



# Rosehill Polymers™

## SAFETY DATA SHEET FLEXILON 1118

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

#### 1.1. Product identifier

Product name	FLEXILON 1118
Product number	FX 1118
Container size	1 litre bottles, 5-25 litre kegs, 220 litre drums, 1000 litre IBC's

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

Identified uses	Wetpour Binder
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#### 1.3. Details of the supplier of the safety data sheet

Supplier	Rosehill Polymers Ltd Rosehill Mills Beech Road Sowerby Bridge West Yorkshire HX6 2JT 00 44 (0) 1422 839610 00 44 (0) 1422 835786 info@rosehillpolymers.com
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#### 1.4. Emergency telephone number

### SECTION 2: Hazards identification

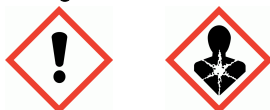
#### 2.1. Classification of the substance or mixture

##### Classification

Physical hazards	Not Classified
Health hazards	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
Environmental hazards	Not Classified

#### 2.2. Label elements

##### Pictogram



Signal word	Danger
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<b>Hazard statements</b>	<p>H315 Causes skin irritation.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H351 Suspected of causing cancer.</p> <p>H373 May cause damage to organs through prolonged or repeated exposure.</p>
<b>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>P284 [In case of inadequate ventilation] wear respiratory protection.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</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>P308+P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P501 Dispose of contents/container in accordance with national regulations.</p>
<b>Contains</b>	4,4'-methylenediphenyl diisocyanate
<b>Supplementary precautionary statements</b>	<p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p>

## 2.3. Other hazards

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

<b>4,4'-methylenediphenyl diisocyanate</b>	<b>30-60%</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	

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>Inhalation</b>	<p>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. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Show this Safety Data Sheet to the medical personnel.</p>
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<b>Ingestion</b>	Rinse mouth thoroughly with water. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if a large quantity has been ingested. If in doubt, get medical attention promptly.
<b>Skin contact</b>	It is important to remove the substance from the skin immediately. Wash skin thoroughly with soap and water. Take off contaminated clothing and wash it before reuse. Get medical attention promptly if symptoms occur after washing.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. Show this Safety Data Sheet to the medical personnel.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves.

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

<b>Inhalation</b>	LC50 (rat) : ca. 490 mg/m <sup>3</sup> (4 hours) : using experimentally produced respirable aerosol having aerodynamic diameter <5microns. This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons.
<b>Ingestion</b>	May cause discomfort. Gastrointestinal symptoms, including upset stomach. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.
<b>Skin contact</b>	The product is irritating to eyes and skin. May cause skin sensitisation or allergic reactions in sensitive individuals.
<b>Eye contact</b>	Causes serious eye irritation. May cause serious eye damage.

### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically.
<b>Specific treatments</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Use foam, carbon dioxide or dry powder to extinguish.
<b>Unsuitable extinguishing media</b>	Water may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous. Prevent washings from entering water courses, keep fire exposed containers cool by spraying with water.

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

<b>Specific hazards</b>	Do not get water inside containers, risk of pressure build up
<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide (CO). Hydrogen cyanide (HCN).

### 5.3. Advice for firefighters

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**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** No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Ensure suitable respiratory protection is worn during removal of spillages in confined areas.

#### 6.2. Environmental precautions

**Environmental precautions** Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

#### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Stop leak if safe to do so. If leakage cannot be stopped, evacuate area. To prevent release, place container with damaged side up. Do not touch or walk into spilled material. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

#### 6.4. Reference to other sections

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see Section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Do not handle until all safety precautions have been read and understood. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin, eyes and clothing. Do not breathe vapours. Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Use approved respirator if air contamination is above an acceptable level.

**Advice on general occupational hygiene** Do not eat, drink or smoke when using this product. Good personal hygiene procedures should be implemented. Wash contaminated skin thoroughly after handling. Wash promptly with soap and water if skin becomes contaminated. Remove contaminated clothing and protective equipment before entering eating areas.

#### 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 only in the original container. Store at temperatures not exceeding 25°C.

