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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product number</td>
<td>X0103</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITW Performance Polymers</td>
</tr>
<tr>
<td>Bay 150</td>
</tr>
<tr>
<td>Shannon Industrial Estate</td>
</tr>
<tr>
<td>Co. Clare</td>
</tr>
<tr>
<td>Ireland</td>
</tr>
<tr>
<td>V14 DF82</td>
</tr>
<tr>
<td>353(61)771500</td>
</tr>
<tr>
<td>353(61)471285</td>
</tr>
<tr>
<td><a href="mailto:mail@itwpp.com">mail@itwpp.com</a></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Classification (EC 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical hazards</td>
</tr>
<tr>
<td>Environmental hazards</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Pictogram</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
</table>

1/10
FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

Hazard statements
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.
H351 Suspected of causing cancer.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
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.

Contains
ETHYL ACETATE, DIPHENYLMETHANE-4,4’-DI-ISOCYANATE, ISOPHORONE DI-ISOCYANATE, 4,4’-METHYLENEDI(CYCLOHEXYL ISOCYANATE)

Supplementary precautionary statements
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.

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
### FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

<table>
<thead>
<tr>
<th>ETHYL ACETATE</th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 141-78-6</td>
<td>EC number: 205-500-4</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H336</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISOPHORONE DI-ISOCYANATE</th>
<th>5-10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 4098-71-9</td>
<td>EC number: 223-861-6</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 2 - H330</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Resp. Sens. 1 - H334</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H335</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIPHENYL METHANE-4,4'-DI-ISOCYANATE</th>
<th>5-10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 101-68-8</td>
<td>EC number: 202-966-0</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4 - H332</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Resp. Sens. 1 - H334</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Carc. 2 - H351</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H335</td>
<td></td>
</tr>
<tr>
<td>STOT RE 2 - H373</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE)</th>
<th>5-10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 5124-30-1</td>
<td>EC number: 225-863-2</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 3 - H331</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Resp. Sens. 1 - H334</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H335</td>
<td></td>
</tr>
</tbody>
</table>

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).
FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

Inhalation
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.

Ingestion
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.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact
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
General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

4.3. Indication of any immediate medical attention and special treatment needed
Notes for the doctor
No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Extinguish with foam, carbon dioxide or dry powder.

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

5.3. Advice for firefighters
Protective actions during firefighting
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.

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
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.

6.2. Environmental precautions
Environmental precautions
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 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.

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/m³(Sen)
Short-term exposure limit (15-minute): WEL 0.07 mg/m³(Sen)

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE
Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m³(Sen)
Short-term exposure limit (15-minute): WEL 0.07 mg/m³(Sen)

4,4'-METHYLENEDI(CYCLOHEXYL ISOCYANATE)
Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m³(Sen)
Short-term exposure limit (15-minute): WEL 0.07 mg/m³(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/m³
Workers - Inhalation; Long term local effects: 0.3 mg/m³

DIPHENYL METHANE-4,4'-DI-ISOCYANATE (CAS: 101-68-8)
DNEL
Workers - Inhalation; Long term local effects: 0.05 mg/m³
Workers - Inhalation; Short term local effects: 0.1 mg/m³

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

Appearance

Liquid.

Colour

Clear liquid.

Odour

Solvent.

pH

pH (concentrated solution): 7 @ 20 ºC

Melting point

N/D°C

Initial boiling point and range

78°C @

Flash point

-4°C

Evaporation rate

4.1 (butyl acetate =1)

Upper/lower flammability or explosive limits

Lower flammable/explosive limit: 2 Upper flammable/explosive limit: 11

Vapour pressure

86mmHg @ °C

Vapour density

3

Relative density

0.902 @ 20 ºC°C

Solubility(ies)

Reacts violently with water.
FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

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

10.6. Hazardous decomposition products

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
### FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

ATE inhalation (vapours mg/l) 0.5  
ATE inhalation (dusts/mists mg/l) 0.05

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

**Acute toxicity - oral**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
<td>18,200.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>18,200.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - dermal**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity dermal (LD₅₀ mg/kg)</td>
<td>7,000.0</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>7,000.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - inhalation**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE inhalation (gases ppm)</td>
<td>700.0</td>
</tr>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>3.0</td>
</tr>
<tr>
<td>ATE inhalation (dusts/mists mg/l)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

### 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
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**

<table>
<thead>
<tr>
<th>UN No. (ADR/RID)</th>
<th>1139</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN No. (IMDG)</td>
<td>1139</td>
</tr>
<tr>
<td>UN No. (ICAO)</td>
<td>1139</td>
</tr>
</tbody>
</table>

**14.2. UN proper shipping name**

<table>
<thead>
<tr>
<th>Proper shipping name (ADR/RID)</th>
<th>COATING SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name (IMDG)</td>
<td>COATING SOLUTION</td>
</tr>
<tr>
<td>Proper shipping name (ICAO)</td>
<td>COATING SOLUTION</td>
</tr>
<tr>
<td>Proper shipping name (ADN)</td>
<td>COATING SOLUTION</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>ADR/RID class</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR/RID label</td>
<td>3</td>
</tr>
<tr>
<td>IMDG class</td>
<td>3</td>
</tr>
<tr>
<td>ICAO class/division</td>
<td>3</td>
</tr>
</tbody>
</table>

**Transport labels**

**14.4. Packing group**

<table>
<thead>
<tr>
<th>ADR/RID packing group</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG packing group</td>
<td>II</td>
</tr>
<tr>
<td>ICAO packing group</td>
<td>II</td>
</tr>
</tbody>
</table>

**14.5. Environmental hazards**

Environmentally hazardous substance/marine pollutant No.

**14.6. Special precautions for user**

<table>
<thead>
<tr>
<th>EmS</th>
<th>F-E, S-E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Action Code</td>
<td>3YE</td>
</tr>
</tbody>
</table>
FLEXANE HIGH PERFORMANCE BRUSHABLE RESIN

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

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date 03/04/2018
Revision 12
Supersedes date 28/04/2016
Hazard statements in full 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.

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.