



**SAFETY DATA SHEET**  
**EPOCAST-INDUSTRIE HARDENER**

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

**1.1. Product identifier**

**Product name** EPOCAST-INDUSTRIE HARDENER  
**Product number** 10075  
**REACH registration number** 01-2119485826-22-XXXX

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses** Hardener.

**1.3. Details of the supplier of the safety data sheet**

**Supplier**

ITW Performance Polymers  
 Bay 150  
 Shannon Industrial Estate  
 Co. Clare  
 Ireland  
 V14 DF82  
 353(61)771500  
 353(61)471285  
 mail@itwpp.com

**1.4. Emergency telephone number**

**Emergency telephone** +44(0)1235 239 670 (24h)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification (EC 1272/2008)**

**Physical hazards** Not Classified  
**Health hazards** Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317  
**Environmental hazards** Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

**2.2. Label elements**

**Pictogram**



**Signal word**

Danger

**Hazard statements**

H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H410 Very toxic to aquatic life with long lasting effects.

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<b>Precautionary statements</b>	<p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER/ doctor.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
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<b>Contains</b>	PENTAETHYLENEHEXAMINE
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<b>Supplementary precautionary statements</b>	<p>P260 Do not breathe vapour/ spray.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P391 Collect spillage.</p> <p>P405 Store locked up.</p>
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### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>PENTAETHYLENEHEXAMINE</b>		<b>60-100%</b>
CAS number: 4067-16-7	EC number: 223-775-9	REACH registration number: 01-2119485826-22-0000
M factor (Acute) = 1	M factor (Chronic) = 1	

#### Classification

Skin Corr. 1B - H314  
 Eye Dam. 1 - H318  
 Skin Sens. 1 - H317  
 Aquatic Acute 1 - H400  
 Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General information</b>	Remove contaminated clothing.
<b>Inhalation</b>	Get medical attention. Move affected person to fresh air at once.
<b>Ingestion</b>	Get medical attention immediately. Do not induce vomiting. Rinse nose, mouth and throat with water. Give plenty of water to drink.

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**Skin contact** It is important to remove the substance from the skin immediately. Wash skin thoroughly with soap and water. Get medical attention immediately. Chemical burns must be treated by a physician.

**Eye contact** Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**General information** The severity of the symptoms described will vary dependent on the concentration and the length of exposure. May cause allergy. May cause hypersensitivity.

**Inhalation** No specific symptoms known.

**Ingestion** Chemical burns.

**Skin contact** Allergic rash. Chemical burns.

**Eye contact** May cause blurred vision and serious eye damage. Corneal damage.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes for the doctor** Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

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

**Specific hazards** Vapours/gases/fumes of: Carbon monoxide (CO). Nitrous gases (NOx).

**Hazardous combustion products** When heated, vapours/gases hazardous to health may be formed.

### 5.3. Advice for firefighters

**Protective actions during firefighting** Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## SECTION 6: Accidental release measures

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

**Personal precautions** Provide adequate ventilation. In case of spills, beware of slippery floors and surfaces. Wear protective clothing as described in Section 8 of this safety data sheet.

### 6.2. Environmental precautions

**Environmental precautions** Avoid discharge to the aquatic environment. Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

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### 6.4. Reference to other sections

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Read and follow manufacturer's recommendations. Do not eat, drink or smoke when using the product. Contaminated clothing and shoes must be discarded. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container. Keep container dry. Keep container tightly closed. Avoid contact with oxidising agents. Keep away from food, drink and animal feeding stuffs. Do not store near heat sources or expose to high temperatures.

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

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

**DNEL**

- Industry - Dermal; Long term local effects: 0.044 mg/m<sup>3</sup>
- Industry - Inhalation; Long term systemic effects: 1.59 mg/m<sup>3</sup>
- Industry - Dermal; Long term systemic effects: 0.91 mg/kg/day
- Industry - Inhalation; Short term systemic effects: 8550 mg/m<sup>3</sup>
- Consumer - Inhalation; Long term systemic effects: 0.46 mg/m<sup>3</sup>
- Consumer - Inhalation; Short term systemic effects: 2542 mg/m<sup>3</sup>
- Consumer - Oral; Short term systemic effects: 32 mg/kg/day
- Consumer - Oral; Long term systemic effects: 0.65 mg/kg/day
- Consumer - Dermal; Long term local effects: 0.68 ppm

**PNEC**

- Fresh water; 0.0025 mg/l
- Marine water; 0.0025 mg/l
- Sediment; 0.22 mg/kg
- Soil; 0.18 mg/kg
- STP; 1.64 mg/l

#### 8.2. Exposure controls

##### Protective equipment



##### Eye/face protection

The following protection should be worn: Chemical splash goggles.

