, IATA	2259 TRIETHYLENETETRAMINE TRIETHYLENETETRAMINE
교통 표지판 · ADR, IMDG, IATA  	
등급 · 위험도 라벨라벨	8 부식작용하는물질 8
용기등급 · ADR, IMDG, IATA	II
환경적 유해물질:	해당사항 없음.
이동 시 특별 취급 조치 위험 위험 · E · Segregation groups · Stowage Category · Stowage Code · Segregation Code	경고: 부식작용하는물질 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크물질 운송 운송	해당사항 없음.
운송/추가 정보 · ADR	
한정량 · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
운송 구분 터널	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN 번호 UN 2259 TRIETHYLENETETRAMINE, 8, II	

KR

(8 쪽에 계속)

# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2020.04.13

개정: 2020.04.13

**제품명: EPOFIX HARDENER**

(7 쪽부터계속)

## 15 법적 규제현황

· 산업안전보건법에 의해 규제

제조제조금지물질:

성분이포함되어있지않다

· 허가대상물질:

성분이포함되어있지않다

· 관리대상유해물질:

성분이포함되어있지않다

· 작업환경측정 대상 유해인자

성분이포함되어있지않다

· 특수건강 집광 대상 유해인자

성분이포함되어있지않다

해당 해당 물질 또는 혼합물에 대한 유해인자 측정 및 관리 규정 법률

· Korean Existing Chemical Inventory

KE-02911

· 화학물질관리법

· 사고대비물질

성분이포함되어있지않다

· 금지물질

성분이포함되어있지않다

· 제한물질

성분이포함되어있지않다

· 유독물질

성분이포함되어있지않다

· 허가물질

성분이포함되어있지않다

· 위험물안전관리법 (위험물 및 지정수량) False

등록 등록 물질 또는 선제대상 화학물질

성분이포함되어있지않다

· '21년까지 등록하여야 할 압, 들연번이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질

성분이포함되어있지않다

· 중점관리물 질(중점관리 지정 지정)

· 표1 중점관리물질(재관전관련관련)

성분이포함되어있지않다

· 표2 중점관리물질(재관전관련관련)

성분이포함되어있지않다

· GHS 라벨링 요소

본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

(9 쪽에계속)

# 물질안전보건자료

## GHS에 따라 라따

인쇄일자: 2020.04.13

개정: 2020.04.13

**제품명: EPOFIX HARDENER**

(8 쪽부터 계속)

· **그림문자**



GHS05    GHS07

· **신호어 위험**

· **상표상에 명확히 위험성이 표시된 성분:**

3,6-diazaoctanethylenediamin

유해 ~~유해~~ ~~유해~~ ~~유해~~ 문구

- 피부와 접촉하면 유해함
- 피부에 심한 화상과 눈에 손상을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음
- 장기적 영향에 의해 수생생물에 유해함

· **예방 조치** 문구 문구

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으십시오/샤워하십시오

· 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.

즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하십시오.

오염된 의복은 벗고 다시 사용 전 세척하십시오.

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· **화학물질 안전성 평가** 화학물질 안전성 평가가 수행되지 않음

**16 그 밖의 참고사항**

이 보고서는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

최초 최초 작성 일자: 2020.04.13

개정 개정 ~~개정~~ ~~개정~~ 최종 개정 일자: 1 / 2020.04.13

· **약어와 두문자어:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative

# 安全資料表

## 據根據據據性化學品標示及通識規則

打印日期 2020.04.13

在 2020.04.13 審核

### 1 化學品與廠商資料

- 產品識別者
- 化學品中文名稱名稱名稱化學品俗名或商品名: EPOFIX HARDENER
- 商品編號: 1232-B, 1232-H, 1232-SP
- 編號編號編號  
112-24-3
- 歐盟編號:  
203-950-6
- 歐盟編號:  
612-059-00-5
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 原材料的應用/準備工作進行 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 危害辨識資料

#### · 緊急情況概述:

淺黃色，液體，吞食可能有害。皮膚接觸有害。造成嚴重皮膚灼傷和眼睛損傷。可能造成皮膚過敏。對水生生物有害並具有長期持續影響。

#### · GHS危險性類別



腐蝕

腐蝕/刺激皮膚物質 第1B級      H314 造成嚴重皮膚灼傷和眼睛損傷



急毒性物質(皮膚) 第4級      H312 皮膚接觸有害

皮膚過敏物質 第1級      H317 可能造成皮膚過敏

急毒性物質(吞食) 第5級      H303 吞食可能有害

水環境之危害物質(慢毒性) 第3級 H412 對水生生物有害並具有長期持續影響

#### · 標籤因素

- GHS標籤元素 本化學物質根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

(在 2 頁繼續)

# 安全資料表

## 據根根據據據性化學品標示及通識規則

打印日期 2020.04.13

在 2020.04.13 審核

化學品中文名稱名稱名稱化學品俗名或商品名：EPOFIX HARDENER

(在 1 頁繼續)

圖示圖示圖示



GHS05 GHS07

名稱名稱名稱

· **標籤上辨別危險的成份:**

· 三乙撐四胺

· **危險字句**

· 吞食可能有害

· 皮膚接觸有害

· 造成嚴重皮膚灼傷和眼睛損傷

· 可能造成皮膚過敏

· 對水生生物有害並具有長期持續影響

· **警戒字句**

· **事故響應**

· 如皮膚(或頭髮)沾染：立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。

· 如進入眼睛：用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出，取出隱形眼鏡。繼續清洗。

· 立即呼叫解毒中心/醫生

· 專項處置(參見本標示)。

· 脫掉沾染的衣服，清洗後方可重新使用

· **安全貯存**

· 加鎖存放。

· **廢棄處置**

· 按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

· **其他有害性**

· PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質)評價結果

· PBT(殘留性、生物濃縮性、毒性物質) 不適用的

· vPvB(高殘留性、高生物濃縮性物質): 不適用的

### 3 成分辨識資料

純品純品純品

· **CAS號 化學名, 通用名**

· 112-24-3 三乙撐四胺

· **鑒別編號：**

· **歐盟編號:** 203-950-6

· **歐盟編號:** 612-059-00-5

### 4 急救措施

· **應急措施要領**

· **總說明:**

· 馬上脫下染有該產品的衣服。

· 中毒的症狀可能會在幾個小時以後才出現;因此在發生事故之後起碼要有 48 小時的醫療觀察。

吸入吸入吸入

· 供給新鮮空氣並且確保會叫醫生。

· 萬一病人不清醒時,請讓病人側趟以便移動。

· **皮膚接觸:** 馬上用水和肥皂進行徹底的沖洗。

· **眼睛接觸:** 張開眼睛在流水下沖洗數分鐘, 然後諮詢醫生。

(在 3 頁繼續)

# 安全資料表

## 據根據據據性化學品標示及通識規則

打印日期 2020.04.13

在 2020.04.13 審核

化學品中文名稱名稱名稱化學品俗名或商品名：EPOFIX HARDENER

(在 2 頁繼續)

食入食入食入

- 馬上召喚醫生。
- 喝大量的清水和提供新鮮的空氣。馬上召喚醫生。
- **給醫生的資料：**
- **最重要的急慢性症狀及其影響** 無相關詳細資料。
- **需要及時的醫療處理及特別處理的症狀** 無相關詳細資料。

## 5 滅火措施

- **滅火方法**
- **滅火的方法和滅火劑：** 使用適合四周環境的滅火措施。
- **特別危險性** 無相關詳細資料。
- **特殊滅火方法**
- **消防人員特殊的防護裝備：** 沒有要求特別的措施。

## 6 洩漏處理方法

- **保護措施** 帶上保護儀器。讓未受到保護的人們遠離。
- **環境保護措施：**
- 如果滲入了水源或汗水系統,請通知有關當局。
- 用大量的水進行稀釋。
- 切勿讓其進入下水道/水面或地下水。
- **密封及淨化方法和材料：**
- 吸收液體粘合原料 (沙粒、矽藻土、酸性粘合劑、通用粘合劑、鋸屑)。
- 使用中和劑。
- 根據第 13 條條款棄置受汙染物。
- 確保有足夠的通風裝置。
- **參照其他部分**
- 有關安全處理的資料請參閱第 7 節。
- 有關個人保護裝備的資料請參閱第 8 節。
- 有關棄置的資料請參閱第 13 節。

## 7 安全處置與儲存方法

- **操作處置**
- **儲存** 儲存儲存
- 確保工作間有良好的通風/排氣裝置。
- 防止氣溶膠的形成。
- **有關火災及防止爆炸的資料：** 不需特別的措施。
- **混合危險性等安全儲存條件**
- **儲存** 儲存儲存
- **儲存庫和容器須要達到的要求：** 沒有特別的要求。
- **有關使用一個普通的儲存設施來儲存的資料：** 不需要。
- **有關儲存條件的更多資料：** 將容器密封。
- **具體的最終用戶** 無相關詳細資料。

## 8 暴露預防措施

- **工程控制方法：** 沒有進一步數據;見第 7 項。

(在 4 頁繼續)



# 安全資料表

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(在 3 頁繼續)

- 控制變數
- 在工作場需要監控的限值成分 不要求.
- 額外的資料: 制作期間有效的清單將作為基礎來使用.
- 遺漏控制
- 個人防護設備:
  - 一般保護和衛生措施:
    - 遠離食品、飲料和飼料.
    - 立即除去所有的不潔的和被汙染的衣服.
    - 在休息之前和工作完畢後請清洗雙手.
    - 避免和眼睛及皮膚接觸.
  - 呼吸系統防護:
    - 如果會短暫接觸或在低汙染的情況下,請使用呼吸過濾裝置. 如果會深入或較長時間接觸,請使用獨立的呼吸保護裝置.
  - 手防護:



保護手套

- 手套的物料必須是不滲透性的,且能抵抗該產品/物質/添加劑.  
基於缺乏測試,對於產品/制劑/化學混合物,並不會提供手套材料的建議  
選擇手套材料時,請注意材料的滲透時間,滲濾率和降解參數
- 手套材料 選擇合適的手套不單取決於材料,亦取決於質量特征,以及來自哪一間生產廠家
  - 滲入手套材料的時間 請向勞保手套生產廠家獲取準確的破裂時間並觀察實際的破裂時間
  - 眼睛防護:



密封的護目鏡

## 9 物理及化學性質

· 有關基本物理及化學特性的資訊	
· 一般說明	
外觀外觀外觀	液體
形狀形狀形狀	淺黃色
顏色顏色顏色	類似胺
氣味氣味氣味	未決定.
· 嗅覺閾限	
· pH值:	未決定.
· 條件的更改	
熔點熔點熔點	12 °C
沸點沸點沸點	沸點和沸程: ~278 °C
閃點閃點閃點	135 °C
· 可燃性 (固體、氣體): 不適用的	
· 點火溫度:	335 °C
· 分解溫度:	未決定.

(在 5 頁繼續)

# 安全資料表

## 據根據據據性化學品標示及通識規則

打印日期 2020.04.13

在 2020.04.13 審核

**化學品中文名稱名稱名稱** 化學品俗名或商品名：**EPOFIX HARDENER**

(在 4 頁繼續)

· <b>自燃溫度:</b>	未決定.
· <b>爆炸的危險性:</b>	該產品並沒有爆炸的危險
· <b>爆炸極限:</b> 較低較低較低 較高較高較高	未決定. 未決定.
· <b>蒸氣壓 在 20 °C:</b>	0.01 hPa
密度密度密度 · <b>相對密度</b> · <b>蒸氣密度</b> · <b>蒸發速率</b>	0.982 g/cm <sup>3</sup> 未決定. 未決定. 未決定.
· <b>溶解性</b> 水:	完全可拌和的
· <b>辛醇/辛醇/水分配係數</b>	未決定.
· <b>黏性:</b> 動態動態動態 運動運動運動學的	未決定. 未決定.
· <b>固體成份:</b>	0.0 %
· <b>其他資訊</b>	無相關詳細資料。

### 10 安定性及反應性

- **反應性:** 無相關詳細資料。
- **穩定性:** 穩定
- **分解/降解/揮發/離解:** 如果遵照規格使用則不會分解。
- **有害/有毒/腐蝕性:** 未有已知的危險反應。
- **避免接觸條件:** 無相關詳細資料。
- **不相容的物質:** 無相關詳細資料。
- **危險的分解產物:** 未知有危險的分解產品。

### 11 毒性資料

- **對毒性學影響的資訊**
  - **急性毒性:**
- | · <b>與分類相關的 LD/ LC50 值:</b> |      |                    |
|-----------------------------|------|--------------------|
| 112-24-3 三乙撐四胺              |      |                    |
| 口腔                          | LD50 | 2,500 mg/kg (rat)  |
| 皮膚                          | LD50 | 805 mg/kg (rabbit) |
- **重要的刺激/腐蝕影響:**
  - **皮膚/皮膚:** 皮膚和粘膜上造成強烈的腐蝕性影響。
  - **在眼睛上面:** 強烈的腐蝕性影響。
  - **致敏/致敏:** 通過皮膚接觸可能造成敏化作用。
  - **更多毒物的資料:**
  - **吞嚥該產品:** 除了導致口部和喉嚨出現強烈的腐蝕性現象之外,還有對食道和胃部造成穿孔的危險。

TW

(在 6 頁繼續)

# 安全資料表

## 據根據據據性化學品標示及通識規則

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(在 5 頁繼續)

### 12 生態資料

- 生態毒性
- 水生毒性: 無相關詳細資料。
- 持久性和降解性: 無相關詳細資料。
- 環境系統習性:
- 潛在的累積性: 無相關詳細資料。
- 土壤土壤動植物: 無相關詳細資料。
- 生態毒性的影響:
- 備注: 對魚類有害
- 額外的生態學資料:
- 括總括注解
- 水危害級別 2 (德國規例) (評估): 對水是危害的
- 不要讓該產品接觸地下水、水道或汗水系統。
- 不要讓未被稀釋或未被中和的產品接觸下水道或排水溝渠。
- 即使是少量的產品滲入地下也會對飲用水造成危險。
- 對水中的有機物有危害。
- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他其他用途: 無相關詳細資料。

