



**SAFETY DATA SHEET**  
**FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN**

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

**1.1. Product identifier**

**Product name** FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

**Product number** X0103

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

**Identified uses** Resin.

**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** Flam. Liq. 2 - H225

**Health hazards** Acute Tox. 2 - H330 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335, H336

**Environmental hazards** Aquatic Chronic 3 - H412

**Human health**

Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Persons susceptible to allergic reactions should not handle this product. Persons with impaired lung function should not handle this product..

**2.2. Label elements**

**Pictogram**



**Signal word**

**Danger**

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<b>Hazard statements</b>	<p>H225 Highly flammable liquid and vapour.  H315 Causes skin irritation.  H317 May cause an allergic skin reaction.  H319 Causes serious eye irritation.  H330 Fatal if inhaled.  H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  H335 May cause respiratory irritation.  H336 May cause drowsiness or dizziness.  H351 Suspected of causing cancer.  H412 Harmful to aquatic life with long lasting effects.</p>
<b>Precautionary statements</b>	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  P261 Avoid breathing vapour/ spray.  P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  P284 [In case of inadequate ventilation] wear respiratory protection.  P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  P308+P313 IF exposed or concerned: Get medical advice/ attention.</p>
<b>Contains</b>	<p>ETHYL ACETATE, DIPHENYLMETHANE-4,4'-DI-ISOCYANATE, ISOPHORONE DI-ISOCYANATE, 4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE)</p>
<b>Supplementary precautionary statements</b>	<p>P201 Obtain special instructions before use.  P202 Do not handle until all safety precautions have been read and understood.  P240 Ground/ bond container and receiving equipment.  P241 Use explosion-proof electrical equipment.  P242 Use only non-sparking tools.  P243 Take precautionary measures against static discharge.  P264 Wash contaminated skin thoroughly after handling.  P271 Use only outdoors or in a well-ventilated area.  P272 Contaminated work clothing should not be allowed out of the workplace.  P273 Avoid release to the environment.  P302+P352 IF ON SKIN: Wash with plenty of water.  P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  P312 Call a POISON CENTER/ doctor if you feel unwell.  P321 Specific treatment (see medical advice on this label).  P332+P313 If skin irritation occurs: Get medical advice/ attention.  P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.  P337+P313 If eye irritation persists: Get medical advice/ attention.  P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  P362+P364 Take off contaminated clothing and wash it before reuse.  P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.  P391 Collect spillage.  P403+P233 Store in a well-ventilated place. Keep container tightly closed.  P403+P235 Store in a well-ventilated place. Keep cool.  P405 Store locked up.  P501 Dispose of contents/ container in accordance with national regulations.</p>

### 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

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<b>ETHYL ACETATE</b>	<b>10-30%</b>
CAS number: 141-78-6	EC number: 205-500-4
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336	
<b>ISOPHORONE DI-ISOCYANATE</b>	<b>5-10%</b>
CAS number: 4098-71-9	EC number: 223-861-6
<b>Classification</b> Acute Tox. 2 - H330 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335 Aquatic Chronic 2 - H411	
<b>DIPHENYLMETHANE-4,4'-DI-ISOCYANATE</b>	<b>5-10%</b>
CAS number: 101-68-8	EC number: 202-966-0
<b>Classification</b> Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373	
<b>4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE)</b>	<b>5-10%</b>
CAS number: 5124-30-1	EC number: 225-863-2
<b>Classification</b> Acute Tox. 3 - H331 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335	

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

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).

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<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>	Do not induce vomiting. Give plenty of water to drink. Never give anything by mouth to an unconscious person. 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 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>	Highly flammable. Irritating gases or vapours. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.
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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>	Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Do not breathe vapour.
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### 6.2. Environmental precautions

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

<b>Methods for cleaning up</b>	Absorb spillage with sand or other inert absorbent. Transfer to a dry metal container, keeping it open for 48 hours. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.
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### 6.4. Reference to other sections

## FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

**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. Open drum carefully as content may be under pressure. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level. Do not use in confined spaces without adequate ventilation and/or respirator. Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Storage tanks and other containers must be earthed. 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. 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

##### **ETHYL ACETATE**

Long-term exposure limit (8-hour TWA): WEL 200 ppm

Short-term exposure limit (15-minute): WEL 400 ppm

##### **ISOPHORONE DI-ISOCYANATE**

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m<sup>3</sup>(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m<sup>3</sup>(Sen)

##### **DIPHENYLMETHANE-4,4'-DI-ISOCYANATE**

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m<sup>3</sup>(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m<sup>3</sup>(Sen)

##### **4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE)**

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m<sup>3</sup>(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m<sup>3</sup>(Sen)

WEL = Workplace Exposure Limit

**Ingredient comments**                    WEL = Workplace Exposure Limits

##### **4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE) (CAS: 5124-30-1)**

**DNEL**    Workers - Inhalation; Short term local effects: 0.6 mg/m<sup>3</sup>  
Workers - Inhalation; Long term local effects: 0.3 mg/m<sup>3</sup>

##### **DIPHENYLMETHANE-4,4'-DI-ISOCYANATE (CAS: 101-68-8)**

**DNEL**    Workers - Inhalation; Long term local effects: 0.05 mg/m<sup>3</sup>  
Workers - Inhalation; Short term local effects: 0.1 mg/m<sup>3</sup>

#### 8.2. Exposure controls

## FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

### Protective equipment



### Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

### 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 or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

### Hand protection

Wear protective gloves made of the following material: Rubber (natural, latex). Neoprene. Polyvinyl chloride (PVC). 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. Promptly remove any clothing that becomes wet or contaminated.