##### Hand protection

It is recommended that gloves are made of the following material: Butyl rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. (EN 374)

##### Other skin and body protection

Wear apron or protective clothing in case of contact.

##### Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. When using do not eat, drink or smoke. Good personal hygiene procedures should be implemented. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

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<b>Respiratory protection</b>	If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Gas filter, type A2. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
<b>Thermal hazards</b>	Not applicable.

### SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Coloured liquid.
<b>Colour</b>	Yellowish.
<b>Odour</b>	Amine.
<b>pH</b>	pH (concentrated solution): 12.6 Not determined.
<b>Melting point</b>	-20°C
<b>Initial boiling point and range</b>	426°C @
<b>Flash point</b>	183°C
<b>Evaporation rate</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Vapour pressure</b>	<0.1 kPa @ °C
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	1.003 @ °C
<b>Solubility(ies)</b>	500 @ °C
<b>Auto-ignition temperature</b>	335°C
<b>Viscosity</b>	Not applicable.
<b>Oxidising properties</b>	Not applicable.

#### 9.2. Other information

<b>Other information</b>	None.
<b>Volatile organic compound</b>	This product contains a maximum VOC content of 0 g/litre.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
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#### 10.2. Chemical stability

<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
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#### 10.3. Possibility of hazardous reactions

<b>Possibility of hazardous reactions</b>	The following materials may react with the product: Acids. Not relevant.
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#### 10.4. Conditions to avoid

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**Conditions to avoid** Avoid exposure to high temperatures or direct sunlight. Avoid contact with strong oxidising agents.

### 10.5. Incompatible materials

**Materials to avoid** Not determined.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Not known.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicological effects** No data recorded.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** None , ,

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** None , ,

**Inhalation** No specific health hazards known.

**Ingestion** Swallowing concentrated chemical may cause severe internal injury. Causes burns.

**Skin contact** Corrosive. Prolonged contact causes serious tissue damage.

**Eye contact** Risk of serious damage to eyes.

**Acute and chronic health hazards** The product contains an epoxy resin. May cause sensitisation or allergic reactions in sensitive individuals.

## SECTION 12: Ecological Information

**Ecotoxicity** This substance is not classified as PBT or vPvB according to current EU criteria.

### 12.1. Toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 180 mg/l, Algae

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 17.5 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** IC<sub>50</sub>, 72 hours: 0.7 mg/l, Fish

### 12.2. Persistence and degradability

**Persistence and degradability** No data available.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** -3,67

### 12.4. Mobility in soil

**Mobility** Not determined.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### 12.6. Other adverse effects

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**Other adverse effects**                      None known.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**General information**                      Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

**Disposal methods**                         Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Waste liquid components should be suitable for incineration at an approved facility. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

**Waste class**                                 08 04 09\*

### SECTION 14: Transport information

#### 14.1. UN number

**UN No. (ADR/RID)**                         2735

**UN No. (IMDG)**                            2735

**UN No. (ICAO)**                            2735

#### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)**        AMINES, LIQUID, CORROSIVE, N.O.S. (Pentaethylenehexamine)(ENVIRONMENTALLY HAZARDOUS)

**Proper shipping name (IMDG)**            AMINES, LIQUID, CORROSIVE, N.O.S. (Pentaethylenehexamine)(ENVIRONMENTALLY HAZARDOUS)

**Proper shipping name (ICAO)**            AMINES, LIQUID, CORROSIVE, N.O.S. (Pentaethylenehexamine)(ENVIRONMENTALLY HAZARDOUS)

**Proper shipping name (ADN)**            AMINES, LIQUID, CORROSIVE, N.O.S. (Pentaethylenehexamine)(ENVIRONMENTALLY HAZARDOUS)

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

**ADR/RID class**                                8

**ADR/RID label**                                8

**IMDG class**                                    8

**ICAO class/division**                        8

#### Transport labels



#### 14.4. Packing group

**ADR/RID packing group**                    III

**IMDG packing group**                        III

**ICAO packing group**                        III

#### 14.5. Environmental hazards

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Environmentally hazardous substance/marine pollutant



### 14.6. Special precautions for user

EmS	F-A, S-B
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant.

## SECTION 15: Regulatory information

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

National regulations	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

Revision date	04/04/2018
Revision	4
Supersedes date	06/12/2017
Hazard statements in full	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.