### 13 廢棄處置方法

- 廢棄處置方法
- 建議建議建議將該產品和家居垃圾一起丟棄。不要讓該產品接觸汗水系統。
- 受污染的容器和包裝:
- 建議建議建議根據官方的規章來丟棄。
- 建議建議建議洗滌如有必要請使用水及清潔劑進行清潔。

### 14 運送資料

聯合聯合危險貨物編號(UN號)

· ADR, IMDG, IATA UN2259

適當適當名稱

· ADR 2259 TRIETHYLENETETRAMINE  
· IMDG, IATA TRIETHYLENETETRAMINE

運輸運輸等級

· ADR, IMDG, IATA



· 級別 8 腐蝕性物質  
標籤標籤標籤 8

· 包裝組別

· ADR, IMDG, IATA II

(在 7 頁繼續)

# 安全資料表

## 據根據據據性化學品標示及通識規則

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(在 6 頁繼續)

· 危害環境:	不適用的
· 用戶特別預防措施	警告: 腐蝕性物質
· 危險編碼:	80
· 標碼號碼號碼	8-05
· Segregation groups	Alkalis
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG35 Stow "separated from" SGG1-acids
· MARPOL73/78(針對船舶引起的海洋污染預防協約協約 件附件書根據根據根據國際國際國際貨物編碼) 大量大量 運送運送運送	不適用的
<b>運輸運輸運輸運輸的資料:</b>	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "標準規定":	UN 2259 TRIETHYLENETETRAMINE, 8, II

### 15 法規資料

- 對相應純物質或者混合物的安全、保健及環境法規/法律
- 優先管理化學品之指定及運作管理辦法

附表附表附表對於未滿十八歲羈戒羈戒羈戒後未滿女年女性農工具危害性之化學品

沒有列出物質。

第二第二條第二款第一目

沒有列出物質。

第二第二條第二款第二目

有列出物質。

· 新化學物質及既有化學物質資料登錄辦法 英

沒有列出物質。

國現國現國稅學物質名錄

有列出物質。

· TCSCA

列管編號編號編號

沒有列出物質。

· 毒性分類

沒有列出物質。

· 管制濃度 ( w/w% )

沒有列出物質。

(在 8 頁繼續)

# 安全資料表

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(在 7 頁繼續)

· 大量運作基準(公斤)

沒有列出物質。

· 新化學物質及既有化學物質資料登錄辦法, 附表六

沒有列出物質。

· TCSI - Taiwan Chemical Substance Inventory

有列出物質。

· GHS 標籤元素 本化學物質根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

圖示圖示圖示



GHS05 GHS07

名稱名稱名稱

· 標籤上辨別危險的成份:

三乙撐四胺

· 危險字句

吞食可能有害

皮膚接觸有害

造成嚴重皮膚灼傷和眼睛損傷

可能造成皮膚過敏

對水生生物有害並具有長期持續影響

· 警戒字句

· 事故響應

如皮膚(或頭髮)沾染：立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。

如進入眼睛：用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出，取出隱形眼鏡。繼續清洗。

立即呼叫解毒中心/醫生

專項處置(參見本標示)。

脫掉沾染的衣服，清洗後方可重新使用

· 安全貯存

加鎖存放。

· 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

· 化學物質安全性評價: 尚未進行化學物質安全性評價

## 16 其他資料

該資料是基於我們目前的知識。然而,這並不構成對任何特定產品特性的擔保並且不建立一個法律上有效的合同關係。

· 縮寫:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

急性性物質(吞食) 第5級: Acute toxicity – Category 5

急性性物質(皮膚) 第4級: Acute toxicity – Category 4

腐蝕/刺激皮膚物質 第1B級: Skin corrosion/irritation – Category 1B

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# 安全資料表

## 據根據據據性化學品標示及通識規則

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**化學品中文名稱名稱名稱：EPOFIX HARDENER**

皮膚過敏物質 第1級: Skin sensitisation – Category 1

水環境之危害物質(慢性) 第3級: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

(在 8 頁繼續)

-TW-

# Sikkerhetsdatablad

iflg. forordning (EF) nr. 1907/2006, Artikkel 31

Trykkdato: 13.04.2020

revidert den: 13.04.2020

## Avsnitt 1: Identifikasjon av stoffet/stoffblandingen og av selskapet/foretaket

- **1.1 Produktidentifikator**
- **Handelsnavn:** EPOFIX HARDENER
- **Artikkelnummer:** 1232-B, 1232-H, 1232-SP
- **CAS-nummer:**  
112-24-3
- **EC nummer:**  
203-950-6
- **EF-nummer:**  
612-059-00-5
- **1.2 Relevante identifiserte bruksområder for stoffet eller stoffblandingen og bruk som frarådes**  
Ikke noe mer relevant informasjon tilgjengelig.
- **Bruk av stoffet/ tilberedning** laboratoriekjemikalier
- **1.3 Opplysninger om leverandøren av sikkerhetsdatabladet**
- **Produsent/leverandør:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Avdeling for nærmere informasjon:** Product safety department
- **1.4 Nødtelefonnummer**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## Avsnitt 2: Fareidentifikasjon

- **2.1 Klassifisering av stoffet eller stoffblandingen**
- **Klassifisering i henhold til EC-forskrift nr.1272/2008**



GHS05 Etsende virkning

Skin Corr. 1B      H314 Gir alvorlige etseskader på hud og øyne.



GHS07

Acute Tox. 4      H312 Farlig ved hudkontakt.  
Skin Sens. 1      H317 Kan utløse en allergisk hudreaksjon.

Aquatic Chronic 3 H412 Skadelig, med langtidsvirkning, for liv i vann.

- **2.2 Merkingselementer**
- **Merking iht. bestemmelse (EC) Nr. 1272/2008**  
Substansen er klassifisert og merket i henhold til CLP-forordningen.
- **Farepiktogrammer**



GHS05



GHS07

(fortsatt på side 2)

NO

# Sikkerhetsdatablad

## iflg. forordning (EF) nr. 1907/2006, Artikkel 31

Trykkdato: 13.04.2020

revidert den: 13.04.2020

**Handelsnavn: EPOFIX HARDENER**

(fortsatt fra side 1)

- **Varselord Fare**

- **Farebestemmende komponenter ved etikettering:**

3,6-diazaoktan-1,8-diamin

- **Faresetninger**

H312 Farlig ved hudkontakt.

H314 Gir alvorlige etseskader på hud og øyne.

H317 Kan utløse en allergisk hudreaksjon.

H412 Skadelig, med langtidsvirkning, for liv i vann.

- **Sikkerhetssetninger**

P303+P361+P353 VED HUDKONTAKT (eller håret): Tilsølte klær må fjernes straks. Skyll [eller dusj] huden med vann.

P305+P351+P338 VED KONTAKT MED ØYNENE: Skyll forsiktig med vann i flere minutter. Fjern eventuelle kontaktlinser dersom dette enkelt lar seg gjøre. Fortsett skyllingen.

Kontakt umiddelbart et GIFTINFORMASJONSSENTER/en lege.

P310 Særlig behandling (se på etiketten).

P362+P364 Tilsølte klær må fjernes og vaskes før bruk.

P405 Oppbevares innelåst.

P501 Innholdet / emballasjen skal avhendes i henhold til de lokale / regionale / nasjonale / internasjonale forskrifter.

- **2.3 Andre farer**

- **Resultater av PBT- og vPvB-vurdering**

- **PBT:** Ikke brukbar.

- **vPvB:** Ikke brukbar.

### Avsnitt 3: Sammensetning/opplysninger om bestanddeler

- **3.1 Kjemisk karakterisering: Stoffer**

- **CAS-nr. betegnelse**

112-24-3 3,6-diazaoktan-1,8-diamin

- **Identifikasjonsnummer(numre)**

- **EC nummer:** 203-950-6

- **EF-nummer:** 612-059-00-5

### Avsnitt 4: Førstehjelpstiltak

- **4.1 Beskrivelse av førstehjelpstiltak**

- **Generelle informasjoner:**

Klær som er tilsølt med produktet må fjernes omgående.

Forgiftningssymptomer kan også oppstå etter mange timer. Personer må derfor ha legetilsyn i minst 48 timer etter en ulykke.

- **Etter innånding:**

Rikelig frisklufttilførsel, søk legehjelp for sikkerhets skyld.

Ved bevisstløshet lagring og transport i stabil sidestilling.

- **Etter hudkontakt:** Vask straks med vann og sepe og skyll godt etterpå.

- **Etter øyekontakt:** Skyll øynene med åpne øyenlokk i flere minutter under rennende vann og tilkall lege.

- **Etter svelging:**

Søk lege straks.

Drikk rikelig med vann og sørg for frisk luft. Tilkall lege omgående.

- **4.2 De viktigste symptomene og virkningene, både akutte og forsinkede**

Ikke noe mer relevant informasjon tilgjengelig.

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- **4.3 Angivelse av om umiddelbar legehjelp og spesialbehandling er nødvendig**  
Ikke noe mer relevant informasjon tilgjengelig.

### Avsnitt 5: Brannsløkkingstiltak

- **5.1 Slokkingsmidler**
- **Egnede slukningsmidler:** Brannslukningstiltak tilpasses omgivelsene.
- **5.2 Særlige farer knyttet til stoffet eller stoffblandingen** Ikke noe mer relevant informasjon tilgjengelig.
- **5.3 Råd til brannmannskaper**
- **Spesielt verneutstyr:** Ingen spesielle tiltak nødvendig.

### Avsnitt 6: Tiltak ved utilsiktede utslipp

- **6.1 Personlige forsiktighetsregler, personlig verneutstyr og nødrutiner**  
Ta på beskyttelsesdrakt. Hold ubeskyttede personer borte.
- **6.2 Forsiktighetsregler med hensyn til miljø**  
Ansvarlige myndigheter varsles hvis produktet er kommet ned i vassdrag eller kloakk.  
Fortynn med rikelig med vann.  
La ikke produktet komme ned i kloakk/overflatevann/grunnvann.
- **6.3 Metoder og materialer for oppsamling og rensing**  
Ta opp stoffet med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, sagflis).  
Bruk nøytraliseringsmiddel.  
Bortskaff kontaminert matereriale som avfall i.h.t. punkt 13.  
Sørg for tilstrekkelig ventilasjon.
- **6.4 Henvisning til andre avsnitt**  
Informasjoner om sikker håndtering, se kapittel 7.  
Informasjoner om personlig beskyttelsesutstyr, se kapittel 8.  
Informasjoner om bortskaffelse/deponering, se kapittel 13.

### Avsnitt 7: Håndtering og lagring

- **7.1 Forsiktighetsregler for sikker håndtering**  
Sørg for god ventilasjon/avsugning på arbeidsplassen.  
Unngå aerosoldannelse.
- **Henvisninger om brann- og eksplosjonsvern:** Ingen særlige tiltak nødvendig.
- **7.2 Vilkår for sikker lagring, herunder eventuelle uforenligheter**
- **Lagring:**
- **Krav til lagerrom og beholdere:** Ingen spesielle krav.
- **Informasjoner om felles lagring:** Ikke nødvendig.
- **Ytterligere informasjon om lagervilkårene:** Hold beholderne tett tillukket.
- **7.3 Særlig(e) sluttanvendelse(r)** Ikke noe mer relevant informasjon tilgjengelig.

### Avsnitt 8: Eksponeringskontroll / personlig verneutstyr

- **Ytterligere informasjon om utforming av tekniske anlegg:** Ingen ytterligere informasjon, se punkt 7.

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## · 8.1 Kontrollparametere

### · Komponenter med grenseverdier for arbeidsplass som må overholdes:

112-24-3 3,6-diazaoktan-1,8-diamin	
AG	Langtidsverdi: 6 mg/m <sup>3</sup> , 1 ppm
A	

· **Ytterligere informasjoner:** Basis: listene som var gyldige ved oppstillingen.

## · 8.2 Eksponeringskontroll

### · Personlig verneutstyr:

#### · Generelle verne- og hygienetiltak:

Holdes adskilt fra næringsmidler, drikkevarer og førstoffer.

Fjern omgående forurensede, gjennomvåtede klær.

Vask hendene før arbeidspauser og ved arbeidets slutt.

Unngå berøring med øyne og hud.

#### · Åndedrettsvern:

Ved korttidlig eller liten belastning åndedrettsfilterapparat; ved intensiv eller lengre utsetting: bruk omluft-uavhengig åndedrettsbeskyttelsesapparat.

#### · Håndvern:



Beskyttelseshansker

Hanskematerialet må være ugjennomtrengelig og bestandig overfor produktet /stoffet /blandingen.

På grunn av manglende tester kan det ikke gis noen anbefaling om hanskemateriale for produktet / tilberedningsprosessen/kjemikalieblandingen.

Hanskematerialet velges under hensyntagen til holdbarhetstid, gjennomtrengelighet og degradering.

#### · hanskemateriale

Valget av egnet hanske er ikke bare avhengig av materiale, men også av andre kvalitetskjenner og er forskjellig fra produsent til produsent.

#### · gjennomtrengingstid for hanskemateriale

Den nøyaktige holdbarhetstiden må bringes på det rene hos hanskeprodusenten og overholdes.

#### · Øyevern:



Tettsittende vernebrille

## Avsnitt 9: Fysiske og kjemiske egenskaper

### · 9.1 Opplysninger om grunnleggende fysiske og kjemiske egenskaper

#### · alminnelige opplysninger

##### · Utseende:

Form: Væske

Farge: Lysegul

· Lukt: Aminlignende

· Luktterskel: Ikke bestemt.

· pH-verdi: Ikke bestemt.

##### · Tilstandsendring

Smeltepunkt/frysepunkt: 12 °C

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<b>Startkokepunkt og kokeområde:</b>	~278 °C
· <b>Flammepunkt:</b>	135 °C
· <b>Antennelighet (fast stoff, gass):</b>	Ikke brukbar.
· <b>Antennelsestemperatur:</b>	335 °C
· <b>Nedbrytingstemperatur:</b>	Ikke bestemt.
· <b>Selvantennelsestemperatur:</b>	Ikke bestemt.
· <b>Eksplorative egenskaper:</b>	Produktet er ikke eksplosjonsfarlig.
· <b>Ekspljosjonsgrenser:</b>	
<b>Nedre:</b>	Ikke bestemt.
<b>Øvre</b>	Ikke bestemt.
· <b>Damptrykk ved 20 °C:</b>	0,01 hPa
· <b>Tetthet ved 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Relativ tetthet:</b>	Ikke bestemt.
· <b>Damptetthet:</b>	Ikke bestemt.
· <b>Fordampingshastighet:</b>	Ikke bestemt.
· <b>Løslighet i / blandbarhet med vann:</b>	Fullstendig blandbar.
· <b>Fordelingskoeffisient; n-oktanol/vann:</b>	Ikke bestemt.
· <b>Viskositet:</b>	
<b>Dynamisk:</b>	Ikke bestemt.
<b>Kinematisk:</b>	Ikke bestemt.
· <b>Løsningsmiddelandel:</b>	
<b>VOC (EF)</b>	0,00 %
<b>Andel faste stoffer:</b>	0,0 %
· <b>9.2 Andre opplysninger</b>	Ikke noe mer relevant informasjon tilgjengelig.