**Storage class** Chemical storage.

#### 7.3. Specific end use(s)

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

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

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

WEL = Workplace Exposure Limit

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### 8.2. Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Observe any occupational exposure limits for the product or ingredients. Mechanical ventilation or local exhaust ventilation may be required. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of vapours. Ensure control measures are regularly inspected and maintained.

#### Eye/face protection

Wear eye protection. Wear chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

#### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: Nitrile rubber. Polyvinyl chloride (PVC).

#### Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

#### Hygiene measures

No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. Do not eat, drink or smoke when using this product.

#### Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator.

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Keep container tightly sealed when not in use.

### SECTION 9: Physical and Chemical Properties

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

Appearance	Light viscous liquid
Colour	Straw. to Brown.
Odour	Slight odour
Flash point	> 200°C CC (Closed cup).
Solubility(ies)	Insoluble in water. Soluble in the following materials: Aromatic solvents.
Auto-ignition temperature	600°C

#### 9.2. Other information

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

#### 10.2. Chemical stability

##### Stability

Stable at normal ambient temperatures. Stable when stored in a dry place. Reaction with water (moisture) produces CO<sub>2</sub> gas

#### 10.3. Possibility of hazardous reactions

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**Possibility of hazardous reactions**      Reaction with water (moisture) produces CO<sub>2</sub>-gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface.

### 10.4. Conditions to avoid

**Conditions to avoid**      Avoid excessive heat for prolonged periods of time. Avoid freezing.

### 10.5. Incompatible materials

**Materials to avoid**      Water, moisture. Alcohols. Amines. Acids. Alkalis.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products**      Heating may generate the following products: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Hydrogen cyanide (HCN). Nitrous gases (NO<sub>x</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - inhalation

**ATE inhalation (dusts/mists mg/l)**      4.29

#### Serious eye damage/irritation

**Serious eye damage/irritation**      Slightly irritating.

#### Respiratory sensitisation

**Respiratory sensitisation**      There is evidence that the product can cause respiratory hypersensitivity. LC<sub>50</sub> (rat) : ca. 490 mg/m<sup>3</sup> (4 hours) : using experimentally produced respirable aerosol having aerodynamic diameter <5microns. This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons.

#### Skin sensitisation

**Skin sensitisation**      Epidemiological studies have shown evidence of skin sensitisation. Animal studies have shown that respiratory sensitisation can be induced by skin contact with known respiratory sensitisers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.

#### Carcinogenicity

**Carcinogenicity**      Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m<sup>3</sup>), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m<sup>3</sup> and no effects at 0.2 mg/m<sup>3</sup>. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

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<b>Inhalation</b>	The product contains a sensitising substance.
<b>Ingestion</b>	May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach.
<b>Skin contact</b>	Irritating to skin. May cause sensitisation by skin contact.
<b>Eye contact</b>	Causes eye irritation.

### SECTION 12: Ecological Information

**Ecotoxicity** The polymer is expected to be of low toxicity.

#### 12.1. Toxicity

#### 12.2. Persistence and degradability

#### 12.3. Bioaccumulative potential

#### 12.4. Mobility in soil

**Mobility** By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids. Conversion to soluble products, including diamino- diphenylmethane (MDA), is very low under the optimal laboratory conditions of good dispersion and low concentration. In air, the predominant degradation process is predicted to be a relatively rapid OH radical attack, by calculation and by analogy with related diisocyanates.

#### 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

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

**Disposal methods** The generation of waste should be minimised or avoided wherever possible. Dispose of waste product or used containers in accordance with local regulations

### SECTION 14: Transport information

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

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

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

No transport warning sign required.

#### 14.4. Packing group

Not applicable.

#### 14.5. Environmental hazards

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### Environmentally hazardous substance/marine pollutant

No.

### 14.6. Special precautions for user

Not applicable.

### 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 Not applicable.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.2. Chemical safety assessment

## SECTION 16: Other information

Issued by	C.Briggs
Revision date	21/05/2015
SDS number	4564
Hazard statements in full	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer. H373 May cause damage to organs through prolonged or repeated exposure.