

# **ITW** Engineered Polymers

## SAFETY DATA SHEET BRUSHABLE CERAMIC HARDENER.

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

#### 1.1. Product identifier

**Product name** BRUSHABLE CERAMIC HARDENER.  
**Product number** X0017

#### 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 Engineered Polymers  
Bay 150  
Shannon Industrial Estate  
Shannon  
Co. Clare  
  
+353 (0)61 471 299  
+353 (0)61 471 285  
mail@itwep.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

**Physical hazards** Not Classified  
**Health hazards** Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 STOT SE 3 - H335  
**Environmental hazards** Not Classified

**Classification (67/548/EEC or 1999/45/EC)** Xn;R20/22. C;R34. Xi;R37. R43.

**Human health** Corrosive to skin and eyes. Corrosive. Prolonged contact causes serious eye and tissue damage.

#### 2.2. Label elements

##### Pictogram



**Signal word** Danger

## BRUSHABLE CERAMIC HARDENER.

<b>Hazard statements</b>	H302+H332 Harmful if swallowed or if inhaled. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.
<b>Precautionary statements</b>	P261 Avoid breathing vapour/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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. P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
<b>Contains</b>	BENZYL ALCOHOL, 1,2-CYCLOHEXANEDIAMINE, ISOPHORONEDIAMINE, DIETHYLENTRIAMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL, HEXAMETHYLENEDIAMINE, BENZOIC ACID, 2-HYDROXY-(SALICYCLIC ACID)
<b>Supplementary precautionary statements</b>	P260 Do not breathe vapour/spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P363 Wash contaminated clothing before reuse. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/container in accordance with national regulations.

### 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>BENZYL ALCOHOL</b>	<b>30-60%</b>
CAS number: 100-51-6	EC number: 202-859-9
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Acute Tox. 4 - H302	Xn;R20/22
Acute Tox. 4 - H332	

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<b>1,2-CYCLOHEXANEDIAMINE</b> <span style="float: right;"><b>10-30%</b></span>	
CAS number: 694-83-7	
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT SE 3 - H335	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xi;R36/37/38. R43.
<b>ISOPHORONEDIAMINE</b> <span style="float: right;"><b>5-10%</b></span>	
CAS number: 2855-13-2	EC number: 220-666-8
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Aquatic Chronic 3 - H412	<b>Classification (67/548/EEC or 1999/45/EC)</b> C;R34 Xn;R21/22 R43 R52/53
<b>DIETHYLENETRIAMINE</b> <span style="float: right;"><b>5-10%</b></span>	
CAS number: 111-40-0	EC number: 203-865-4
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317	<b>Classification (67/548/EEC or 1999/45/EC)</b> C;R34 Xn;R21/22 R43
<b>BENZOIC ACID, 2-HYDROXY-(SALICYCLIC ACID)</b> <span style="float: right;"><b>1-5%</b></span>	
CAS number: 69-72-7	
<b>Classification</b> Acute Tox. 4 - H312 Eye Dam. 1 - H318	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xn;R22. Xi;R36/37/38,R41.
<b>HEXAMETHYLENEDIAMINE</b> <span style="float: right;"><b>1-5%</b></span>	
CAS number: 124-09-4	EC number: 204-679-6
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335	<b>Classification (67/548/EEC or 1999/45/EC)</b> C;R34 Xn;R21/22 Xi;R37

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<b>2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL</b>		<b>1-5%</b>
CAS number: 90-72-2		EC number: 202-013-9
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>	
Skin Corr. 1B - H314	Xn;R22 Xi;R36/38	
Eye Dam. 1 - H318		
Skin Sens. 1 - H317		
Aquatic Chronic 3 - H412		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**SECTION 4: First aid measures****4.1. Description of first aid measures**

<b>General information</b>	Avoid contact with skin and eyes. Do not breathe vapour. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
<b>Inhalation</b>	Move affected person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
<b>Ingestion</b>	This product is corrosive. Give plenty of water to drink. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention if any discomfort continues.

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

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
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**4.3. Indication of any immediate medical attention and special treatment needed**

<b>Notes for the doctor</b>	No specific recommendations. If in doubt, get medical attention promptly.
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**SECTION 5: Firefighting measures****5.1. Extinguishing media**

<b>Suitable extinguishing media</b>	Extinguish with the following media: Carbon dioxide (CO <sub>2</sub> ). Dry chemicals. Foam. Water.
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**5.2. Special hazards arising from the substance or mixture**

<b>Specific hazards</b>	Avoid breathing fire gases or vapours.
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**5.3. Advice for firefighters**

<b>Protective actions during firefighting</b>	Keep up-wind to avoid fumes. Control run-off water by containing and keeping it out of sewers and watercourses.
<b>Special protective equipment for firefighters</b>	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**

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**Personal precautions** Avoid contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation.

### 6.2. Environmental precautions

**Environmental precautions** Avoid or minimise the creation of any environmental contamination. Do not discharge into drains or watercourses or onto the ground. 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 spillage with sand or other inert absorbent. 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.

### 6.4. Reference to other sections

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Use only in well-ventilated areas. Keep away from heat, sparks and open flame. Avoid contact with skin and eyes. Do not eat, drink or smoke when using the product. Good personal hygiene procedures should be implemented.

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

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place.

### 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

#### Occupational exposure limits

#### DIETHYLENETRIAMINE

Long-term exposure limit (8-hour TWA): WEL 1 ppm(Sk) 4.3 mg/m<sup>3</sup>(Sk)

Short-term exposure limit (15-minute): WEL

WEL = Workplace Exposure Limit

**Ingredient comments** WEL = Workplace Exposure Limits

### 8.2. Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

#### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.