### Avsnitt 10: Stabilitet og reaktivitet

- **10.1 Reaktivitet** Ikke noe mer relevant informasjon tilgjengelig.
- **10.2 Kjemisk stabilitet**
- **Termisk spaltning / vilkår som må unngås:** Ingen spaltning ved formålsriktig bruk.
- **10.3 Risiko for farlige reaksjoner** Det kjennes ingen farlige reaksjoner.
- **10.4 Forhold som skal unngås** Ikke noe mer relevant informasjon tilgjengelig.
- **10.5 Uforenlige materialer** Ikke noe mer relevant informasjon tilgjengelig.
- **10.6 Farlige nedbrytingsprodukter** Ingen farlige spaltningsprodukter kjente.

### Avsnitt 11: Toksikologiske opplysninger

- **11.1 Opplysninger om toksikologiske virkninger**
- **Akutt giftighet**  
Farlig ved hudkontakt.

(fortsatt på side 6)

NO

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- **Klassifiseringsrelevante LD/LC50-verdier:**

**I12-24-3 3,6-diazaoktan-1,8-diamin**

Oral	LD50	2.500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbitt)

- **Primær irriteringsvirkning:**

- **Hudetsing/hudirritasjon**

Gir alvorlige etseskader på hud og øyne.

- **Alvorlig øyeskade/øyeirritasjon**

Gir alvorlige etseskader på hud og øyne.

- **Sensibilisering ved innånding eller hudkontakt**

Kan utløse en allergisk hudreaksjon.

- **Informasjon om følgende grupper med potensielle virkninger:**

- **CMR-virkninger (kreftfremkallende virkninger, arvestoffskadelige og reproduksjonsskadelige virkninger)**

· **Arvestoffskadelig virkning på kjønnsceller** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

· **Kreftfremkallende egenskap** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

· **Reproduksjonstoksicitet** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

· **STOT – enkelteksponering** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

· **STOT – gjentatt eksponering** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

· **Aspirasjonsfare** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

## Avsnitt 12: Økologiske opplysninger

- **12.1 Giftighet**

· **Akvatisk toksisitet:** Ikke noe mer relevant informasjon tilgjengelig.

· **12.2 Persistens og nedbrytbarhet** Ikke noe mer relevant informasjon tilgjengelig.

· **12.3 Bioakkumuleringsevne** Ikke noe mer relevant informasjon tilgjengelig.

· **12.4 Mobilitet i jord** Ikke noe mer relevant informasjon tilgjengelig.

- **Økotoksiske virkninger:**

· **Bemerkning:** skadelig for fisk

- **Ytterligere økologiske informasjon:**

- **Generelle informasjon:**

Vannfareklasse 2 (D) (listeklassifisering): farlig for vann

Ikke la stoffet komme ned i grunnvannet, i vassdrag eller i kloakker.

Må ikke komme uforyttnet eller unøytralisert ned i spillvann eller i avløpsgrøft.

Fare for drikkevann allerede ved utstrømning av små mengder i marken.

skadelig for vannorganismer

- **12.5 Resultater av PBT- og vPvB-vurdering**

· **PBT:** Ikke brukbar.

· **vPvB:** Ikke brukbar.

· **12.6 Andre skadevirkninger** Ikke noe mer relevant informasjon tilgjengelig.

## Avsnitt 13: Sluttbehandling

- **13.1 Avfallsbehandlingsmetoder**

· **Anbefaling:** Må ikke bortskaffes sammen med husholdningsavfall. Må ikke komme ned i kloakk.

- **Ikke rengjort emballasje:**

· **Anbefaling:** Deponering i henhold til myndighetenes forskrifter.

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· **Anbefalt rengjøringsmiddel:** Vann, eventuelt med tilsetning av rengjøringsmidler.**Avsnitt 14: Transportopplysninger**

· **14.1 FN-nummer**  
· **ADR, IMDG, IATA**

UN2259

· **14.2 FN-forsendelsesnavn**

· **ADR**  
· **IMDG, IATA**

2259 TRIETYLENTETRAMIN  
TRIETHYLENETETRAMINE

· **14.3 Transportfareklasse(r)**· **ADR, IMDG, IATA**

· **klasse**  
· **Fareseddel**

8 Etsende stoffer  
8

· **14.4 Emballasjegruppe**· **ADR, IMDG, IATA**

II

· **14.5 Miljøfarer**

Ikke brukbar.

· **14.6 Særlige forsiktighetsregler ved bruk**

Advarsel: Etsende stoffer

· **Farenummer (Kemler-tall):**

80

· **EMS-nummer:**

8-05

· **Segregation groups**

Alkalis

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **Segregation Code**

SG35 Stow "separated from" SGG1-acids

· **14.7 Bulktransport i henhold til vedlegg II til  
MARPOL 73/78 og IBC-regelverket**

Ikke brukbar.

· **Transport/ytterligere informasjoner:**· **ADR**· **Begrenset mengde (LQ)**

1L

· **Unntatte mengder (EQ)**

Kode: E2

Maksimal nettovekt per inneremballasje: 30 ml

Maksimal nettovekt per ytteremballasje: 500 ml

· **Transportkategori**

2

· **Tunnel restriksjonskode**

E

· **IMDG**· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Kode: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 2259 TRIETYLENTETRAMIN, 8, II

NO

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**Avsnitt 15: Opplysninger om regelverk**

- **15.1 Særlige bestemmelser / særskilt lovgivning om sikkerhet, helse og miljø for stoffet eller stoffblandingen**
- **Direktiv 2012/18/EU**
- **Spesifiserte farlige stoffer - VEDLEGG I** Inneholder ikke stoffet.
- **Forordning (EF) nr. 1907/2006 VEDLEGG XVII** Begrensninger: 3
- **15.2 Vurdering av kjemikaliesikkerhet** En kjemisk sikkerhetsvurdering er ikke utført.

**Avsnitt 16: Andre opplysninger**

Opplysningene er basert på vårt kjennskap i dag. De utgjør dog ingen forsikring om produktegenskaper og er ikke grunnlag for noe kontraktmessig rettsforhold.

· **Forkortelser og akronymer:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Acute Tox. 4: Akutt giftighet – Kategori 4  
 Skin Corr. 1B: Hudetsing/hudirritasjon – Kategori 1B  
 Skin Sens. 1: Hudsensibilisering – Kategori 1  
 Aquatic Chronic 3: Farlig for vannmiljøet - langsiktig fare for vannmiljøet – Kategori 3

NO

**Ficha de dados de segurança**  
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### SECÇÃO 1: Identificação da substância/mistura e da sociedade/empresa

- **1.1 Identificador do produto**
- **Nome comercial:** EPOFIX HARDENER
- **Código do produto:** 1232-B, 1232-H, 1232-SP
- **Nº CAS:**  
112-24-3
- **Número CE:**  
203-950-6
- **Número de índice:**  
612-059-00-5
- **1.2 Utilizações identificadas relevantes da substância ou mistura e utilizações desaconselhadas**  
Não existe mais nenhuma informação relevante disponível.
- **Utilização da substância / da preparação** Químicos de laboratório
- **1.3 Identificação do fornecedor da ficha de dados de segurança**
- **Fabricante/fornecedor:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Entidade para obtenção de informações adicionais:** Product safety department
- **1.4 Número de telefone de emergência:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECÇÃO 2: Identificação dos perigos

- **2.1 Classificação da substância ou mistura**
- **Classificação em conformidade com o Regulamento (CE) n.º 1272/2008**



GHS05 corrosão

Skin Corr. 1B      H314 Provoca queimaduras na pele e lesões oculares graves.



GHS07

Acute Tox. 4      H312 Nocivo em contacto com a pele.

Skin Sens. 1      H317 Pode provocar uma reacção alérgica cutânea.

Aquatic Chronic 3 H412 Nocivo para os organismos aquáticos com efeitos duradouros.

- **2.2 Elementos do rótulo**
- **Rotulagem em conformidade com o Regulamento (CE) n.º 1272/2008**  
A substância classificou-se e está etiquetado em conformidade com o regulamento CLP.
- **Pictogramas de perigo**



GHS05



GHS07

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**Nome comercial: EPOFIX HARDENER**

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- **Palavra-sinal Perigo**
- **Componentes determinantes para os perigos constantes do rótulo:**  
3,6-diazaoctano-1,8-diamina
- **Advertências de perigo**  
H312 Nocivo em contacto com a pele.  
H314 Provoca queimaduras na pele e lesões oculares graves.  
H317 Pode provocar uma reacção alérgica cutânea.  
H412 Nocivo para os organismos aquáticos com efeitos duradouros.
- **Recomendações de prudência**  
P303+P361+P353 **SE ENTRAR EM CONTACTO COM A PELE (ou o cabelo):** Retirar imediatamente toda a roupa contaminada. Enxaguar a pele com água [ou tomar um duche].  
P305+P351+P338 **SE ENTRAR EM CONTACTO COM OS OLHOS:** Enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retire-as, se tal lhe for possível. Continue a enxaguar.  
P310 Contacte imediatamente um CENTRO DE INFORMAÇÃO ANTIVENENOS/médico.  
P321 Tratamento específico (ver no presente rótulo).  
P362+P364 Retirar a roupa contaminada e lavá-la antes de a voltar a usar.  
P405 Armazenar em local fechado à chave.  
P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.
- **2.3 Outros perigos**
- **Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.

### SECÇÃO 3: Composição/informação sobre os componentes

- **3.1 Caracterização química: Substâncias**
- **Designação CAS n°**  
112-24-3 3,6-diazaoctano-1,8-diamina
- **Número(s) de identificação**
- **Número CE:** 203-950-6
- **Número de índice:** 612-059-00-5

### SECÇÃO 4: Medidas de primeiros socorros

- **4.1 Descrição das medidas de primeiros socorros**
- **Indicações gerais:**  
O vestuário contaminado com substâncias perigosas deve ser imediatamente removido.  
Os sintomas de envenenamento podem surgir apenas após várias horas, por isso é necessária vigilância médica pelo menos 48 horas após o acidente.
- **Em caso de inalação:**  
Assegurar uma boa entrada de oxigénio e, por razões de segurança, procurar auxílio médico.  
Se a vítima estiver inconsciente, posicioná-la e transportá-la com estabilidade, deitada lateralmente.
- **Em caso de contacto com a pele:** Lavar imediatamente com água e sabão e enxaguar abundantemente.
- **Em caso de contacto com os olhos:**  
Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas, e consultar o médico.
- **Em caso de ingestão:**  
Consultar imediatamente o médico  
Beber bastante água e respirar ar fresco. Consultar imediatamente um médico.

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- **4.2 Sintomas e efeitos mais importantes, tanto agudos como retardados**  
Não existe mais nenhuma informação relevante disponível.
- **4.3 Indicações sobre cuidados médicos urgentes e tratamentos especiais necessários**  
Não existe mais nenhuma informação relevante disponível.

### SECÇÃO 5: Medidas de combate a incêndios

- **5.1 Meios de extinção**
- **Meios adequados de extinção:** Coordenar no local medidas para extinção do fogo.
- **5.2 Perigos especiais decorrentes da substância ou mistura**  
Não existe mais nenhuma informação relevante disponível.
- **5.3 Recomendações para o pessoal de combate a incêndios**
- **Equipamento especial de protecção:** Não são necessárias medidas especiais.

### SECÇÃO 6: Medidas a tomar em caso de fugas accidentais

- **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência**  
Usar equipamento de protecção. Manter as pessoas desprotegidas afastadas.
- **6.2 Precauções a nível ambiental:**  
Em caso de infiltrações nos leitos de água ou na canalização, comunicar aos serviços públicos competentes.  
Diluir em bastante água.  
Evitar que penetre na canalização / águas superficiais / águas subterrâneas.
- **6.3 Métodos e materiais de confinamento e limpeza:**  
Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura ).  
Aplicar um agente de neutralização.  
Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.  
Assegurar uma ventilação adequada.
- **6.4 Remissão para outras secções**  
Para informações sobre uma manipulação segura, ver o capítulo 7.  
Para informações referentes ao equipamento de protecção individual, ver o capítulo 8.  
Para informações referentes à eliminação residual, ver o capítulo 13.

### SECÇÃO 7: Manuseamento e armazenagem

- **7.1 Precauções para um manuseamento seguro**  
Assegurar uma boa ventilação / exaustão no local de trabalho.  
Evitar a formação de aerossóis.
- **Precauções para prevenir incêndios e explosões:** Não são necessárias medidas especiais.
- **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**
- **Armazenagem:**
- **Requisitos para espaços ou contentores para armazenagem:** Sem requisitos especiais.
- **Avisos para armazenagem conjunta:** Não necessário.
- **Outros avisos sobre as condições de armazenagem:** Manter o recipiente hermeticamente fechado.
- **7.3 Utilização(ões) final(is) específica(s)** Não existe mais nenhuma informação relevante disponível.

### SECÇÃO 8: Controlo da exposição/Protecção individual

- **Indicações adicionais para concepção de instalações técnicas:** Não existem outras informações, ver ponto 7.
- **8.1 Parâmetros de controlo**
- **Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:** Não aplicável.

