



# SCOTT & FYFE LIMITED

Manufacturers of Glassfibre and Technical Fabrics

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## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY INFORMATION

- 1.1 Product Name: Polymat Free Flow (all variations)
- 1.2 Product description: A mechanically stitch bonded reinforcement consisting of a deformable engineered thermoplastic core sandwiched between two layers of chopped strand glass fibre designed for use in RTM, RTM Light, VARTM and Vacuum Infusion.
- 1.3 Manufacturer: Scott & Fyfe Limited
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### 2. COMPOSITION

<u>Component name</u>	<u>Wt. %</u>
E-Glass roving	55-95
Polypropylene	5-45
Polyester yarn	0.4-1.0
Polyester Veil	0-8

### 3. HAZARD IDENTIFICATION

This product is considered to be a low risk product and not significantly hazardous. The various components of the product construction are classified as follows:

#### 3.1 E-Glass:

Glass filaments are not "respirable" as their nominal diameters are over 9µm, far over the diameter of 3µm defined by the world health organisation for "respirable" fibres, and they have been shown not to cause lung cancer.

Hazards identified are:

- Mechanical irritation (itching)
- The formation of non fibrous dusts (broken pieces of different sizes) and non respirable filaments
- Extremely rare possibilities of allergy.

#### 3.2 Polypropylene/Polyester:

- The molten product adheres to the skin and causes thermal burns.

#### 4. FIRST AID

**Inhalation:**

Remove from scene of exposure to fresh air. In case of excessive inhalation of fumes, dust or fibres call for medical help.

**Skin contact:**

Wash copiously with lukewarm soapy water. Use a washcloth to help remove glassfibers. To avoid further irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibres into skin. Seek medical attention if irritation persists.

**Eye contact:**

Flush in running water (for at least 10 minutes) and consult a doctor if necessary.

**Ingestion:**

Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that intestinal blockage does not occur.

#### 5. FIRE FIGHTING MEASURES

In the case of fire, glass fibres are not flammable. Only the Polypropylene and Polyester materials are combustible.

**Extinguishing media:**

- Water
- Foam
- CO2
- Powder

**Specific hazards:**

- Combustible (polypropylene and polyester components only)
- In a fire, the polymer melts, producing drops that may propagate fire.
- Possible build-up of electrical charges, which could cause a fire by electrical discharges.
- Primary combustion products are carbon monoxide, carbon dioxide, organic acids, aldehydes, alcohols and water. Other undetermined compounds could be released in small quantities.

It is recommended that appropriate personal protective equipment be worn in the event of a fire.

#### 6. ACCIDENTAL RELEASE MEASURES

For protective measures see section 8.

**Cleanup methods:**

Collect the product with suitable means avoiding dust formation. Place the material into a closed and labelled container. For disposal methods, refer to section 13.

**Environmental protection:**

Prevent discharges into the environment (sewers, rivers, soils, etc.).

## 7. HANDLING AND STORAGE

### Handling:

It is preferable to avoid prolonged contact with the skin: wear protective gloves, garments with sleeves and long leggings or protective overalls, goggles and dust masks.

Avoid heating the product above the Polypropylene melt temperature (see section 9).

Glass filaments and dust must be removed from work garments with a vacuum cleaner and not blown off with compressed air jets. Wash work garments separately from other clothes.

### Storage:

Keep away from ignition and heat sources.

Store away from excessive humidity to prevent damage to the product.

### Other precautions:

Follow the protective measures given in section 8.

### Packaging:

- Cardboard tube core.
- Polythene film outer.
- Paper labelling

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

### 8.1 Technical measures:

Use every appropriate means to try to reduce the concentration of fibres likely to cause irritation.

### 8.2 Exposure control:

Test ambient atmosphere in which glass fibres are used regularly to determine levels of:

- “Non respirable” and “respirable” filaments
- “Non respirable” and “respirable” dusts.

**Note:** Legal requirements for respirable and non respirable fibres and dusts will vary from country to country, please check and comply with relevant local, national or international health and safety requirements.

### 8.3 Personal protection:

#### Respiratory protection:

It is recommended that dust masks be worn.

#### Hand and other exposed parts of the body protection:

Protective gloves for the hands, long-sleeved garment that covers to the base of the neck and long leggings to prevent irritation. Skin irritation is known to occur chiefly at pressure points such as around neck, wrist, waist and between fingers.

