

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

Please consult prior to use.

1. PRODUCT AND COMPANY IDENTIFICATION*Product Name:***GRC FLEXIMOULD EXTRA PART A***Product Description:*

Component for the manufacture of urethane polymers

*Supplier:*Fibre Technologies International
Avonmouth Way, Avonmouth

Bristol BS11 9YA

T: +44 (0)117 982 5855

F: +44 (0)117 982 0060

E: info@fibrectech.org

2. HAZARDS IDENTIFICATION

May cause sensitization by inhalation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	Amount	Classification	CAS #	EC#
PRE-POLYMER OF TDI AND POLYOL	>99.9%	Xn : R42	Not available	Polymer

See section 16 for full text of R-phrases

4. FIRST-AID MEASURES*Eye Contact:*

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur consult a physician, preferably an ophthalmologist.

Skin contact:

Wash skin with plenty of water.

Inhalation

Move the exposed person to fresh air. If effects occur consult a physician.

Ingestion:

No emergency medical treatment.

Notes to physician:

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Water fog or fine spray. Dry Chemical fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function but will be less effective.

Fire-fighting procedures:

Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discolouration of container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire affected zone until fire is out. Contain fire water run off if possible. Fire water run off if not contained may cause environmental damage. Review the accidental Release Measures and the Ecological Information sections of this MSDS.

Special Protective Equipment for Firefighters:

Wear positive pressure self contained breathing apparatus (SCBA) and protective fire fighting clothing. Avoid contact with this material during fire fighting operations. If contact is likely change to full chemical resistant fire fighting clothing with self-contained breathing apparatus and fire fight from a remote location. For protective equipment in post-fire clean-up situations, refer to the relevant sections.

Unusual Fire and Explosion Hazards:

Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. Container may erupt from gas generation in a fire situation. Violent steam generation or eruption may occur on

MATERIAL SAFETY DATA SHEET
Date of Issue 25/02/2009

application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Hazardous Combustion Products:

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic or irritating. Combustion products may include and are not limited to: Nitrogen Oxides. Isocyanates. Hydrogen cyanide. Carbon Monoxide. Carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is Released or spilled:

Contain spilled material if possible. Absorb with materials such as: Sawdust. Dirt. Vermiculite. Sand. Clay. Cob Grit. Milisorb. Do NOT Use absorbent materials such as Cement powder. Collect in properly labelled open containers. Do not place in sealed containers. Suitable containers include Metal drums and Plastic drums. Polylined fibre packs. Wash the spill site with large quantities of water. Attempt to neutralise by adding a suitable decontaminant solution: Formulation 1: sodium carbonates 10%; liquid detergent 0.2-2%; water to make up to 100%. OR Formulation 2: Concentrated ammonia solution 3-8%; liquid detergent 0.2-2%; water to make up to 100%. If ammonia is used use good ventilation to prevent vapour exposure.

7. HANDLING AND STORAGE

Handling:

General Handling:

Avoid contact with eyes. Wash thoroughly after handling.

Other Precautions:

Spill of these organic materials on hot fibrous insulations may lead to lowering of the auto ignition temperatures possibly resulting in spontaneous combustion.

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

Storage:

Store in a dry place. Protect from atmospheric moisture. Maintain a nitrogen

atmosphere. Do not store product contaminated with water to prevent potential hazardous reaction. See section 10.

Storage Period:

6 months

Storage Temperature:

24-41 °C

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

None established

Personal Protection:

Eye/ Face Protection:

Use safety glasses. Safety glasses should be consistent with EN166 or equivalent.

Skin Protection:

Wear clean, body-covering clothing.

Hand Protection:

Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective Gloves against chemicals and micro organisms.

Respiratory Protection:

Wear respiratory protection should be needed.

Ingestion:

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

*Engineering Control Measures
Ventilation:*

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilations may be necessary for some operations.