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- **Indicações adicionais:** Foram utilizadas como base as listas válidas à data da elaboração.
- **8.2 Controlo da exposição**
- **Equipamento de protecção individual:**
- **Medidas gerais de protecção e higiene:**  
Manter afastado de alimentos, bebidas e forragens.  
Despir imediatamente a roupa contaminada e embebida.  
Lavar as mãos antes das pausas e no fim do trabalho.  
Evitar o contacto com os olhos e com a pele.
- **Protecção respiratória:**  
Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.
- **Protecção das mãos:**



Luvas de protecção

O material das luvas tem de ser impermeável e resistente ao produto / à substância / preparação.  
Uma vez que não foram realizados testes nesta área, não podemos recomendar um determinado tipo de material para as luvas que seja adequado para o produto / a preparação / a mistura de químicos.  
Escolher o material das luvas tendo em consideração a durabilidade, a permeabilidade e a degradação.

- **Material das luvas**  
A escolha das luvas mais adequadas não depende apenas do material, mas também de outras características qualitativas e varia de fabricante para fabricante.
- **Tempo de penetração no material das luvas**  
Deve informar-se sobre a validade exacta das suas luvas junto do fabricante e respeitá-la.
- **Protecção dos olhos:**



Óculos de protecção totalmente fechados

## SECÇÃO 9: Propriedades físico-químicas

- **9.1 Informações sobre propriedades físicas e químicas de base**
- **Informações gerais**
- **Aspetto:**
  - **Forma:** Líquido
  - **Cor:** Amarelo-claro
- **Odor:** aminado
- **Limiar olfactivo:** Não determinado.
- **valor pH:** Não determinado.
- **Mudança do estado:**
  - **Ponto de fusão/ponto de congelação:** 12 °C
  - **Ponto de ebulição inicial e intervalo de ebulição:** ~278 °C
- **Ponto de inflamação:** 135 °C
- **Inflamabilidade (sólido, gás):** Não aplicável.
- **Temperatura de ignição:** 335 °C

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· <b>Temperatura de decomposição:</b>	Não determinado.
· <b>Temperatura de autoignição:</b>	Não determinado.
· <b>Propriedades explosivas:</b>	O produto não corre o risco de explosão.
· <b>Limites de explosão:</b>	
<b>Inferior:</b>	Não determinado.
<b>Superior:</b>	Não determinado.
· <b>Pressão de vapor em 20 °C:</b>	0,01 hPa
· <b>Densidade em 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Densidade relativa</b>	Não determinado.
· <b>Densidade de vapor</b>	Não determinado.
· <b>Taxa de evaporação:</b>	Não determinado.
· <b>Solubilidade em / miscibilidade com água:</b>	Completamente misturável.
· <b>Coefficiente de partição: n-octanol/água</b>	Não determinado.
· <b>Viscosidade:</b>	
<b>Dinâmico:</b>	Não determinado.
<b>Cinemático:</b>	Não determinado.
· <b>Percentagem de solvente:</b>	
<b>VOC (UE)</b>	0,00 %
<b>Percentagem de substâncias sólidas:</b>	0,0 %
· <b>9.2 Outras informações</b>	Não existe mais nenhuma informação relevante disponível.

### SECÇÃO 10: Estabilidade e reactividade

- **10.1 Reactividade** Não existe mais nenhuma informação relevante disponível.
- **10.2 Estabilidade química**
- **Decomposição térmica / condições a evitar:** Não existe decomposição se usado de acordo com as especificações.
- **10.3 Possibilidade de reações perigosas** Não se conhecem reacções perigosas.
- **10.4 Condições a evitar** Não existe mais nenhuma informação relevante disponível.
- **10.5 Materiais incompatíveis:** Não existe mais nenhuma informação relevante disponível.
- **10.6 Produtos de decomposição perigosos:** Não se conhecem produtos de decomposição perigosos.

### SECÇÃO 11: Informação toxicológica

- **11.1 Informações sobre os efeitos toxicológicos**
- **Toxicidade aguda**  
Nocivo em contacto com a pele.

- **Valores LD/LC50 relevantes para a classificação:**

#### 112-24-3 3,6-diazaoctano-1,8-diamina

por via oral	LD50	2.500 mg/kg (rat)
por via dérmica	LD50	805 mg/kg (rabbit)

- **Efeito de irritabilidade primário:**
- **Corrosão/irritação cutânea**  
Provoca queimaduras na pele e lesões oculares graves.

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- **Lesões oculares graves/irritação ocular**  
Provoca queimaduras na pele e lesões oculares graves.
- **Sensibilização respiratória ou cutânea**  
Pode provocar uma reação alérgica cutânea.
- **Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)**
- **Mutagenicidade em células germinativas**  
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Carcinogenicidade** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade reprodutiva** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição única**  
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida**  
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Perigo de aspiração** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

### SECÇÃO 12: Informação ecológica

- **12.1 Toxicidade**
- **Toxicidade aquática:** Não existe mais nenhuma informação relevante disponível.
- **12.2 Persistência e degradabilidade** Não existe mais nenhuma informação relevante disponível.
- **12.3 Potencial de bioacumulação** Não existe mais nenhuma informação relevante disponível.
- **12.4 Mobilidade no solo** Não existe mais nenhuma informação relevante disponível.
- **Efeitos ecotóxicos:**
- **Observação:** Nocivo para os peixes.
- **Outras indicações ecológicas:**
- **Indicações gerais:**  
Classe de perigo para a água 2 (D) (classificação pelas listas): perigoso para a água.  
Não deixar chegar às águas subterrâneas, aos cursos de água nem à canalização.  
Substâncias concentradas, ou seja não neutralizadas, não podem chegar aos esgotos nem às águas.  
Perigo de poluição da água potável mesmo se forem derramadas quantidades muito pequenas no subsolo.  
nocivo para os organismos aquáticos
- **12.5 Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.
- **12.6 Outros efeitos adversos** Não existe mais nenhuma informação relevante disponível.

### SECÇÃO 13: Considerações relativas à eliminação

- **13.1 Métodos de tratamento de resíduos**
- **Recomendação:** Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.
- **Embalagens contaminadas:**
- **Recomendação:** Eliminação residual conforme o regulamento dos serviços públicos.
- **Meio de limpeza recomendado:** Água, eventualmente com adição de produtos de limpeza

### SECÇÃO 14: Informações relativas ao transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA** UN2259

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<ul style="list-style-type: none"> <li>· 14.2 Designação oficial de transporte da ONU</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>	<p>2259 TRIETILENOTETRAMINA TRIETHYLENETETRAMINE</p>
<ul style="list-style-type: none"> <li>· 14.3 Classes de perigo para efeitos de transporte</li> <li>· ADR, IMDG, IATA</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Classe</li> <li>· Rótulo</li> </ul>	<p>8 Matérias corrosivas 8</p>
<ul style="list-style-type: none"> <li>· 14.4 Grupo de embalagem</li> <li>· ADR, IMDG, IATA</li> </ul>	<p>II</p>
<ul style="list-style-type: none"> <li>· 14.5 Perigos para o ambiente:</li> </ul>	<p>Não aplicável.</p>
<ul style="list-style-type: none"> <li>· 14.6 Precauções especiais para o utilizador</li> <li>· Número de identificação de perigo (Nº Kemler):</li> <li>· Nº EMS:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Stowage Code</li> <li>· Segregation Code</li> </ul>	<p>Atenção: Matérias corrosivas 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids</p>
<ul style="list-style-type: none"> <li>· 14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC</li> </ul>	<p>Não aplicável.</p>
<ul style="list-style-type: none"> <li>· Transporte/outras informações:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· Quantidades Limitadas (LQ)</li> <li>· Quantidades exceptuadas (EQ)</li> <li>· Categoria de transporte</li> <li>· Código de restrição em túneis</li> </ul>	<p>1L Código: E2 Quantidade líquida máxima por embalagem interior: 30 ml Quantidade líquida máxima por embalagem exterior: 500 ml 2 E</p>
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> <li>· UN "Model Regulation":</li> </ul>	<p>UN 2259 TRIETILENOTETRAMINA, 8, II</p>

### SECÇÃO 15: Informação sobre regulamentação

- 15.1 Regulamentação/legislação específica para a substância ou mistura em matéria de saúde, segurança e ambiente
- Diretiva 2012/18/UE
- Substâncias perigosas designadas - ANEXO I A substância não está listada.
- Regulamento (CE) n.º 1907/2006 ANEXO XVII Condições de limitação: 3

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· **15.2 Avaliação da segurança química:** Não foi realizada nenhuma Avaliação de Segurança Química.**SECÇÃO 16: Outras informações**

As informações fornecidas baseiam-se no estado actual dos nossos conhecimentos, embora não representem uma garantia das propriedades do produto e não fundamentam uma relação contratual.

· **Abreviaturas e acrónimos:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicidade aguda - via cutânea – Categoria 4

Skin Corr. 1B: Corrosão/irritação cutânea – Categoria 1B

Skin Sens. 1: Sensibilização cutânea – Categoria 1

Aquatic Chronic 3: Perigoso para o ambiente aquático - perigo de longo prazo para o ambiente aquático – Categoria 3

# Ficha de datos de seguridad

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### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

- **1.1 Identificador del producto**
- **Nombre comercial:** EPOFIX HARDENER
- **Número del artículo:** 1232-B, 1232-H, 1232-SP
- **Número CAS:**  
112-24-3
- **Número CE:**  
203-950-6
- **Número de clasificación:**  
612-059-00-5
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Aname**  
C/ Perez Galdos no. 2  
28693 Quijorna  
Madrid, Spain  
Tel: +34.91.816.89.50  
Fax: +34.91.816.85.94  
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS05 corrosión

Skin Corr. 1B      H314 Provoca quemaduras graves en la piel y lesiones oculares graves.



GHS07

Acute Tox. 4      H312 Nocivo en contacto con la piel.

Skin Sens. 1      H317 Puede provocar una reacción alérgica en la piel.

Aquatic Chronic 3 H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

- **2.2 Elementos de la etiqueta**
- **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**  
La sustancia se ha clasificado y etiquetado de conformidad con el reglamento CLP.

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· **Pictogramas de peligro**

GHS05 GHS07

· **Palabra de advertencia Peligro**· **Componentes peligrosos a indicar en el etiquetaje:**

3,6-diazaoctano-1,8-diamina trietilentetramina

· **Indicaciones de peligro**

H312 Nocivo en contacto con la piel.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H317 Puede provocar una reacción alérgica en la piel.

H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

· **Consejos de prudencia**

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· **2.3 Otros peligros**· **Resultados de la valoración PBT y mPmB**· **PBT:** No aplicable.· **mPmB:** No aplicable.

### SECCIÓN 3: Composición/información sobre los componentes

· **3.1 Caracterización química: Sustancias**· **Denominación N° CAS**

112-24-3 3,6-diazaoctano-1,8-diamina trietilentetramina

· **Número(s) de identificación**· **Número CE:** 203-950-6· **Número de clasificación:** 612-059-00-5

### SECCIÓN 4: Primeros auxilios

· **4.1 Descripción de los primeros auxilios**· **Instrucciones generales:**

Quitarse de inmediato toda prenda contaminada con el producto.

Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

· **En caso de inhalación del producto:**

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

· **En caso de contacto con la piel:** Lavar inmediatamente con agua y jabón y enjuagar bien.

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- **En caso de con los ojos:**  
Limpiar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.
- **En caso de ingestión:**  
Consultar inmediatamente un médico.  
Beber mucha agua a respirar aire fresco. Solicitar asistencia médica inmediatamente.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**  
No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** Combatir los incendios con medidas adaptados al ambiente circundante.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** No se requieren medidas especiales.

### SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**  
Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.
- **6.2 Precauciones relativas al medio ambiente:**  
Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.  
Diluir con mucha agua.  
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**  
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).  
Utilizar un neutralizador.  
Desechar el material contaminado como vertido según ítem 13.  
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**  
Ver capítulo 7 para mayor información sobre una manipulación segura.  
Ver capítulo 8 para mayor información sobre el equipo personal de protección.  
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**  
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.  
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** No se requieren medidas especiales.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

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### SECCIÓN 8: Controles de exposición/protección individual

· **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**

Sin datos adicionales, ver punto 7.

· **8.1 Parámetros de control**

· **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:** Nulo.

· **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

· **8.2 Controles de la exposición**

· **Equipo de protección individual:**

· **Medidas generales de protección e higiene:**

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con los ojos y la piel.

· **Protección respiratoria:**

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

· **Protección de manos:**



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· **Protección de ojos:**



Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**

· **Datos generales**

· **Aspecto:**

· **Forma:**

Líquido

· **Color:**

Amarillo claro

· **Olor:**

Similar al de las aminas

· **Umbral olfativo:**

No determinado.

· **valor pH:**

No determinado.

( se continua en página 5 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 13.04.2020

Revisión: 13.04.2020

Nombre comercial: EPOFIX HARDENER

( se continua en página 4 )

· <b>Cambio de estado</b> Punto de fusión/punto de congelación:	12 °C
Punto inicial de ebullición e intervalo de ebullición:	~278 °C
· <b>Punto de inflamación:</b>	135 °C
· <b>Inflamabilidad (sólido, gas):</b>	No aplicable.
· <b>Temperatura de ignición:</b>	335 °C
· <b>Temperatura de descomposición:</b>	No determinado.
· <b>Temperatura de auto-inflamación:</b>	No determinado.
· <b>Propiedades explosivas:</b>	El producto no es explosivo.
· <b>Límites de explosión:</b> Inferior:	No determinado.
Superior:	No determinado.
· <b>Presión de vapor a 20 °C:</b>	0,01 hPa
· <b>Densidad a 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Tasa de evaporación:</b>	No determinado.
· <b>Solubilidad en / miscibilidad con agua:</b>	Completamente mezclable.
· <b>Coefficiente de reparto: n-octanol/agua:</b>	No determinado.
· <b>Viscosidad:</b> Dinámica:	No determinado.
Cinemática:	No determinado.
· <b>Concentración del disolvente:</b> VOC (CE)	0,00 %
· <b>Contenido de cuerpos sólidos:</b>	0,0 %
· <b>9.2 Otros datos</b>	No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**  
Nocivo en contacto con la piel.

( se continua en página 6 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 13.04.2020

Revisión: 13.04.2020

Nombre comercial: EPOFIX HARDENER

( se continua en página 5 )

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

**I12-24-3 3,6-diazaoctano-1,8-diamina trietilentetramina**

Oral	LD50	2.500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)

· **Efecto estimulante primario:**

· **Corrosión o irritación cutáneas**

Provoca quemaduras graves en la piel y lesiones oculares graves.

