

## MATERIAL SAFETY DATA SHEET

Date of Issue 06/03/2015

Safety data sheet according to Reg. (EC) N. 453/2010

Please consult prior to use.

1. PRODUCT AND COMPANY IDENTIFICATION*Product Name:***GRC FLEXIMOULD 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**Emergency Telephone Number**

24-Hour Emergency Contact number: 01179825855

2. HAZARDS IDENTIFICATION*2.1 Classification of the substance or mixture***Classification – REGULATION (EC) No 1272/2008**

Respiratory sensitization – Category 1 – H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled

Serious eye damage/eye irritation – Category 2 – H319 – Causes serious eye irritation

Skin sensitization – Category 1 – H317 – May cause an allergic skin reaction

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Xi – R36 – Irritating to eyes

R42/43 – May cause sensitization by inhalation and skin contact

*Additional information:*

Contains isocyanates.

*2.2 Label elements***Labelling – REGULATION (EC) No 1272/2008**

Hazard pictograms



Signal word: Danger

*Hazard statements:***H334** – May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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Certificate No. AJA01/2902

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**H319** – Causes serious eye irritation

**H317** – May cause an allergic skin rash

### *Precautionary statements:*

**P280** – Wear protective gloves/protective clothing/eye protection/face protection

**P261** – Avoid breathing dust /fume/gas/mist/vapours/spray

**P305 + P351 + P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

**P303 + P361 + P353** – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

**P304 + P340** – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**P501** – Dispose of contents and container to licensed, permitted incinerator, or other thermal destruction device.

**EUH204** – Contains isocyanates. May produce an allergic reaction.

### *2.3 Other hazards*

No information available

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

### *3.1 This product is a substance*

CAS-No. / EC-No. / REACH No.	Amount	Component	Classification; REGULATION (EC) No 1272/2008
<b>CAS-No.</b> Not available <b>EC-No.</b> Polymer	>99.9%	Prepolymer of TDI and polyol	Resp. Sens., 1, H334 Eye Irrit., 2, H319 Skin Sens., 1, H317
<b>CAS-No.</b> Not available <b>EC-No.</b> Polymer	>99.9%	Prepolymer of TDI and polyol	Xi: R36; R42/43

See section 16 for full text of R-phrases

## 4. FIRST-AID MEASURES

### *4.1 Description of first aid measures*

#### *Eye Contact:*

Immediately flush eyes thoroughly with water. Remove contact lenses if present, after the first five minutes, then continue flushing eyes for at least fifteen minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

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*Skin contact:*

Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes whilst washing. Seek medical attention if irritation persists. Wash clothing before re-use. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. This may apply also to other isocyanates. Discard items that cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

*Inhalation*

Move the exposed person to fresh air. If not breathing, give artificial respiration, if by mouth to mouth, use rescuer protection (pocket mask etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

*Ingestion:*

No emergency medical treatment necessary.

*4.2 Most important symptoms and effects, both acute and delayed*

Aside from the information found under First-Aid measures (above) and Indication of Immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

*4.3 Indication of immediate medical attention and special treatment needed*

Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving a significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Excessive exposure may aggravate pre-existing asthma and other respiratory disorders (e.g emphysema, bronchitis, reactive airways dysfunction syndrome).

**5. FIRE-FIGHTING MEASURES***5.1 Extinguishing Media*

Water fog or fine spray. Dry Chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire.

Alcohol

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Resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function but will be less effective.

*5.2 Special Hazards arising from the substance or mixture*

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

**Unusual Fire and Explosion Hazards:** Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur on application of direct water stream to hot liquids. Dense smoke is produced when product burns.

*5.3 Advice for firefighters:*

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 or non-fire clean-up situations, refer to the relevant sections.

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**6. ACCIDENTAL RELEASE MEASURES***6.1 Personal precautions, protective equipment and emergency procedures:*

Isolate area. Keep personnel out of low areas. Keep upwind of spill. Keep unnecessary and unprotected personnel from entering the area. Ventilate area of leak or spill. If available, use foam to suppress vapours. Refer to section 7, Handling, for additional precautionary measures. See section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

*6.2 Environmental precautions:*

Prevent from entering soil, ditches, sewers, waterways, and/or groundwater. See section 12, Ecological information.

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*6.3 Methods and materials for containment and cleaning up:*

Contain spilled material if possible. Absorb with materials such as: Vermiculite. Sand. Clay. Dirt. Do NOT Use absorbent materials such as Cement powder. (Note: may generate heat). 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 5-10%; 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. See section 13, Disposal Considerations for additional information.

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**7. HANDLING AND STORAGE*****Handling:******General Handling:***

Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid breathing vapour. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. This material is hygroscopic in nature. See section 8, Exposure Controls and Personal Protection.

***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.

***Storage:***

Store in a dry place. Protect from atmospheric moisture. Do not store product contaminated with water to prevent potential hazardous reaction. See section 10.

***Storage Period:***

6 months

***Storage Temperature:***

10-30 °C

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION*****Exposure Limits:***

None established

***Personal Protection:******Eye/ Face Protection:***

Use chemical goggles. Chemical goggles should be consistent with EN166 or equivalent.

***Skin Protection:***

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Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend upon the task. Remove contaminated clothing immediately, wash skin area with soap and water.

Contaminated clothing should be disposed of properly or decontaminated and laundered before reuse. Items which cannot be decontaminated, such as shoes, belts and watchbands should be removed and disposed of properly.

