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

1.1. Product identifier
Product name           IRATHANE C-155HS CURING AGENT

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses         Two-component, isocyanate-based sealant.

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        Flam. Liq. 2 - H225
 Health hazards          Eye Irrit. 2 - H319 STOT SE 3 - H336 STOT RE 2 - H373
 Environmental hazards   Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC)
Xn;R48/22. Xi;R36. F;R11. N;R51/53. R66,R67.

2.2. Label elements
Pictogram

Signal word            Danger

Hazard statements      H225 Highly flammable liquid and vapour.
                        H336 May cause drowsiness or dizziness.
                        H411 Toxic to aquatic life with long lasting effects.
                        H319 Causes serious eye irritation.
                        H373 May cause damage to organs through prolonged or repeated exposure.
IRATHANE C-155HS CURING AGENT

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapour/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.

Contains

ETHYL ACETATE, DIETHYLMETHYLBENZENEDIAMINE

Supplementary precautionary statements

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.
P260 Do not breathe vapour/spray.
P264 Wash contaminated skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.
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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>ETHYL ACETATE</th>
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<tr>
<td>CAS number: 141-78-6</td>
<td>EC number: 205-500-4</td>
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<td>Flam. Liq. 2 - H225</td>
<td>F;R11 Xi;R36 R66 R67</td>
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<tr>
<td>Eye Irrit. 2 - H319</td>
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<tr>
<td>STOT SE 3 - H336</td>
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<table>
<thead>
<tr>
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<td>EC number: 270-877-4</td>
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<td>M factor (Acute) = 1</td>
<td>M factor (Chronic) = 1</td>
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<tr>
<td>Classification</td>
<td>Classification (67/548/EEC or 1999/45/EC)</td>
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<td>Acute Tox. 4 - H302</td>
<td>Xn;R21/22,R48/22 Xi;R36 N;R50/53</td>
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<tr>
<td>Acute Tox. 4 - H312</td>
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<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>STOT RE 2 - H373</td>
<td></td>
</tr>
<tr>
<td>Aquatic Acute 1 - H400</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 1 - H410</td>
<td></td>
</tr>
</tbody>
</table>
IRATHANE C-155HS CURING AGENT

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

Inhalation  Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion  Get medical attention immediately. Do not induce vomiting.

Skin contact  Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

Eye contact  Rinse immediately with plenty of water. Continue to rinse for at least 10 minutes. 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.

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  Extinguish with foam, carbon dioxide or dry powder.

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

Hazardous combustion products  Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

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  Ensure suitable respiratory protection is worn during removal of spillages in confined areas. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions  Avoid or minimise the creation of any environmental contamination. Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up  Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Keep combustible materials away from spillage. Provide adequate ventilation. 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.
IRATHANE C-155HS CURING AGENT

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  Keep away from heat, sparks and open flame. Avoid spilling. Avoid contact with skin and eyes. Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Contaminated rags and cloths must be put in fireproof containers for disposal. 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. Avoid inhalation of vapours. Provide adequate ventilation.

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. Avoid contact with oxidising agents. Store away from the following materials: Acids.

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

WEL = Workplace Exposure Limit

8.2. Exposure controls

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.

Hand protection  Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. 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.

Other skin and body protection  Wear apron or protective clothing in case of contact.

Hygiene measures  Provide eyewash station and safety shower. Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

Respiratory protection  If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance  Coloured liquid.

Colour  Grey.
IRATHANE C-155HS CURING AGENT

Odour
Organic solvents.

pH
pH (diluted solution): 7-8 5%

Melting point
Not determined.

Initial boiling point and range
76.6°C @

Flash point
-4.4°C TCC (Tag closed cup).

Evaporation rate
>1 (diethyl ether = 1)

Upper/lower flammability or explosive limits
Lower flammable/explosive limit: 1.8 Upper flammable/explosive limit: 11.5

Vapour pressure
Not determined.

Vapour density
>1

Relative density
1.00 @ °C

9.2. Other information
Volatile organic compound
This product contains a maximum VOC content of 653 g/litre.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity
The following materials may react with the product: Acids. Organic peroxides/hydroperoxides. Strong oxidising agents.

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
No potentially hazardous reactions known.

10.4. Conditions to avoid
Conditions to avoid
Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidising agents.

10.5. Incompatible materials
Materials to avoid

10.6. Hazardous decomposition products
Hazardous decomposition products
Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity - oral
ATE oral (mg/kg) 4,807.69

Acute toxicity - dermal
ATE dermal (mg/kg) 10,576.92
IRATHANE C-155HS CURING AGENT

Inhalation
Vapour from this product may be hazardous by inhalation. Vapours may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing. Vapours may cause drowsiness and dizziness.

Ingestion
Swallowing concentrated chemical may cause severe internal injury. Gastrointestinal symptoms, including upset stomach. May cause chemical burns in mouth, oesophagus and stomach.

Skin contact
Irritating to skin. Prolonged contact may cause redness, irritation and dry skin. May cause sensitisation or allergic reactions in sensitive individuals.

Eye contact
Risk of serious damage to eyes. May cause chemical eye burns. Vapour or spray may cause eye damage, impaired sight or blindness.

Route of entry
Inhalation Ingestion. Skin and/or eye contact

Target organs
Eyes Skin Respiratory system, lungs

SECTION 12: Ecological Information

Ecotoxicity
The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

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
The product is miscible with water and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment
This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects
Not determined.

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. 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. Materials such as cleaning rags and paper wipes that are contaminated with flammable liquids may self-ignite after use and should be stored in designated fireproof containers with tight-fitting, self-closing lids.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1139

UN No. (IMDG) 1139
IRATHANE C-155HS CURING AGENT

UN No. (ICAO) 1139

14.2. UN proper shipping name

Proper shipping name (ADR/RID) COATING SOLUTION

Proper shipping name (IMDG) COATING SOLUTION

Proper shipping name (ICAO) COATING SOLUTION

Proper shipping name (ADN) COATING SOLUTION

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID subsidiary risk

ADR/RID label 3

IMDG class 3

IMDG subsidiary risk

ICAO class/division 3

ICAO subsidiary risk

Transport labels

14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ICAO packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS F-E, S-E

Emergency Action Code •3YE

Hazard Identification Number (ADR/RID) 33

Tunnel restriction code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
IRATHANE C-155HS CURING AGENT

EU legislation

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

SECTION 16: Other information

<table>
<thead>
<tr>
<th>Risk phrases in full</th>
<th>Hazard statements in full</th>
</tr>
</thead>
<tbody>
<tr>
<td>R11 Highly flammable.</td>
<td>H225 Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>R21/22 Harmful in contact with skin and if swallowed.</td>
<td>H302 Harmful if swallowed.</td>
</tr>
<tr>
<td>R36 Irritating to eyes.</td>
<td>H312 Harmful in contact with skin.</td>
</tr>
<tr>
<td>R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.</td>
<td>H319 Causes serious eye irritation.</td>
</tr>
<tr>
<td>R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
<td>H336 May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
<td>H373 May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>R66 Repeated exposure may cause skin dryness or cracking.</td>
<td>H400 Very toxic to aquatic life.</td>
</tr>
<tr>
<td>R67 Vapours may cause drowsiness and dizziness.</td>
<td>H410 Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td></td>
<td>H411 Toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

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.