· **Lesiones o irritación ocular graves**

Provoca quemaduras graves en la piel y lesiones oculares graves.

· **Sensibilización respiratoria o cutánea**

Puede provocar una reacción alérgica en la piel.

· **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**

· **Mutagenicidad en células germinales**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Toxicidad específica en determinados órganos (STOT) – exposición única**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Toxicidad específica en determinados órganos (STOT) – exposición repetida**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

## SECCIÓN 12: Información ecológica

· **12.1 Toxicidad**

· **Toxicidad acuática:** No existen más datos relevantes disponibles.

· **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.

· **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.

· **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.

· **Efectos ecotóxicos:**

· **Observación:** Nocivo para los peces.

· **Indicaciones medioambientales adicionales:**

· **Indicaciones generales:**

Nivel de riesgo para el agua 2 (clasificación de listas): peligroso para el agua

No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.

En estado no diluido o no neutralizado, no verter en el alcantarillado o en otros sistemas de desagüe.

Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.

nocivo para organismos acuáticos

· **12.5 Resultados de la valoración PBT y mPmB**

· **PBT:** No aplicable.

· **mPmB:** No aplicable.

· **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

## SECCIÓN 13: Consideraciones relativas a la eliminación

· **13.1 Métodos para el tratamiento de residuos**

· **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.

· **Embalajes sin limpiar:**

· **Recomendación:** Eliminar conforme a las disposiciones oficiales.

( se continua en página 7 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 13.04.2020

Revisión: 13.04.2020

Nombre comercial: EPOFIX HARDENER

( se continua en página 6 )

· **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

### SECCIÓN 14: Información relativa al transporte

· 14.1 Número ONU

· ADR, IMDG, IATA

UN2259

· 14.2 Designación oficial de transporte de las Naciones Unidas

· ADR

2259 TRIETILENTETRAMINA

· IMDG, IATA

TRIETHYLENETETRAMINE

· 14.3 Clase(s) de peligro para el transporte

· ADR, IMDG, IATA



· Clase

8 Materias corrosivas

· Etiqueta

8

· 14.4 Grupo de embalaje

· ADR, IMDG, IATA

II

· 14.5 Peligros para el medio ambiente:

No aplicable.

· 14.6 Precauciones particulares para los usuarios

Atención: Materias corrosivas

· Número de identificación de peligro (Número

Kemler):

80

· Número EMS:

8-05

· Segregation groups

Alkalis

· Stowage Category

B

· Stowage Code

SW2 Clear of living quarters.

· Segregation Code

SG35 Stow "separated from" SGG1-acids

· 14.7 Transporte a granel con arreglo al anexo II del

Convenio MARPOL y el Código IBC

No aplicable.

· Transporte/datos adicionales:

· ADR

· Cantidades limitadas (LQ)

1L

· Cantidades exceptuadas (EQ)

Código: E2

Cantidad neta máxima por envase interior: 30 ml

Cantidad neta máxima por embalaje exterior: 500 ml

· Categoría de transporte

2

· Código de restricción del túnel

E

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· "Reglamentación Modelo" de la UNECE:

UN 2259 TRIETILENTETRAMINA, 8, II

ES

( se continua en página 8 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 13.04.2020

Revisión: 13.04.2020

Nombre comercial: **EPOFIX HARDENER**

( se continua en página 7 )

### SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** No contiene la sustancia.
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII** Restricciones: 3
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

### SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

- **Abreviaturas y acrónimos:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicidad aguda - cutánea – Categoría 4

Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B

Skin Sens. 1: Sensibilización cutánea – Categoría 1

Aquatic Chronic 3: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 3

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

### AVSNITT 1: Namnet på ämnet/blandningen och bolaget/företaget

- **1.1 Produktbeteckning**
- **Handelsnamn:** EPOFIX HARDENER
- **Artikelnummer:** 1232-B, 1232-H, 1232-SP
- **CAS-nummer:**  
112-24-3
- **EG-nummer:**  
203-950-6
- **Indexnummer:**  
612-059-00-5
- **1.2 Relevanta identifierade användningar av ämnet eller blandningen och användningar som det avråds från**  
Ingen ytterligare relevant information finns till förfogande.
- **Ämnets användning / tillredningen** Laboratoriekemikalier
- **1.3 Närmare upplysningar om den som tillhandahåller säkerhetsdatablad**
- **Tillverkare/leverantör:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Område där upplysningar kan inhämtas:** Product safety department
- **1.4 Telefonnummer för nödsituationer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### AVSNITT 2: Farliga egenskaper

- **2.1 Klassificering av ämnet eller blandningen**
- **Klassificering enligt förordning (EG) nr 1272/2008**



GHS05 frätande

Skin Corr. 1B      H314 Orsakar allvarliga frätskador på hud och ögon.



GHS07

Acute Tox. 4      H312 Skadligt vid hudkontakt.  
Skin Sens. 1      H317 Kan orsaka allergisk hudreaktion.

Aquatic Chronic 3 H412 Skadliga långtidseffekter för vattenlevande organismer.

- **2.2 Märkningsuppgifter**
- **Märkning enligt förordning (EG) nr 1272/2008** Ämnet är klassificerat och märkt enligt CLP-förordningen.
- **Faropiktogram**



GHS05    GHS07

- **Signalord** Fara

(Fortsättning på sida 2)

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 1)

- **Riskbestämmande komponenter för etikettering:**

- 3,6-diazaoktan-1,8-diamin trietylentetramin

- **Faroangivelser**

- H312 Skadligt vid hudkontakt.

- H314 Orsakar allvarliga frätskador på hud och ögon.

- H317 Kan orsaka allergisk hudreaktion.

- H412 Skadliga långtidseffekter för vattenlevande organismer.

- **Skyddsangivelser**

- P303+P361+P353 VID HUDKONTAKT (även håret): Ta omedelbart av alla nedstänkta kläder. Skölj huden med vatten [eller duscha].

- P305+P351+P338 VID KONTAKT MED ÖGONEN: Skölj försiktigt med vatten i flera minuter. Ta ur eventuella kontaktlinser om det går lätt. Fortsätt att skölja.

- P310 Kontakta genast GIFTINFORMATIONSCENTRALEN/läkare.

- P321 Särskild behandling (se på etiketten).

- P362+P364 Ta av nedstänkta kläder och tvätta dem innan de används igen.

- P405 Förvaras inlåst.

- P501 Innehållet / behållaren avfallshanteras enligt lokala / regionala / nationella / internationella föreskrifter.

- **2.3 Andra faror**

- **Resultat av PBT- och vPvB-bedömningen**

- **PBT:** Ej användbar.

- **vPvB:** Ej användbar.

### AVSNITT 3: Sammansättning/information om beståndsdelar

- **3.1 Kemisk karakterisering: Ämnen**

- **CAS-nr. beteckning**

- 112-24-3 3,6-diazaoktan-1,8-diamin trietylentetramin

- **Identifikationsnummer**

- **EG-nummer:** 203-950-6

- **Indexnummer:** 612-059-00-5

### AVSNITT 4: Åtgärder vid första hjälpen

- **4.1 Beskrivning av åtgärder vid första hjälpen**

- **Allmänna hänvisningar:**

- Klädesplagg som förorenats med produkten skall omedelbart avlägsnas.

- Förgiftningssymptom kan uppträda först efter många timmar. Av denna anledning krävs läkarövervakning i minst 48 timmar efter ett olycksfall.

- **Vid inandning:**

- Riklig tillförsel av friskluft, kontakta läkare för säkerhets skull.

- Vid medvetlöshet lägg och transportera patient stabilt i framstupa sidoläge.

- **Vid kontakt med huden:** Tvätta omedelbart med vatten och tvål och spola därefter noggrant.

- **Vid kontakt med ögonen:** Spola ögonen öppna i flera minuter under rinnande vatten och kontakta läkare.

- **Vid förtäring:**

- Kontakta läkare omedelbart.

- Drick rikligt med vatten. Tillför frisk luft. Kontakta läkare omedelbart.

- **4.2 De viktigaste symptomen och effekterna, både akuta och fördröjda**

- Ingen ytterligare relevant information finns till förfogande.

(Fortsättning på sida 3)



# Säkerhetsdatablad

## enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 2)

- **4.3 Angivande av omedelbar medicinsk behandling och särskild behandling som eventuellt krävs**  
Ingen ytterligare relevant information finns till förfogande.

### AVSNITT 5: Brandbekämpningsåtgärder

- **5.1 Släckmedel**
- **Lämpliga släckningsmedel:** Anpassa brandbekämpningsåtgärderna till omgivningen.
- **5.2 Särskilda faror som ämnet eller blandningen kan medföra**  
Ingen ytterligare relevant information finns till förfogande.
- **5.3 Råd till brandbekämpningspersonal**
- **Speciell skyddsutrustning:** Inga speciella åtgärder krävs.

### AVSNITT 6: Åtgärder vid oavsiktliga utsläpp

- **6.1 Personliga skyddsåtgärder, skyddsutrustning och åtgärder vid nödsituationer**  
Använd skyddsutrustning. Håll oskyddade personer på avstånd.
- **6.2 Miljöskyddsåtgärder:**  
När produkten kommit in i vattendrag eller avloppsnät, skall vederbörande myndigheter underrättas.  
Blanda ut med mycket vatten.  
Förhindra produkten att tränga ner i avloppsnät/ytvatten/grundvatten.
- **6.3 Metoder och material för inneslutning och sanering:**  
Sug upp med vätskebindande material (sand, kiselgur, syrabindemedel, universalbindemedel, sågspån).  
Använd neutraliseringsmedel.  
Omhänderta förorenat material som avfall enligt punkt 13.  
Se till att ventilationen är tillräcklig.
- **6.4 Hänvisning till andra avsnitt**  
Information beträffande säker hantering se kapitel 7.  
Information beträffande personlig skyddsutrustning se kapitel 8.  
Information beträffande avfallshantering se kapitel 13.

### AVSNITT 7: Hantering och lagring

- **7.1 Försiktighetsmått för säker hantering**  
Sörj för god ventilation/utsug på arbetsplatsen.  
Undvik bildning av aerosol.
- **Hänvisningar beträffande brand- och explosionsskydd:** Inga speciella åtgärder krävs.
- **7.2 Förhållanden för säker lagring, inklusive eventuell oförenlighet**
- **Lagring:**
- **Krav på lagerutrymmen och behållare:** Inga speciella krav.
- **Hänvisningar beträffande sammanlagring:** Erfordras ej.
- **Ytterligare uppgifter till lagringsvillkoren:** Förvara behållaren tätt tillsluten.
- **7.3 Specifik slutanvändning** Ingen ytterligare relevant information finns till förfogande.

### AVSNITT 8: Begränsning av exponeringen/personligt skydd

- **Ytterligare hänvisningar beträffande utformning av tekniska anläggningar:** Inga övriga uppgifter, se punkt 7.

(Fortsättning på sida 4)

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 3)

**· 8.1 Kontrollparametrar****· Ämnen med yrkeshygieniska gränsvärden som bör övervakas:****112-24-3 3,6-diazaoktan-1,8-diamin trietylentetramin**

OEL	Korttidsvärde: 12 mg/m <sup>3</sup> , 2 ppm
	Nivågränsvärde: 6 mg/m <sup>3</sup> , 1 ppm
	S, V

**· Ytterligare hänvisningar:** De vid framställningen gällande listorna har använts som utgångspunkt.**· 8.2 Begränsning av exponeringen****· Personlig skyddsutrustning:****· Allmänna skydds- och hygienåtgärder:**

Undvik kontakt med livsmedel, drycker och fodermedel.

Nedsmutsade, indränkta klädesplagg skall omedelbart tas av.

Tvätta händerna före raster och efter arbetet.

Undvik kontakt med ögonen och huden.

**· Andningsskydd:**

Vid kortvarig eller ringa belastning - använd andningsfilterutrustning; vid intensiv resp. längre exponering - använd andningsskyddsutrustning som är oberoende av omgivningsluften.

**· Handskydd:**

Skyddshandskar

Handskmaterialet måste vara tätt och beständigt mot produkt/ämne/tillredning.

Handskmaterialrekommendationer kan inte ges för produkt/tillredning/kemikalielösning, då inga tester genomförts.

Val av handskmaterial beaktande penetrationstider, permeationskvoter och degradation.

**· Handskmaterial**

Val av lämplig handske är inte enbart beroende av material utan även av andra kvalitetskriterier och varierar från en tillverkare till nästa.

**· Handskmaterialets penetreringstid**

Exakt penetrationstid fastställs av skyddshandskarnas tillverkare och skall beaktas.

**· Ögonskydd:**

Tättslutande skyddsglasögon

**AVSNITT 9: Fysikaliska och kemiska egenskaper****· 9.1 Information om grundläggande fysikaliska och kemiska egenskaper****· Allmänna uppgifter****· Utseende:****Form:** Vätska**Färg:** Ljusbgul**· Lukt:** Aminaktig**· Lukttröskel:** Ej bestämd.**· pH-värde:** Ej bestämd.

(Fortsättning på sida 5)

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 4)

· <b>Tillståndsändring</b> Smältpunkt/frys punkt: 12 °C Initial kokpunkt och kokpunktsintervall: ~278 °C	
· <b>Flampunkt:</b>	135 °C
· <b>Brandfarlighet (fast form, gas):</b>	Ej användbar.
· <b>Tändtemperatur:</b>	335 °C
· <b>Sönderfallstemperatur:</b>	Ej bestämd.
· <b>Självantändningstemperatur:</b>	Ej bestämd.
· <b>Explosiva egenskaper:</b>	Produkten är ej explosiv.
· <b>Explosionsgränser:</b> Nedre: Ej bestämd. Övre: Ej bestämd.	
· <b>Ångtryck vid 20 °C:</b>	0,01 hPa
· <b>Densitet vid 20 °C:</b>	0,982 g/cm <sup>3</sup>
· <b>Relativ densitet</b>	Ej bestämd.
· <b>Ångdensitet</b>	Ej bestämd.
· <b>Avdunstningshastighet:</b>	Ej bestämd.
· <b>Löslighet i / blandbarhet med Vatten:</b>	Fullständigt blandbar.
· <b>Fördelningskoefficient: n-oktanol/vatten:</b>	Ej bestämd.
· <b>Viskositet:</b> Dynamisk: Ej bestämd. Kinematisk: Ej bestämd.	
· <b>Lösningsmedelhalt:</b> VOC (EG)	0,00 %
· <b>Andel av fasta partiklar:</b>	0,0 %
· <b>9.2 Annan information</b>	Ingen ytterligare relevant information finns till förfogande.