**Hand Protection:**

Use chemical resistant gloves classified under Standard EN374: Protective Gloves against chemicals and micro organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polythene. Polythene. Ethyl vinyl alcohol

lamine ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time is greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time is greater than 60 minutes according to EN 374) is recommended. NOTICE: the selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:**

Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. Use the following CE approved air-purifying respirator: Organic vapour cartridge with a particulate pre-filter, type AP2.

**Ingestion:**

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

**Engineering Control Measures:**

Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapour/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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<i>Physical State:</i>	Liquid
<i>Colour:</i>	Colourless to yellow
<i>Odour:</i>	Characteristic
<i>Odor Threshold:</i>	0.05-0.2 ppm Literature Odor is inadequate warning of excessive exposure
<i>Flash point – Closed cup:</i>	>100°C <i>Supplier</i>
<i>Flammable limits in air:</i>	Lower: No test data available Upper: No test data available
<i>Auto ignition Temperature:</i>	No test data available
<i>Vapour Pressure:</i>	No test data available
<i>Boiling point (760 mmHg):</i>	> 140°C <i>Vendor</i>
<i>Vapour Density (air=1):</i>	No test data available
<i>Specific Gravity (H2O):</i>	1.05 25°C/25°C <i>Supplier</i>
<i>Freezing Point:</i>	No test data available
<i>Melting Point:</i>	No test data available
<i>Solubility in water (by weight):</i>	Reacts with water
<i>pH:</i>	Not applicable
<i>Decomposition:</i>	No test data available
<i>Temperature:</i>	
<i>Dynamic Viscosity:</i>	6000 mPa.s @ 25°C <i>Vendor</i>
<i>Kinematic Viscosity:</i>	No test data available

### 10. STABILITY AND REACTIVITY

#### *Reactivity:*

Products based on diisocyanites like TDI and MDI react with many materials to release 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 such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea.

#### *Chemical stability:*

Stable under recommended storage conditions. See Storage, Section 7.

#### *Possibility of hazardous reactions:*

Can occur. Elevated temperatures can cause hazardous polymerization. Polymerization can be catalysed by: Strong bases, water.

#### *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

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### *Hazardous decomposition products:*

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

## 11. TOXICOLOGICAL INFORMATION

### *Acute Toxicity*

#### *Ingestion:*

Low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Swallowing may result in irritation of the mouth, throat, and gastrointestinal tract. Single dose oral LD50 has not been determined. Estimated. LD50, rat > 5,000 mg/kg

#### *Aspiration hazard:*

Based on physical properties, not likely to be an aspiration hazard.

#### *Dermal:*

Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD50 has not been determined. Estimated. LD50, rabbit > 5,000 mg/kg

#### *Eye damage/eye irritation:*

May cause severe eye irritation. May cause corneal injury.

#### *Inhalation:*

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

#### *Skin corrosion/irritation:*

Brief contact is essentially non irritating to skin. May cause more severe response if skin is abraded (scratched or cut).

### *Sensitization*

#### *Skin:*

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitisation.

#### *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 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 specific, relevant data available for assessment.

#### *Chronic Toxicity and Carcinogenicity:*

No specific, relevant data available for assessment.

#### *Developmental Toxicity:*

No specific, relevant data available for assessment.

#### *Reproductive Toxicity:*

No specific, relevant data available for assessment.

#### *Genetic Toxicology:*

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No specific, relevant data available for assessment.

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity****Data for Component: Prepolymer of TDI and Polyol**

Material is not classified as dangerous to aquatic organisms.

**12.2 Persistence and Degradability****Data for Component: Prepolymer of TDI and Polyol**

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

**12.3 Bio accumulative potential****Data for Component: Prepolymer of TDI and Polyol**

Bio accumulation: for similar material(s): In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

**12.4 Mobility in soil****Data for Component: Prepolymer of TDI and Polyol**

Mobility in soil: for similar material(s): In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

**12.5 Results of PBT and vPvB assessment****Data for Component: Prepolymer of TDI and Polyol**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**12.6 Other adverse effects****Data for Component: Prepolymer of TDI and Polyol**

This substance is not in Annex 1 of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

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**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 2008/98/EC. 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 into 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. Empty drums should be decontaminated and either punctured and scrapped or given to an approved drum reconditioner.

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**14. TRANSPORT INFORMATION****ADR/RID**

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper shipping name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based upon available data

14.6 Special precautions for user

Special provisions: No data available

Hazard identification: No data available

**ADNR/ADN**

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper shipping name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based upon available data

14.6 Special precautions for user

No data available

**IMDG**

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper shipping name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based upon available data

14.6 Special precautions for user

EMS number: Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Not applicable

**ICAO/IATA**

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper shipping name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

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Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based upon available data

14.6 Special precautions for user

No data available

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**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture****European Inventory of Existing Commercial Chemical Substances (EINECS)***The components of this product are on the EINECS inventory or are exempt from inventory requirements.***15.2 Chemical Safety Assessment**

Not applicable

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**16. OTHER INFORMATION:****Hazard statement in the composition section**

H317 – May cause an allergic skin reaction

H319 – Causes serious eye irritation

H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Risk phrases in the composition section**

R36 – Irritating to eyes

R42/43 – May cause sensitization by inhalation and skin contact

**Product literature**

Additional information on this product may be obtained by calling your sales or customer service contact.

*Fibre Technologies International Ltd urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyers / users responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer / users duty to determine the conditions necessary for the safe use of the product.*