



**SAFETY DATA SHEET**  
**R-Flex Hardener**

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

**1.1. Product identifier**

**Product name** R-Flex Hardener

**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** Acute Tox. 4 - H302 Acute Tox. 4 - H312 Eye Irrit. 2 - H319 STOT RE 2 - H373

**Environmental hazards** Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

**2.2. Label elements**

**Pictogram**



**Signal word**

Warning

**Hazard statements**

H302+H312 Harmful if swallowed or in contact with skin.  
H319 Causes serious eye irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

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<b>Precautionary statements</b>	<p>P270 Do not eat, drink or smoke when using this product.</p> <p>P273 Avoid release to the environment.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</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>P314 Get medical advice/ attention if you feel unwell.</p>
<b>Contains</b>	DIETHYLMETHYLBENZENEDIAMINE
<b>Supplementary precautionary statements</b>	<p>P260 Do not breathe vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.</p> <p>P312 Call a POISON CENTER/ doctor if you feel unwell.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P330 Rinse mouth.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P391 Collect spillage.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>

### 2.3. Other hazards

#### SECTION 3: Composition/information on ingredients

##### 3.2. Mixtures

<b>DIETHYLMETHYLBENZENEDIAMINE</b>	<b>60-100%</b>
CAS number: 68479-98-1	EC number: 270-877-4
M factor (Acute) = 1	M factor (Chronic) = 1
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 4 - H312 Eye Irrit. 2 - H319 STOT RE 2 - H373 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	
<b>CARBON BLACK</b>	<b>&lt;1%</b>
CAS number: 1333-86-4	
<b>Classification</b> Not Classified	

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>	Avoid contact with eyes. 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. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Do not induce vomiting. Give plenty of water to drink. Get medical attention.

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<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water.
<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 irritation persists after washing.

### **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 foam, carbon dioxide or dry powder.
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### **5.2. Special hazards arising from the substance or mixture**

<b>Specific hazards</b>	Irritating gases or vapours.
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### **5.3. Advice for firefighters**

<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Keep up-wind to avoid fumes. Do not use water jet as an extinguisher, as this will spread the fire. Control run-off water by containing and keeping it out of sewers and watercourses.
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<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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## **SECTION 6: Accidental release measures**

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

<b>Personal precautions</b>	Avoid contact with skin and eyes. Do not breathe vapour. Wear protective clothing as described in Section 8 of this safety data sheet.
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### **6.2. Environmental precautions**

<b>Environmental precautions</b>	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.
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### **6.3. Methods and material for containment and cleaning up**

<b>Methods for cleaning up</b>	Absorb spillage with non-combustible, absorbent material. 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**

<b>Reference to other sections</b>	Wear protective clothing as described in Section 8 of this safety data sheet.
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## **SECTION 7: Handling and storage**

### **7.1. Precautions for safe handling**

<b>Usage precautions</b>	Avoid contact with skin and eyes. Handle and open container with care. Use only in well-ventilated areas. Do not eat, drink or smoke when using the product. Good personal hygiene procedures should be implemented.
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### **7.2. Conditions for safe storage, including any incompatibilities**

## R-Flex Hardener

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Store away from incompatible materials (see Section 10).

### 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

##### CARBON BLACK

Long-term exposure limit (8-hour TWA): 3.5 mg/m<sup>3</sup>

**Ingredient comments** No exposure limits known for ingredient(s).

### 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. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

#### Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. It is recommended that gloves are made of the following material: Neoprene. It is recommended that gloves are made of the following material: Nitrile rubber. To protect hands from chemicals, gloves should comply with European Standard EN374. The selected gloves should have a breakthrough time of at least 8 hours.

#### Other skin and body protection

Wear chemical protective suit.

#### Hygiene measures

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.

#### Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. Check that the respirator fits tightly and the filter is changed regularly. Wear a respirator fitted with the following cartridge: Gas filter, type A2. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

## SECTION 9: Physical and Chemical Properties

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

**Appearance** Liquid.

**Colour** Black.

## R-Flex Hardener

<b>Odour</b>	Slight.
<b>pH</b>	pH (concentrated solution): >7 @ 5% Solution
<b>Melting point</b>	n/d°C
<b>Initial boiling point and range</b>	>232°C @
<b>Flash point</b>	>135°C
<b>Vapour density</b>	<1
<b>Relative density</b>	1.05 @ 20 °C°C
<b>Viscosity</b>	160-320 mPa s @ 25°C

### 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.
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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>	Not available.
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### 10.4. Conditions to avoid

<b>Conditions to avoid</b>	Avoid heat, flames and other sources of ignition.
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### 10.5. Incompatible materials

<b>Materials to avoid</b>	Avoid contact with the following materials: Acids. Oxidising agents. Oxidisers, acids and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds.
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### 10.6. Hazardous decomposition products

<b>Hazardous decomposition products</b>	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.
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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

<b>ATE oral (mg/kg)</b>	58,824.0
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#### Acute toxicity - dermal

<b>ATE dermal (mg/kg)</b>	129,412.0
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<b>Inhalation</b>	Irritating to respiratory system. Harmful: danger of serious damage to health by prolonged exposure through inhalation.
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<b>Ingestion</b>	Harmful if swallowed.
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## R-Flex Hardener

**Skin contact** Irritating to skin. Harmful in contact with skin.

**Eye contact** Irritating to eyes.

### SECTION 12: Ecological Information

**Ecotoxicity** Avoid releasing into the environment. The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

#### 12.1. Toxicity

**Toxicity** Very toxic to aquatic organisms.

#### 12.2. Persistence and degradability

**Persistence and degradability** The product is not readily biodegradable.

#### 12.3. Bioaccumulative potential

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

#### 12.4. Mobility in soil

**Mobility** Not considered mobile.

#### 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** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). Not regulated.

#### 14.1. UN number

#### 14.2. UN proper shipping name

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

#### 14.4. Packing group

#### 14.5. Environmental hazards

#### 14.6. Special precautions for user

#### 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** No information required. Not applicable.

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### 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).

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### SECTION 16: Other information

<b>Revision date</b>	03/04/2018
<b>Revision</b>	2
<b>Supersedes date</b>	20/11/2017
<b>SDS number</b>	20767
<b>Hazard statements in full</b>	H302 Harmful if swallowed. H312 Harmful in contact with skin. H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure. 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.