### AVSNITT 10: Stabilitet och reaktivitet

- **10.1 Reaktivitet** Ingen ytterligare relevant information finns till förfogande.
- **10.2 Kemisk stabilitet**
- **Termisk sönderdelning / förhållanden som bör undvikas:** Inget sönderfall vid ändamålsenlig användning.
- **10.3 Risken för farliga reaktioner** Inga farliga reaktioner kända.
- **10.4 Förhållanden som ska undvikas** Ingen ytterligare relevant information finns till förfogande.
- **10.5 Oförenliga material:** Ingen ytterligare relevant information finns till förfogande.
- **10.6 Farliga sönderdelningsprodukter:** Inga farliga sönderfallsprodukter kända.

### AVSNITT 11: Toxikologisk information

- **11.1 Information om de toxikologiska effekterna**
- **Akut toxicitet**  
Skadligt vid hudkontakt.

(Fortsättning på sida 6)

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 5)

· **Klassificeringsrelevanta LD/LC50-värden:**

**I12-24-3 3,6-diazaoktan-1,8-diamin trietylentetramin**

Oral	LD50	2.500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbitt)

- **Primär retningsseffekt:**
- **Frätande/irriterande på huden**  
Orsakar allvarliga frätskador på hud och ögon.
- **Allvarlig ögonskada/ögonirritation**  
Orsakar allvarliga frätskador på hud och ögon.
- **Luftvägs-/hudsensibilisering**  
Kan orsaka allergisk hudreaktion.
- **CMR-effekter (cancerframkallande, mutagena och reproduktionstoxiska egenskaper)**
- **Mutagenitet i könsceller**  
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Cancerogenitet** Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Reproduktionstoxicitet**  
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Specifik organtoxicitet – enstaka exponering**  
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Specifik organtoxicitet – upprepade exponering**  
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Fara vid aspiration** Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.

## AVSNITT 12: Ekologisk information

- **12.1 Toxicitet**
- **Akvatisk toxicitet:** Ingen ytterligare relevant information finns till förfogande.
- **12.2 Persistens och nedbrytbarhet** Ingen ytterligare relevant information finns till förfogande.
- **12.3 Bioackumuleringsförmåga** Ingen ytterligare relevant information finns till förfogande.
- **12.4 Rörlighet i jord** Ingen ytterligare relevant information finns till förfogande.
- **Ekotoxiska effekter:**
- **Kommentar:** Skadlig för fisk.
- **Ytterligare ekologiska hänvisningar:**
- **Allmänna hänvisningar:**  
Vattenföroreningsklass 2 (värdering enligt listan): risk för vattenförorening.  
Låt ej tränga ner i grundvatten, vattendrag eller i avloppsnätet.  
Får ej hamna i avloppsvatten eller uppsamlingsdike i outspätt resp. oneutraliserat tillstånd.  
Risk för förorening av dricksvattnet redan när små mängder tränger ner i marken.  
Skadlig för vattenorganismer
- **12.5 Resultat av PBT- och vPvB-bedömningen**
- **PBT:** Ej användbar.
- **vPvB:** Ej användbar.
- **12.6 Andra skadliga effekter** Ingen ytterligare relevant information finns till förfogande.

## AVSNITT 13: Avfallshantering

- **13.1 Avfallsbehandlingsmetoder**
- **Rekommendation:** Får inte deponeras ihop med hushållsavfall. Får inte tömmas i avloppsnätet.
- **Ej rengjorda förpackningar:**
- **Rekommendation:** Avfallshanteras enligt myndigheters föreskrifter.

(Fortsättning på sida 7)

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 6)

· **Rekommenderat rengöringsmedel:** Vatten, eventuellt med tillsats av rengöringsmedel.**AVSNITT 14: Transportinformation**

· **14.1 UN-nummer**  
· **ADR, IMDG, IATA**

UN2259

· **14.2 Officiell transportbenämning**

· **ADR**  
· **IMDG, IATA**

2259 TRIETYLENTETRAMIN  
TRIETHYLENETETRAMINE

· **14.3 Faroklass för transport**· **ADR, IMDG, IATA**

· **Klass**  
· **Etikett**

8 Frätande ämnen  
8

· **14.4 Förpackningsgrupp**· **ADR, IMDG, IATA**

II

· **14.5 Miljöfaror:**

Ej användbar.

· **14.6 Särskilda skyddsåtgärder**  
· **Farlighetsnummer (Kemler-tal):**  
· **EMS-nummer:**  
· **Segregation groups**  
· **Stowage Category**  
· **Stowage Code**  
· **Segregation Code**

Varning: Frätande ämnen  
80  
8-05  
Alkalis  
B  
SW2 Clear of living quarters.  
SG35 Stow "separated from" SGG1-acids

· **14.7 Bulktransport enligt bilaga II till Marpol 73/78 och IBC-koden**

Ej användbar.

· **Transport / ytterligare uppgifter:**· **ADR**

· **Begränsade mängder (LQ)**  
· **Reducerade mängder (EQ)**

1L  
Kod: E2  
Högsta nettomängd per innerförpackning: 30 ml  
Högsta nettomängd per ytterförpackning: 500 ml

· **Transportkategori**· **Tunnelrestriktionskod**

2  
E

· **IMDG**

· **Limited quantities (LQ)**  
· **Excepted quantities (EQ)**

1L  
Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 2259 TRIETYLENTETRAMIN, 8, II

SE

(Fortsättning på sida 8)

**Säkerhetsdatablad**  
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 13.04.2020

Omarbetad: 13.04.2020

**Handelsnamn: EPOFIX HARDENER**

(Fortsättning från sida 7)

**AVSNITT 15: Gällande föreskrifter**

- **15.1 Föreskrifter/lagstiftning om ämnet eller blandningen när det gäller säkerhet, hälsa och miljö**
- **Direktiv 2012/18/EU**
- **Namngivna farliga ämnen - BILAGA I** Ämnet är inte listat.
- **Förordning (EG) nr 1907/2006 BILAGA XVII Villkor: 3**
- **15.2 Kemikaliesäkerhetsbedömning:** En kemikaliesäkerhetsbedömning har ej gjorts.

**AVSNITT 16: Annan information**

Uppgifterna är baserade på våra aktuella kunskaper. De representerar emellertid ingen som helst garanti beträffande produktgenskaper och utgör ingen grund för ett avtalat rättsförhållande.

· **Förkortningar och akronymer:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Acute Tox. 4: Akut toxicitet - dermal – Kategori 4  
 Skin Corr. 1B: Frätande eller irriterande på huden – Kategori 1B  
 Skin Sens. 1: Hudsensibilisering – Kategori 1  
 Aquatic Chronic 3: Farligt för vattenmiljön - fara för skadliga långtidseffekter – Kategori 3

# แผนข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### 1 การปงชี้สารเดี่ยวหรือสารผสม และผู้ผลิต

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **EPOFIX HARDENER**
- เลขที่รายชื่อ 1232-B, 1232-H, 1232-SP
- เลขที่ CAS: 112-24-3
- จำนวน EC: 203-950-6
- เลขที่ EU: 612-059-00-5
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรให้ใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 การปงชี้ความเป็นอันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อบังคับข้อชี้ชัดที่ 1272/2008



การกัดกร่อน

Skin Corr. 1 H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา



Acute Tox. 4 H312 เป็นอันตรายหากสัมผัสกับผิวหนัง

Skin Sens. 1 H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้

Aquatic Chronic 3 H412 ให้โทษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบระยะยาว

- 2.2 องค์ประกอบของฉลาก
- ฉลากตามระเบียบ (EC) เลขที่ 1272/2008 สารได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
- ภาพสัญลักษณ์ที่เป็นอันตราย



GHS05



GHS07

- สัญลักษณ์คำ อันตราย

(ต่อที่หน้า 2)

TH

# แผนข้อมูลความปลอดภัย

## มาตาม GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

(ต่อหน้า 1)

#### · ส่วนประกอบที่ระบุอันตรายบนฉลาก

ไตรเอทิลีนเตตราอามีน

#### · ประกาศสิ่งที่อันตราย

H312 เป็นอันตรายหากสัมผัสกับผิวหนัง

H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา

H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้

H412 ให้โทษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบระยะยาว

#### · ประกาศการป้องกันระดับระวังภัย

P303+P361+P353 หากสัมผัสสถูกผิวหนัง (หรือเส้นผม) ถอดเสื้อผ้าที่เปื้อนทั้งหมดทันที ล้างผิวด้วยน้ำ/อาบน้ำ

P305+P351+P338 หากเข้าตา : ชะด้วยน้ำอย่างระมัดระวังเป็นเวลาหลายๆนาที ถอดคอนแทกซ์เลนส์ถ้ายังอยู่ที่เดิมและสะดวกที่จะทำก็ให้ชะล้างต่อไป

P310 โทรศัพทถึงศูนย์พิษวิทยา/แพทย์ ทันที

P321 การบำบัดรักษาเฉพาะ (ดูฉลาก)

P362+P364 ถอดเสื้อผ้าที่เปื้อนและซักก่อนที่จะนำกลับมาใช้ใหม่

P405 เก็บในที่ปลอดภัยและปิด

P501 ings ที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ

#### · 2.3 อันตรายอื่นๆ

#### · ผลของ PBT และการประเมิน vPvB

· PBT: ไม่สามารถใช้ได้

· vPvB: ไม่สามารถใช้ได้

### 3 องค์ประกอบและข้อมูลเกี่ยวกับส่วนผสม

#### · 3.1 คุณลักษณะทางเคมีรสารสาร

#### · การระบุเลขที่ CAS

112-24-3 ไตรเอทิลีนเตตราอามีน

#### · เลขที่ที่ระบุ

· จำนวน EC: 203-950-6

· เลขที่ EU: 612-059-00-5

### 4 มาตรการปฐมพยาบาล

#### · 4.1 คำอธิบายถึงมาตรการปฐมพยาบาล

#### · ข้อมูลรายละเอียดทั่วไป

ให้ถอดเสื้อผ้าที่เปื้อนออกทันที

อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ

#### · หลังจากการสูญหายใจเข้าไป

หาบริเวณที่มีอากาศบริสุทธิ์และเพื่อให้มันใจติดต่อแพทย์

ในกรณีที่คุณใช้ไม่รู้สึกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง

#### · หลังจากการสัมผัสถูกผิว

ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที

#### · หลังจากการสัมผัสถูกตา

ชะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายนาทีจากนั้นให้ปรึกษาแพทย์

#### · หลังจากการกลืนเข้าไป:

พบแพทย์โดยทันที

ดื่มมากๆและให้สูดอากาศบริสุทธิ์พบแพทย์โดยทันที

#### · 4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

#### · 4.3 ข้อบ่งชี้ของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

TH

(ต่อหน้า 3)



# แผนข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

(ต่อหน้า 2)

#### 5 มาตรการพญเพลิง

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม ใช้วิธีดับเพลิงที่เหมาะสมกับสภาพแวดล้อม
- 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันภัย ไม่ต้องมีมาตรการพิเศษ

#### 6 มาตรการจัดการเมื่อมีการหกรั่วไหลของสาร

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน  
สวมอุปกรณ์ป้องกันภัยกันคนที่ไม่ม้อุปกรณ์ป้องกันออกไป
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อมล่วงหน้า:  
แจ้งผู้มีอำนาจที่เกี่ยวข้องในกรณีที่เกิดการไหลซึมเข้าลำน้ำหรือระบบระบายน้ำ  
ทำให้เจือจางด้วยน้ำมาก ๆ  
อย่าปล่อยให้เข้าไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน
- 6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:  
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทราย โดอะโตไมท์ ตัวยึดเกาะกรดตัวยึดทั่วๆ ไป ซีลเลอร์)  
ใช้สารทำให้เป็นกลาง  
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13  
ตรวจสอบให้แน่ใจว่ามีภาชนะบรรจุอากาศที่ดีพอ
- 6.4 การอ้างอิงถึงส่วนอื่น  
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7  
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8  
ดูข้อมูลรายละเอียดเรื่องการจัดเก็บจากส่วนที่ 13

#### 7 การขนถ่าย เคลื่อนย้าย ใช้งาน และเก็บรักษา

- 7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย  
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ไอเสียที่ดี  
ป้องกันการเกิดละอองสารฟุ้ง
- ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด ไม่มีมาตรการพิเศษ
- 7.2 เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ
- การจัดเก็บ
- ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ ไม่มีข้อกำหนดพิเศษ
- ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม ไม่ได้กำหนด
- ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ เก็บโดยปิดผนึกอย่างแน่นหนา
- 7.3 การระบุดังการสิ้นสุดการใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

#### 8 การควบคุมการสัมผัสและการป้องกันส่วนบุคคล

- ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7

##### 8.1 การควบคุมตัวแปร

- ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน

112-24-3 ไตรเอทิลีนเตตระมีน

WEEL (US)	ค่าระยะยาว: 6 mg/m <sup>3</sup> , 1 ppm
	Skin

- ข้อมูลรายละเอียดเสริม รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

(ต่อหน้า 4)

TH

# แผนข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

(ต่อหน้า 3)

- 8.2 การควบคุมการสัมผัส
- อุปกรณ์ป้องกันส่วนบุคคล
- มาตรการการป้องกันและสุขอนามัยทั่วไป
  - เก็บให้ห่างจากสิ่งของที่เป็นอาหารเครื่องดื่มและอาหารสัตว์
  - ให้ถอดเสื้อผ้าที่เปื้อนและเช็ดออกทันที
  - ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน
  - หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง
- การป้องกันการสูดหายใจเข้าไป
  - ในกรณีที่อยู่เป็นเวลาสั้นหรืออากาศเป็นพิษระดับต่ำใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว
- การป้องกันมือ



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

- วัสดุที่ใช้ทำถุงมือ
  - การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่ง
- เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ
  - ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม
- การป้องกันตา



แว่นตาที่ขอบปิดสนิท

## 9 คุณสมบัติทางกายภาพและทางเคมี

· 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี	
· ข้อมูลรายละเอียดทั่วไป	
· ลักษณะ :	
· รูปสีพื้นฐาน	ของเหลว
· กลิ่นกลิ่นกลิ่น	สีเหลืองอ่อน
· เกณฑ์กลิ่น :	คล้ายเอมีน
	ไม่ได้กำหนดไว้.
· ค่าค่า pH	ไม่ได้กำหนดไว้.
· การเปลี่ยนสภาวะ	
· จุดหลอมเหลว/ ขอบเขตการหลอมละลาย	12 °C
· จุดเดือด/ ขอบเขตการเดือด	~278 °C
· จุดวาบไฟ	135 °C
· ความสามารถติดไฟ (ของแข็งแกส)	ไม่สามารถใช้ได้
· อุณหภูมิจุดระเบิด	335 °C
· อุณหภูมิสลายตัว	ไม่ได้กำหนดไว้.
· การเผาไหม้ด้วยตัวเอง	ไม่ได้กำหนดไว้.