#### Hand protection

It is recommended that chemical-resistant, impervious gloves are worn.

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<b>Other skin and body protection</b>	Wear chemical protective suit.
<b>Hygiene measures</b>	Provide eyewash station and safety shower. Keep away from food, drink and animal feeding stuffs. 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. Do not eat, drink or smoke when using the product. Change work clothing daily before leaving workplace.
<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 K.

### SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Liquid.
<b>Colour</b>	Amber.
<b>Odour</b>	Amine.
<b>pH</b>	pH (diluted solution): 10.5-11.5 5%
<b>Initial boiling point and range</b>	>204°C @
<b>Flash point</b>	93°C
<b>Evaporation rate</b>	<<1
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: N/D Upper flammable/explosive limit: N/D
<b>Vapour pressure</b>	<1mmHg @ °C
<b>Vapour density</b>	>1
<b>Relative density</b>	1.05 @ 20 °C°C
<b>Solubility(ies)</b>	Miscible with water.

#### 9.2. Other information

<b>Other information</b>	Not available.
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

<b>Reactivity</b>	Acids. Strong oxidising agents. Organic peroxides/hydroperoxides.
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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>	Will not polymerise.
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#### 10.4. Conditions to avoid

<b>Conditions to avoid</b>	Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time. Avoid exposure to high temperatures or direct sunlight.
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#### 10.5. Incompatible materials

## BRUSHABLE CERAMIC HARDENER.

**Materials to avoid** Avoid contact with the following materials: Acids. Oxidising agents. Organic peroxides/hydroperoxides. Inorganic peroxides.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Fire or high temperatures create: Nitrous gases (NO<sub>x</sub>). Oxides of the following substances: Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Vapours/gases/fumes of: Ammonia or amines.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

ATE oral (mg/kg) 588.32

#### Acute toxicity - dermal

ATE dermal (mg/kg) 2,200.13

#### Acute toxicity - inhalation

ATE inhalation (gases ppm) 11,252.81

ATE inhalation (vapours mg/l) 16.93

ATE inhalation (dusts/mists mg/l) 3.75

**Inhalation** Vapours may irritate throat/respiratory system. Symptoms following overexposure may include the following: Coughing.

**Ingestion** Causes burns. Harmful if swallowed. May cause severe internal injury. Irritating. Symptoms following overexposure may include the following: Nausea, vomiting. Stomach pain.

**Skin contact** May be absorbed through the skin. Causes burns. May cause sensitisation by skin contact. Harmful in contact with skin.

**Eye contact** This product is strongly corrosive. Causes severe burns. Immediate first aid is imperative. A single exposure may cause the following adverse effects: Corneal damage.

**Acute and chronic health hazards** This product is corrosive.

**Target organs** Liver Kidneys Central nervous system

### Toxicological information on ingredients.

#### 1,2-CYCLOHEXANEDIAMINE

#### Acute toxicity - oral

ATE oral (mg/kg) 500.0

#### Acute toxicity - dermal

ATE dermal (mg/kg) 1,100

#### Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 11.0

## SECTION 12: Ecological Information

## BRUSHABLE CERAMIC HARDENER.

**Ecotoxicity** Avoid releasing into the environment.

### 12.1. Toxicity

**Toxicity** Not considered toxic to fish.

### 12.2. Persistence and degradability

**Persistence and degradability** There are no data on the degradability of this product.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation.

### 12.4. Mobility in soil

**Mobility** Do not discharge into drains or watercourses or onto the ground.

### 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

**Other adverse effects** Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** When handling waste, the safety precautions applying to handling of the product should be considered.

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

**Waste class** 08 04 99

## SECTION 14: Transport information

**General** No other information known.

### 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. or POLYAMINES, LIQUID, CORROSIVE, N.O.S (HEXAMETHYLENEDIAMINE, DIETHYLENETRIAMINE)

**Proper shipping name (IMDG)** AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S (HEXAMETHYLENEDIAMINE, DIETHYLENETRIAMINE)

**Proper shipping name (ICAO)** AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S (HEXAMETHYLENEDIAMINE, DIETHYLENETRIAMINE)

**Proper shipping name (ADN)** AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S (HEXAMETHYLENEDIAMINE, DIETHYLENETRIAMINE)

### 14.3. Transport hazard class(es)

**ADR/RID class** 8



**BRUSHABLE CERAMIC HARDENER.****ADR/RID subsidiary risk**

ADR/RID label 8

IMDG class 8

**IMDG subsidiary risk**

ICAO class/division 8

**ICAO subsidiary risk****Transport labels****14.4. Packing group**

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

**14.5. Environmental hazards****Environmentally hazardous substance/marine pollutant**

No.

**14.6. Special precautions for user**

EmS F-A, S-B

Emergency Action Code 3X

Hazard Identification Number 80  
(ADR/RID)**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information required.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

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).

Water hazard classification WGK 1

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

**SECTION 16: Other information**

Revision date 14/05/2015

Revision 11

Supersedes date 05/12/2014

## BRUSHABLE CERAMIC HARDENER.

### Risk phrases in full

R20/22 Harmful by inhalation and if swallowed.  
R21/22 Harmful in contact with skin and if swallowed.  
R22 Harmful if swallowed.  
R34 Causes burns.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R36/38 Irritating to eyes and skin.  
R37 Irritating to respiratory system.  
R41 Risk of serious damage to eyes.  
R43 May cause sensitisation by skin contact.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Hazard statements in full

H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H412 Harmful 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.