9. PHYSICAL AND CHEMICAL PROPERTIES

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

Physical State:

Colour:

Liquid

Colourless to yellow

Odour:

Flash point – Closed cup:

Flammable limits in air:

Characteristic

>100°C Supplier

Lower: No test data available

Upper: No test data available

No test data available

No test data available

Auto ignition Temperature:

Vapour Pressure:

Boiling point (760 mmHg):

Vapour Density (air=1):

Specific Gravity:

Freezing Point:

Melting Point:

Solubility in water (by weight):

pH:

Decomposition:

Temperature:

Dynamic Viscosity:

Kinematic Viscosity:

>140°C Vendor

No test data available

1.05 Supplier

No test data available

No test data available

Insoluble

Not applicable

No test data available

6000 mPa.s @ 25°C Vendor

No test data available

10. STABILITY AND REACTIVITY

Stability/Insability:

Stable under recommended storage conditions

Conditions to avoid:

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build up can be rapid. Avoid moisture. Materials react slowly with water, releasing carbon dioxide which can cause pressure build up and rupture of closed containers. Elevated temperatures accelerate this reaction.

Incompatible Materials:

Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal Compounds. Moist air. Strong Oxidisers. Products based on diisocyanates like TDI and MDI react with many materials to produce heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates like TDI and MDI are not soluble in water and will

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

sink to the bottom, but react slowly at the interface. The reaction forms carbon

dioxide gas and a layer of solid polyurea. Avoid contact with metals such as: Aluminium. Zinc. Brass. Tin. Copper. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

Hazardous Polymerization:

Can occur. Polymerization can be catalyzed by: Strong bases. Water.

Thermal Decomposition:

Decomposition products depends on temperature, air supply and the presence of other materials. Gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion:

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Eye Contact:

May cause slight eye irritation. Corneal injury is unlikely.

Skin Contact:

Prolonged contact may cause slight irritation to skin with local redness. May cause more severe response if skin is abraded (scratched or cut)

Skin absorption:

Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD50 has not been determined. Estimated LD50, Rabbit >5000 mg/kg

Inhalation:

At room temperature, exposure to vapour is minimal due to low volatility; single exposure is not likely to be hazardous.

Sensitization

Respiratory:

May cause allergic respiratory response. Re-exposure to extremely low isocyanate concentration may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

include coughing, difficult breathing and feeling of tightness in the chest.

Occasionally breathing difficulties may be life threatening. Effects may be delayed.

Repeated Dose Toxicity: No relevant information found.

Chronic Toxicity and Carcinogenicity: No relevant information found

Developmental Toxicity: No relevant information found

Reproductive Toxicity: No relevant information found

Genetic Toxicology: No relevant information found

12. ECOLOGICAL INFORMATION

Environmental Fate:

*Data for Component: **Prepolymer of TDI and Polyol***

Movement and Partitioning: For similar materials: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability: For similar materials: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable.

Ecotoxicity:

*Data for Component: **Prepolymer of TDI and Polyol***

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species)

13. DISPOSAL CONSIDERATIONS

This product when being disposed of in its unused and uncontaminated state should be treated as hazardous waste according to EC Directive 91/689/EEC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground or not any body of water. Incineration under approved controlled conditions using incinerators suitable or designed for the disposal of hazardous chemical wastes, is the preferred method for disposal. Small quantities of waste may be pre-treated for example with polyol to neutralise prior to disposal.

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

Empty drums should be decontaminated and either punctured and scrapped or given to an approved drum reconditioner.

14. TRANSPORT INFORMATION

<i>Road and Rail:</i>	Not classified
<i>Ocean:</i>	Not classified
<i>Air:</i>	Not classified
<i>Inland Waterways:</i>	Not classified

15. REGULATORY INFORMATION

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory.

EC Classification and User Label Information

<i>Hazard Symbol:</i>	Xn – Harmful
<i>Risk Phrases:</i>	R42 – May cause sensitization by inhalation
<i>Safety phrases:</i>	S23 – Do not breathe vapour/gas/fumes/spray S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
<i>Contains:</i>	Pre-polymer of TDI and polyol

Contains Isocyanates. See information supplied by the manufacturer.

16. OTHER INFORMATION:

<i>Other information:</i>	Protective gloves should be worn when handling freshly-made polyurethane products to avoid skin contact with trace amounts of residual materials, some of which may be hazardous in contact with skin.
<i>Risk Phrases in the Composition Section:</i>	R42 - May cause sensitization by inhalation
<i>Product Literature:</i>	Additional Information on this product may be obtained by calling your sales or customer service contact

MATERIAL SAFETY DATA SHEET

Date of Issue 25/02/2009

Revision:

Identification Number: 1013661/3005

Issue date: 2009/02/25 Version 2.0

Footnote:

The information contained in this SDS corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the Data Sheets prior to use.