(ต่อหน้า 5)

# แผ่นข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

(ต่อที่หน้า 4)

· อันตรายจากการระเบิด	ผลิตภัณฑ์ไม่ได้มีอันตรายจากการระเบิด
· ขอบเขตการระเบิด · ขั้นต่ำ · ขั้นสูง	ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ความดันไอ ที่ 20 °C	0.01 hPa
· ความหนาแน่น ที่ 20 °C · ความหนาแน่นสัมพัทธ์ · ความหนาแน่นของไอ · อัตราการระเหย	0.982 g/cm <sup>3</sup> ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ความสามารถในการละลายใน / ความสามารถผสมเป็นส · ารละลายเนื้อเดียวทุกส่วนผสมกับ · น้ำน่าน้ำ	ผสมกันได้อย่างเต็มที่
· สัมประสิทธิ์การแยกตัวอินทรีย์/อินทรีย์คานอลล์/น้ำ	ไม่ได้กำหนดไว้.
· ความหนืด (ไดนามิก) พลศาสตร์ (คิเนเมติก) จลนศาสตร์	ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ปริมาณส่วนประกอบตัวทำละลาย VOC (EC)	0.00 %
· ส่วนประกอบที่เป็นของแข็ง · 9.2 ข้อมูลอื่นๆ	0.0 % ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

## 10 ความเสถียรและการเกิดปฏิกิริยา

- 10.1 ปฏิกิริยาที่ติดไฟ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.2 เสถียรภาพทางเคมี
- การสลายตัวด้วยความร้อน / เจือจางที่ต้องหลีกเลี่ยง ไม่มีการสลายตัวถ้าใช้ตามรายละเอียดที่ระบุไว้
- 10.3 ความเป็นไปได้ของการเกิดปฏิกิริยาอันตราย ไม่มีปฏิกิริยาเป็นอันตรายที่รู้จัก
- 10.4 เจือจางเพื่อการหลีกเลี่ยง ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.5 วัสดุที่เข้ากันไม่ได้: ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.6 อันตรายจากการสลายตัวของผลิตภัณฑ์: ไม่มีสารจากการสลายตัวที่เป็นอันตรายที่รู้จัก

## 11 ข้อมูลด้านพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา

· ความเป็นพิษอย่างสาหัส:  
เป็นอันตรายหากสัมผัสกับผิวหนัง

· การจัดแบ่งตามค่า LD/LC50		
112-24-3 ไตรเอทิลีนเตตระอามีน		
ทางปาก	LD50	2,500 mg/kg (rat)
ทางผิวหนัง	LD50	805 mg/kg (rabbit)

- อาการระคายเคืองเบื้องต้น
- บนมผิวหนัง  
เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา
- ที่ดวงตา  
เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา

(ต่อที่หน้า 6)

TH

# แผนข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

(ต่อหน้า 5)

- การทำให้แพ้
- อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้


### 12 ข้อมูลด้านนิเวศวิทยา

- 12.1 **ความเป็นพิษ**
- **ความเป็นพิษที่เกี่ยวกับน้ำ** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 **การคงอยู่และการย่อยสลาย** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 **การสะสมทางชีวภาพที่อาจเกิดขึ้น** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.4 **การเปลี่ยนแปลงในดิน** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- **ผลกระทบด้านพิษต่อระบบนิเวศน์**
- **ข้อสังเกต** เป็นอันตรายกับปลา
- **ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา**
- **หมายเหตุทั่วไป**  
เป็นอันตรายต่อน้ำชั้น 2 (กฎข้อบังคับของเยอรมัน)(การประเมินค่าตามรายการ):เป็นอันตรายกับน้ำ  
อย่าปล่อยให้ผลิตภัณฑ์ไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย  
ผลิตภัณฑ์ที่ยังไม่ได้เจือจางหรือยังไม่ได้ทำให้เป็นกลางต้องไม่ไปถึงน้ำเสียหรือคูระบายน้ำ  
เป็นอันตรายต่อน้ำดื่มแม้จะร่วงลงในพื้นที่เป็นปริมาณน้อย  
เป็นอันตรายต่อสิ่งมีชีวิตในน้ำ
- 12.5 **ผลของ PBT และการประเมิน vPvB**
- **PBT:** ไม่สามารถใช้ได้
- **vPvB:** ไม่สามารถใช้ได้
- 12.6 **ผลข้างเคียงอื่นๆ** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

### 13 ข้อพิจารณาในการกำจัด

- 13.1 **วิธีการกำจัดของเสีย**
- **คำแนะนำ** ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- **ภาชนะบรรจุที่ยังไม่ได้สร้างความสะอาด**
- **คำแนะนำ** การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ
- **สารทำความสะอาดที่แนะนำ** นำถ้าจำเป็นใช้คู่กับสารทำความสะอาด

### 14 ข้อมูลการขนส่ง

- 14.1 **เลขที่ UN**
- **ADR, IMDG, IATA** UN2259
- 14.2 **ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN**
- **ADR** 2259 TRIETHYLENETETRAMINE
- **IMDG, IATA** TRIETHYLENETETRAMINE
- 14.3 **ชั้นเรียนอันตรายจากการขนส่ง**
- **ADR, IMDG, IATA**
- 
- **ประเภท** 8 สารกัดกร่อน
- **ฉลากสิ่งที่เป็นอันตราย** 8

(ต่อหน้า 7)

# แผนข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

(ต่อหน้า 6)

· 14.4 กลุ่มของภาชนะบรรจุ · ADR, IMDG, IATA	II
· 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม	ไม่สามารถใช้ได้
· 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้ · รหัสความอันตราย: · หมายเลข EMS · Segregation groups · Stowage Category · Stowage Code · Segregation Code	คำเตือน !: สารกัดกร่อน 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids
· 14.7 การขนส่งขนาดใหญ่ตามภาคผนวกของของ MARPOL73/78 และรหัส IBC	ไม่สามารถใช้ได้
· การขนส่ง/ข้อมูลรายละเอียดเสริม	
· ADR · ปริมาณที่จำกัด (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· หมวดหมู่การขนส่ง · รหัสควบคุมการผ่านอุโมงค์	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· “กฎระเบียบต้นแหล่งของข้อมูล”	UN 2259 TRIETHYLENETETRAMINE, 8, II

### 15 ข้อมูลด้านกฎข้อบังคับ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
- บัญชีรายชื่อวัตถุอันตราย

#### · กรมวิชาการเกษตร

สารที่ไม่ได้อยู่ในรายการ

#### · กรมประมง

สารที่ไม่ได้อยู่ในรายการ

#### · กรมปศุสัตว์

สารที่ไม่ได้อยู่ในรายการ

#### · อาหารและยา

สารที่ไม่ได้อยู่ในรายการ

#### · กรมโรงงานอุตสาหกรรม

ชนิดที่ 1

#### · กรมธุรกิจพลังงาน

สารที่ไม่ได้อยู่ในรายการ

(ต่อหน้า 8)

# แผ่นข้อมูลความปลอดภัย

## มาตรฐาน GHS

วันที่พิมพ์ 2020.04.13

การปรับปรุงใหม่ : 2020.04.13

### ชื่อทางการค้า EPOFIX HARDENER

· 15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

(ต่อที่หน้า 7)

### 16 ข้อมูลอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

#### · คำย่อและชื่อย่อที่ผสมขึ้น

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1: Skin corrosion/irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

TH

**Güvenlik bilgi formu**  
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### Bölüm 1: Maddenin/karışımın ve şirketin/dağıtıcının tanımı

- **1.1 Madde/Karışım kimliği**
- **Ticari adı: EPOFIX HARDENER**
- **Mal numarası: 1232-B, 1232-H, 1232-SP**
- **CAS - numarası:**  
112-24-3
- **EC Numarası:**  
203-950-6
- **AT - numarası:**  
612-059-00-5
- **1.2 Maddenin veya karışımın ilgili tanımlanmış kullanımları ve tavsiye edilmeyen kullanımları**  
Daha başka önemli bilgi mevcut değildir.
- **Maddenin Kullanımı / Hazırlanması** Laboratuarda kullanılan kimyasal maddeler
- **1.3 Güvenlik bilgi formu sağlayıcısının detayları**
- **Üretici / Teslimatı yapan:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Güvenlik hakkında bilgiler veren kesim: Product safety department**
- **1.4 Acil telefon numarası**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### Bölüm 2: Zararların tanımı

- **2.1 Madde veya karışımın sınıflandırılması**
- **Düzenlemeye göre sınıflandırma (EC) No 1272/2008**



GHS05 Aşınma

Skin Corr. 1B      H314 Ciddi cilt yanıklarına ve göz hasarına yol açar.



GHS07

Acute Tox. 4      H312 Cilt ile teması halinde zararlıdır.

Skin Sens. 1      H317 Alerjik cilt reaksiyonlarına yol açar.

Aquatic Chronic 3 H412 Sucul ortamda uzun süre kalıcı, zararlı etki.

- **2.2 Etiket bilgileri**
- **Yönetmelik (EC) No 1272/2008'e göre etiketleme**  
Madde SEA yönetmeliğine göre sınıflandırılmış ve etiketlenmiştir.

(Devamı sayfa 2 'da)

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**Ticari adı: EPOFIX HARDENER**

(Sayfa 1 'nin devamı)

**· Zararlılık İşaretleri**

GHS05 GHS07

**· Uyarı Kelimesi Tehlike****· Etiketlendirme için tehlikeyi belirleyici bileşenler:**

3,6-diazaoktanetilendiamin

**· Zararlılık İfadesi**

H312 Cilt ile teması halinde zararlıdır.

H314 Ciddi cilt yanıklarına ve göz hasarına yol açar.

H317 Alerjik cilt reaksiyonlarına yol açar.

H412 Sucul ortamda uzun süre kalıcı, zararlı etki.

**· Önlem İfadesi**

P303+P361+P353 DERİ (veya saç) İLE TEMAS HALİNDE İSE: Kirlenmiş tüm giysilerinizi hemen kaldırın/çıkartın. Cildinizi su/duş ile durulayın.

P305+P351+P338 GÖZ İLE TEMASI HALİNDE: Su ile birkaç dakika dikkatlice durulayın. Takılı ve yapması kolaysa, kontak lensleri çıkartın. Durulamaya devam edin.

P310 Hemen ULUSAL ZEHİR DANIŞMA MERKEZİNİN 114 NOLU TELEFONUNU/doktoru arayın.

P321 Özel müdahale gerekli (etikete bakın).

P362+P364 Bulaşmış giysileri çıkarın ve tekrar kullanmadan önce yıkayın.

P405 Kilit altında saklayın.

P501 İçeriği/kabı yerel/bölgesel/ulusal/uluslararası mevzuata uygun şekilde bertaraf edin.

**· 2.3 Diğer zararlar****· PBT ve vPvB değerlendirmesi sonuçları****· PBT:** Uygulanamaz.**· vPvB:** Uygulanamaz.**Bölüm 3: Bileşimi/İçindekiler hakkında bilgi****· 3.1 Maddeler****· CAS-No. tanımı**

112-24-3 3,6-diazaoktanetilendiamin

**· Teşhis numarası****· EC Numarası:** 203-950-6**· AT - numarası:** 612-059-00-5**Bölüm 4: İlk yardım önlemleri****· 4.1 İlk yardım önlemlerinin tanıtımı****· Genel uyarılar:**

Ürünün bulaşmış olduğu giyim eşyalarını derhal uzaklaştırınız.

Zehirlenme belirtileri birçok saat sonra baş gösterebilir. Bu nedenle doktor kontrolü bir kazadan en az 48 saat sonrasına kadar sürdürülmelidir.

**· Teneffüs etiketinden sonra:**

Bolca temiz hava alması sağlanarak her ihtimale karşı doktora başvurulmalıdır.

Baygınlık halinde yatırılması ve taşınması sabit yan pozisyonunda olmalıdır.

(Devamı sayfa 3 'da)



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(Sayfa 2 'nin devamı)

- **Cilde temas ettikten sonra:** Derhal su ve sabunla yıkayarak iyice durulayınız.
- **Gözlere temas ettikten sonra:**  
Gözleri, gözkapakları açık bir şekilde birkaç dakika süreyle akan suyun altına tutunuz ve doktora başvurunuz.
- **Yuttuktan sonra:**  
Derhal doktora gidiniz.  
Bolca su içiniz ve temiz hava alınız. Derhal doktor çağırınız.
- **4.2 Akut ve sonradan görülen en önemli belirtiler ve etkiler** Daha başka önemli bilgi mevcut değildir.
- **4.3 Acil tıbbi müdahale ve özel tedavi gereği için işaretler** Daha başka önemli bilgi mevcut değildir.

**Bölüm 5: Yangınla mücadele önlemleri**

- **5.1 Yangın söndürücüler**
- **Elverişli söndürücü maddeler:** Yangın söndürme önlemlerini çevreye uydurunuz.
- **5.2 Madde veya karışımdan kaynaklanan özel zararlar** Daha başka önemli bilgi mevcut değildir.
- **5.3 Yangın söndürme ekipleri için tavsiyeler**
- **Özel koruyucu teçhizat:** Özel önlemlerin alınması gerekmez.