### 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

<b>Appearance</b>	Liquid.
<b>Colour</b>	Clear liquid.
<b>Odour</b>	Solvent.
<b>pH</b>	pH (concentrated solution): 7 @ 20 °C
<b>Melting point</b>	N/D°C
<b>Initial boiling point and range</b>	78°C @
<b>Flash point</b>	-4°C
<b>Evaporation rate</b>	4.1 ( butyl acetate =1)
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 2 Upper flammable/explosive limit: 11
<b>Vapour pressure</b>	86mmHg @ °C
<b>Vapour density</b>	3
<b>Relative density</b>	0.902 @ 20 °C°C
<b>Solubility(ies)</b>	Reacts violently with water.

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### 9.2. Other information

Volatility 21

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity Strong oxidising agents. Alcohols, glycols.

#### 10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

#### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions May polymerise.

#### 10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time. Avoid exposure to high temperatures or direct sunlight. Avoid contact with water.

#### 10.5. Incompatible materials

Materials to avoid Avoid contact with oxidising agents. Alkalis - inorganic. Alkalis - organic. Water, moisture. Alcohols, glycols.

#### 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. Isocyanates. Hydrogen cyanide (HCN).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity - inhalation

ATE inhalation (gases ppm) 95,368.0

ATE inhalation (vapours mg/l) 458.0

ATE inhalation (dusts/mists mg/l) 49.0

**Inhalation** Harmful by inhalation. Irritating to respiratory system. May cause sensitisation by inhalation. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.

**Ingestion** Central nervous system depression. May cause nausea, headache, dizziness and intoxication.

**Skin contact** Irritating to skin. May cause sensitisation by skin contact.

**Eye contact** Irritating to eyes.

### ISOPHORONE DI-ISOCYANATE

#### Acute toxicity - inhalation

ATE inhalation (gases ppm) 100.0

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ATE inhalation (vapours mg/l) 0.5

ATE inhalation (dusts/mists mg/l) 0.05

### 4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE)

#### Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> mg/kg) 18,200.0

Species Rat

ATE oral (mg/kg) 18,200.0

#### Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> mg/kg) 7,000.0

Species Rat

ATE dermal (mg/kg) 7,000.0

#### Acute toxicity - inhalation

ATE inhalation (gases ppm) 700.0

ATE inhalation (vapours mg/l) 3.0

ATE inhalation (dusts/mists mg/l) 0.5

## SECTION 12: Ecological Information

**Ecotoxicity** Avoid release to 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



## FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

### 13.1. Waste treatment methods

<b>General information</b>	When handling waste, the safety precautions applying to handling of the product should be considered.
<b>Disposal methods</b>	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
<b>Waste class</b>	08 04 99

### SECTION 14: Transport information

**General** No other information known.

#### 14.1. UN number

<b>UN No. (ADR/RID)</b>	1139
<b>UN No. (IMDG)</b>	1139
<b>UN No. (ICAO)</b>	1139

#### 14.2. UN proper shipping name

<b>Proper shipping name (ADR/RID)</b>	COATING SOLUTION
<b>Proper shipping name (IMDG)</b>	COATING SOLUTION
<b>Proper shipping name (ICAO)</b>	COATING SOLUTION
<b>Proper shipping name (ADN)</b>	COATING SOLUTION

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

<b>ADR/RID class</b>	3
<b>ADR/RID label</b>	3
<b>IMDG class</b>	3
<b>ICAO class/division</b>	3

#### Transport labels



#### 14.4. Packing group

<b>ADR/RID packing group</b>	II
<b>IMDG packing group</b>	II
<b>ICAO packing group</b>	II

#### 14.5. Environmental hazards

**Environmentally hazardous substance/marine pollutant**  
No.

#### 14.6. Special precautions for user

<b>EmS</b>	F-E, S-E
<b>Emergency Action Code</b>	3YE

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**Hazard Identification Number** 33  
(ADR/RID)

### 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.

### **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>	12
<b>Supersedes date</b>	28/04/2016
<b>Hazard statements in full</b>	<p>H225 Highly flammable liquid and vapour.            H315 Causes skin irritation.            H317 May cause an allergic skin reaction.            H319 Causes serious eye irritation.            H330 Fatal if inhaled.            H331 Toxic if inhaled.            H332 Harmful if inhaled.            H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.            H335 May cause respiratory irritation.            H336 May cause drowsiness or dizziness.            H351 Suspected of causing cancer.            H373 May cause damage to organs through prolonged or repeated exposure.            H411 Toxic to aquatic life with long lasting effects.            H412 Harmful to aquatic life with long lasting effects.</p>

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.