#### Eye protection:

Safety goggles (or mask) or safety glasses.

#### Work and hygiene practice:

Handle using good industrial hygiene and safety practices. Avoid unnecessary contact with fibres and dusts by using good local exhaust ventilation. Remove material from clothing using vacuum equipment and not compressed air. Wash personal protective clothing separately from other clothes. Keep work area clean and free from dusts and fibres by vacuuming regularly (avoid sweeping or compressed air as this re-suspends dusts and fibres into the air). Have access to safety showers and eye wash stations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>Physical state:</b>	Solid.
<b>Form:</b>	Chopped glass fibres stitch bonded using a polyester yarn to both sides of a polypropylene needle bonded core.
<b>Colour:</b>	White or yellowish white.
<b>Odor/Odour:</b>	Odorless/Odourless.
<b>Change of state:</b>	The three main components to this product will all react differently and as follows:
Glass Fibres:	Littleton point approximately 850°C. Glass does not have a melt point, but the viscosity decreases with elevation of temperature and is 10000 for E glass in a temp range between 1150 and 1250°C.
Polypropylene:	Melting point from 155-165°C.
Polyester:	Melting point 240-260°C.
<b>Solubility:</b>	E glass has very low solubility in water. Both Polypropylene and polyester components are insoluble in water. Solubility of some components will occur in organic solvents.
<b>Decomposition:</b>	Decomposition of polypropylene will occur at 250°C (for sustained period of exposure), Polyester at 300°C.
<b>Flammability:</b>	Class of combustion: BZ2 (short ignition and quick extinction) For PP only.

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under normal conditions of use.
<b>Conditions to avoid:</b>	Heating the product to above the decomposition temperature of Polypropylene core material (250°C).
<b>Hazardous decomposition products:</b>	In combustion conditions various products may be released including carbon dioxide, carbon monoxide, organic acids, aldehydes, alcohols and water. Other undetermined compounds could be released in small quantities.

## 11. TOXICOLOGICAL INFORMATION:

### **Localised effects: Possible temporary irritations**

This irritation is of a purely mechanical and temporary nature. It disappears when exposure is ended. It can affect the skin, the eyes and the upper respiratory tracts. In Europe, mechanical irritation is not considered to be a health hazard within the terms of the European directive 67/548/EEC for hazardous products.

### **Sensitisation:**

Some allergies to continuous strand glass fibres have been declared. In the case where an allergy is confirmed, remove the person from the scene of the exposure.

### **Long term exposure: Carcinogenic risks**

Continuous glass fibres are not "respirable" (i.e. do not penetrate the lung alveoli). This is because fibres are over 3µm in diameter (and mostly over 9µm). These are the values determined by the World Health Organisation (WHO) for the definition of respirable fibres.

Where there is a high risk of dust generation (i.e. where significant chopping, crushing or sanding takes place) it is advisable to provide adequate ventilation and to wear appropriate face masks..

## 12. ECOLOGICAL INFORMATION

- The product is not biodegradable.
- Ingestion of solids may cause harm to wildlife due to intestinal mechanical blockage or starvation from false feeding or satiation.

## 13. WASTE DISPOSAL

Depending on local regulations, Polymat wastes can be considered as inert waste or as common industrial waste. As such they can be buried in landfills for these categories.

This product cannot be destroyed by incineration – and can damage incinerators by the formation of a vitrified mass.

Packaging can be eliminated in units specific to their material type (i.e. plastic, wood, paper, etc.) and where appropriate, recycled.

## 14. TRANSPORT

Glass fibre materials are not considered as hazardous goods by transport regulations. Glass fibres, polypropylene or polyester components of this product are not part of the hazardous classes listed in international regulations.

## 15. REGULATORY INFORMATION

This product does not require hazardous product labelling (see section 11).

## 16. OTHER INFORMATION

### **Food environments:**

Appendix III of European Directive 90/128/CEE and its most recent amendment 96/11/CE dated 5/03/96 defines the compatibility of pure glass fibres with food environments as additives to plastics. However, glass sizings are shown on the approved list of the European Commission and the FDA (Food and Drugs Administration), it is therefore recommended that a case by case study must be made on the suitability of Polymat products used to reinforce plastic materials in contact with food. Please consult a Scott & Fyfe technical representative for further information.

**NOTICE: This material safety data sheet is based upon data considered to be accurate as at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from failure to follow appropriate practices or from hazards inherent in the nature of the product.**