**Bölüm 6: Kaza sonucu yayılma önlemleri**

- **6.1 Kişisel önlemler, koruyucu ekipman ve acil müdahale planı**  
Koruyucu teçhizat takınız. Korunmamış şahısları yaklaştırmayınız.
- **6.2 Çevresel önlemler**  
Sulara ya da kanalizasyona karışması halinde yetkili resmi makamlara haber veriniz.  
Bol suyla sulandırınız.  
Kanalizasyona/Yüzeysel suya/Yeraltı suyuna karışmasını önleyiniz.
- **6.3 Kontrol altında tutma ve temizleme için yöntem ve malzemeler**  
Sıvı bağlayıcı malzemeyle (Kum, diatomit, asit bağlayıcı, genel bağlayıcı, un halinde testere talaşı) ile eminiz.  
Nötürleyici madde uygulayınız.  
Zararlı madde karışmış malzemeyi çöp olarak madde 13 'e göre tasfiye ediniz.  
Yeterli havalandırma sağlayınız.
- **6.4 Diğer bölümlere atıflar**  
Güvenli kullanım ile ilgili bilgileri 7. bölümden alınız.  
Kişisel koruyucu teçhizat ile ilgili bilgileri 8. bölümden alınız.  
Tasfiye ile ilgili bilgileri 13. bölümden alınız.

**Bölüm 7: Elleçleme ve depolama**

- **7.1 Güvenli elleçleme için önlemler**  
Çalışılan yerin iyi havalanmasını / havanın iyi emilmesini sağlayınız.  
Aerosol (bir gazın içinde sis şeklinde dağılmış sıvı) oluşumunu önleyiniz.
- **Yangın ve patlamadan korunmak için uyarılar:** Özel önlemlerin alınması gerekmez.
- **7.2 Birlikte bulunmaması gereken maddeleri de içeren güvenli depolama koşulları**
- **Depolama:**
- **Depolarda ve kaplarda aranan özellikler:** Belirli şartlar aranmaz.
- **Birarada depolama ile ilgili uyarılar:** Gerekli değil.
- **Depolama şartları ile ilgili diğer bilgiler:** Kabı sızdırmayacak şekilde kapalı tutunuz.

(Devamı sayfa 4 'da)

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(Sayfa 3 'nin devamı)

· 7.3 Belirli son kullanımlar Daha başka önemli bilgi mevcut değildir.

**Bölüm 8: Maruz kalma kontrolü/kişisel korunma**· **Teknik tesisatların şekillendirilmesi ile ilgili ek bilgiler:** Başka bilgi yoktur, madde 7 'den bakınız.· **8.1 Kontrol parametreleri**· **Çalışma yeri ile ilgili, kontrol edilmesi gereken sınır değerleri olan bileşenler:** Kalkmıştır.· **Ek uyarılar:** Düzenlendiği tarihte geçerli listeler esas alınmıştır.· **8.2 Maruz kalma kontrolü**· **Kişisel koruyucu teçhizat:**· **Genel koruyucu ve sıhhi önlemler:**

Gıda maddelerinden, içeceklerden ve yem maddelerinden uzak tutunuz.

Kirlenmiş, sıvı bulaşmış giyim eşyalarını derhal çıkartınız.

Molalardan önce ve mesai sonunda ellerinizi yıkayınız.

Gözlerinize ve cildinize değmesinden kaçınınız.

· **Nefes koruyucu önlemler:**

Kısa süreli ya da düşük ölçüde olumsuz tesir altında kalındığında nefes filtre aleti, yoğun bir şekilde ya da uzun süre etkisi altında kalındığında çevredeki havadan bağımsız olan nefes koruyucu cihaz kullanınız.

· **Elleri koruyucu:**

Koruyucu eldivenler

Eldiven malzemesi ürün / malzeme / hazırlanan madde ile ilgili olarak geçirmez ve dayanıklı olmalıdır.

Testlerin yapılmamış olması nedeni ile ürün / hazırlanmış madde / kimyasal karışım için lâzım olan eldiven imalatında kullanılması gereken malzeme ile ilgili herhangi bir tavsiye yapılamamaktadır.

Eldiven imalatı için kullanılan malzemelerin seçiminde delinme sürelerinin, geçirgenlik oranlarının ve bozulmanın göz önüne alınması gereklidir.

· **Eldiven malzemesi**

Uygun eldivenin seçiminde yalnız imalat malzemesi değil, aynı zamanda diğer kalite özellikleri de dikkate alınmalıdır ve bunlar imalatçıdan imalatçıya değişiklik göstermektedir.

· **Eldiven malzemesine nüfuz etme süresi**

Kesin delinme (aşınma) süresi eldiven imalatçısından öğrenilmeli ve bu süreler riayet edilmelidir.

· **Gözleri koruyucu:**

Kenarları tam kapatan koruyucu gözlük

**Bölüm 9: Fiziksel ve kimyasal özellikler**· **9.1 Temel fiziksel ve kimyasal özellikler hakkında bilgi**· **Genel bilgiler**· **Görünüm****Biçim:**

Sıvı

**Renk:**

Açık sarı

· **Koku:**

Amin gibi

(Devamı sayfa 5 'da)

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(Sayfa 4 'nin devamı)

· <b>Koku eşiği</b>	Belirli değil.
· <b>pH - değeri:</b>	Belirli değil.
· <b>Durum değişikliği</b> Erime noktası/donma noktası İlk kaynama noktası ve kaynama aralığı	12 °C ~278 °C
· <b>Parlama noktası</b>	135 °C
· <b>Alevlenirlik (katı, gaz)</b>	Uygulanamaz.
· <b>Tutuşma ısı:</b>	335 °C
· <b>Bozunma sıcaklığı</b>	Belirli değil.
· <b>Kendiliğinden tutuşma sıcaklığı</b>	Belirli değil.
· <b>Patlayıcı özellikler</b>	Ürünün patlama tehlikesi yoktur.
· <b>Patlama sınırları:</b> Alt: Üst:	Belirli değil. Belirli değil.
· <b>Buhar basıncı 20 °C'de:</b>	0,01 hPa
· <b>Yoğunluk 20 °C'de:</b> · <b>Bağıl yoğunluk</b> · <b>Buhar yoğunluğu</b> · <b>Buharlaşma hızı</b>	0,982 g/cm <sup>3</sup> Belirli değil. Belirli değil. Belirli değil.
· <b>Çözülme kabiliyeti / karışma kabiliyeti suyla:</b>	Tamamen karıştırılabilir niteliktedir.
· <b>Dağılım katsayısı: n-oktanol/su</b>	Belirli değil.
· <b>Akışkanlık</b> Dinamik: Kinematik:	Belirli değil. Belirli değil.
· <b>Çözücü madde oranı:</b> VOC (CE)	0,00 %
· <b>Katı madde oranı:</b> · <b>9.2 Diğer bilgiler</b>	%0.0 Daha başka önemli bilgi mevcut değildir.

### Bölüm 10: Kararlılık ve tepkime

- **10.1 Tepkime** Daha başka önemli bilgi mevcut değildir.
- **10.2 Kimyasal kararlılık**
- **Termik ayrışma / kaçınılması gereken şartlar:** Usulüne uygun şekilde kullanıldığında ayrışma olmaz.
- **10.3 Zararlı reaksiyon olasılığı** Tehlikeli reaksiyonları duyulmamıştır.
- **10.4 Kaçınılması gereken durumlar** Daha başka önemli bilgi mevcut değildir.
- **10.5 Uyumsuz malzemeler** Daha başka önemli bilgi mevcut değildir.
- **10.6 Zararlı bozunma ürünleri** Ayrışmada oluşan tehlikeli ürünler duyulmamıştır.

TR

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(Sayfa 5 'nin devamı)

### Bölüm 11: Toksikolojik bilgiler

· **11.1 Toksikolojik etkiler hakkında bilgi**

· **Akut toksisite**

Cilt ile teması halinde zararlıdır.

· **Sınıflandırma için önemli olan LD/LC50 - değerleri (toksikolojik deney değerleri)**

**112-24-3 3,6-diazaoktanetilendiamin**

Ağızdan	LD50	2.500 mg/kg (rat)
Ciltten	LD50	805 mg/kg (rabbit)

· **Asli tahriş edici etkisi:**

· **Cilt aşınması/tahrişi**

Ciddi cilt yanıklarına ve göz hasarına yol açar.

· **Ciddi göz hasarları/tahrişi**

Ciddi cilt yanıklarına ve göz hasarına yol açar.

· **Solunum yolları veya cilt hassaslaşması**

Alerjik cilt reaksiyonlarına yol açar.

· **Aşağıdaki grupların potansiyel etkilerine dair bilgiler:**

· **CMR-etkileri (kanser üretici, irsiyet değiştirici ve üremeyi tehdit edici etki)**

· **Eşey hücre mutajenitesi** Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.

· **Kanserojenite** Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.

· **Üreme sistemi toksisitesi** Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.

· **BHOT - tek maruz kalma** Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.

· **BHOT - tekrarlı maruz kalma** Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.

· **Aspirasyon zararı** Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.

### Bölüm 12: Ekolojik bilgiler

· **12.1 Toksisite**

· **Su toksisitesi:** Daha başka önemli bilgi mevcut değildir.

· **12.2 Kalıcılık ve bozunabilirlik** Daha başka önemli bilgi mevcut değildir.

· **12.3 Biyobirikim potansiyeli** Daha başka önemli bilgi mevcut değildir.

· **12.4 Toprakta hareketlilik** Daha başka önemli bilgi mevcut değildir.

· **Ökotoksik etkileri:**

· **Not:** Balıklar için zararlı

· **Diğer ekolojik uyarılar:**

· **Genel uyarılar:**

Suyu tehdit sınıfı 2 (): suyu tehdit edicidir

Yeraltı suyuna, duran ve akan sulara ve kanalizasyona ulaşmasını önleyiniz.

Sulandırılmamış ya da nütürlenmemiş olarak atık sulara ya da ön sulandırma havuzuna ulaşmamalıdır.

Cüzi miktarların bile yeraltına akması halinde içme suyunu tehdit eder.

Suda yaşayan organizmalar için zararlıdır

· **12.5 PBT ve vPvB değerlendirmesinin sonuçları**

· **PBT:** Uygulanamaz.

· **vPvB:** Uygulanamaz.

· **12.6 Diğer olumsuz etkiler** Daha başka önemli bilgi mevcut değildir.

TR

(Devamı sayfa 7 'da)

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(Sayfa 6'nın devamı)

**Bölüm 13: Bertaraf etme bilgileri**

- **13.1 Atık işleme yöntemleri**
- **Tavsiye:** Ev çöpüyle beraber tasfiye edilmesi yasaktır. Kanalizasyona ulaşmasını önleyiniz.
- **Temizlenmemiş ambalajlar:**
- **Tavsiye:** Tasfiyesi resmi makamların yönetmeliklerine göre yapılır.
- **Tavsiye olunan temizlik maddesi:** Su, gerekirse temizlik maddeleri katmak suretiyle.

**Bölüm 14: Taşımacılık bilgisi**

· <b>14.1 UN Numarası</b> · <b>ADR, IMDG, IATA</b>	UN2259
· <b>14.2 UN uygun taşımacılık ismi</b> · <b>ADR</b> · <b>IMDG, IATA</b>	2259 TRİETİLENTETRAMİN TRIETHYLENETETRAMINE
· <b>14.3 Taşımacılık zararları</b> · <b>ADR, IMDG, IATA</b>	
	
· <b>sınıfı</b> · <b>Tehlike pusulası</b>	8 Aşındırıcı maddeler 8
· <b>14.4 Ambalaj grubu</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Çevresel zararlar</b>	Uygulanamaz.
· <b>14.6 Kullanıcılar için özel önlemler</b> · <b>Tehlike Tanım No. (Kemler (tehlike) sayısı):</b> · <b>EMS - numarası:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Stowage Code</b> · <b>Segregation Code</b>	Uyarı: Aşındırıcı maddeler 80 8-05 Alkalis B SW2 Clear of living quarters. SG35 Stow "separated from" SGG1-acids
· <b>14.7 MARPOL 73/78 EK II ve IBC Koduna göre Toplu Taşımacılık</b>	Uygulanamaz.
· <b>Nakliyat/diğer bilgiler:</b>	
· <b>ADR</b> · <b>Sınırlı Miktarlar</b> · <b>İstisnai miktarlar (EQ)</b>	1L Kod: E2 İç ambalaj başına maksimum net miktar: 30 ml Dış ambalaj başına maksimum net miktar: 500 ml
· <b>Taşıma kategorisi</b> · <b>Tünel kısıtlama kodu</b>	2 E

(Devamı sayfa 8'da)

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**Güvenlik bilgi formu**  
**23 Haziran 2017 tarihli, 30105 sayılı, „Kimyasalların Kaydı, Değerlendirilmesi, İzni Ve Kisitlanması Hakkında Yönetmelik, Madde 27“ hükümlerine uygun düzenlenmiştir**

Baskı tarihi: 13.04.2020

Form No.: 1232-B

Yeniden düzenleme tarihi: 13.04.2020

**Ticari adı: EPOFIX HARDENER**

(Sayfa 7 'nin devamı)

- |                                   |  |
|-----------------------------------|--|
| · <b>IMDG</b>                     |  |
| · <b>Limited quantities (LQ)</b>  | 1L   |
| · <b>Excepted quantities (EQ)</b> | Code: E2   |
|                                   | Maximum net quantity per inner packaging: 30 ml  |
|                                   | Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Düzenleme":</b>    | UN 2259 TRİETİLENTETRAMİN, 8, II                 |

**Bölüm 15: Mevzuat bilgisi**

- **15.2 Kimyasal güvenlik değerlendirmesi:** Bir Kimyasal güvenlik değerlendirmesi yapılmamıştır.

**Bölüm 16: Diğer bilgiler**

Veriler bugünkü bilgi durumumuza istinat etmektedir, ancak ürün özellikleri ile ilgili teminat teşkil etmezler ve akdî bir hukuki ilişki tesis etmezler.

· **Kısaltmalar ve:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Acute Tox. 4: Akut toksisite – Kategori 4  
 Skin Corr. 1B: Cilt aşınması/tahrişi – Kategori 1B  
 Skin Sens. 1: Cilt hassaslaştırıcılığı – Kategori 1  
 Aquatic Chronic 3: Sucul ortam için zararlı - uzun süreli sucul zararlılık – Kategori 3

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