

## SAFETY DATA SHEET – FLEXIBLE RESIN

### SECTION 1. IDENTIFICATION

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<b>Product Identifier</b>	Flexible Resin
<b>Other Means of Identification</b>	Chemical grout
<b>Recommended Use</b>	Industrial use, professional use only
<b>Restrictions on Use</b>	None known
<b>Supplier Identifier</b>	Multiurethanes Ltd. 5245 Creekbank Rd, Mississauga, ON L4W 1N3
<b>Emergency Telephone Number</b>	1-800-663-6633

### SECTION 2. HAZARD IDENTIFICATION

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<b>Classification</b>	Skin Irritation - Category 2 Eye Irritation - Category 2B Respiratory Sensitization - Category 1 Skin Sensitization - Category 1
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**Label Elements**  
Hazard Pictograms



<u>Signal Word</u>	Danger
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<u>Hazard Statements</u>	Causes skin/eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
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**Precautionary Statements**      Wear appropriate protective equipment.  
Avoid breathing fume/mist/vapours.  
Wash hands and exposed skin after handling.  
IF ON SKIN: Wash with soap and water. Seek medical attention.  
IF IN EYES: Rinse with water. Seek medical attention.  
IF INHALED: Remove person to fresh air. Seek medical attention.

**Other Hazards**                      Not available

### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

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Chemical Name	CAS No.	Concentration	Common Names / Synonyms
Dibutyl maleate	105-76-0	<40%	Not available
Polyether triol	9082-00-2	<40%	Not available
4,4' Diphenylmethane Diisocyanate	101-68-8	<20%	Not available

**Notes**                                      Not available

### SECTION 4. FIRST-AID MEASURES

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**Inhalation**                                Move to an area free from risk of further exposure.  
Administer oxygen or artificial respiration as needed.  
Seek medical attention.

**Skin Contact**                            Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention.

**Eye Contact**                            Rinse cautiously with lukewarm water for at least 15 minutes holding eyelids open. Seek medical attention.

**Ingestion**                                Wash mouth out with water. Do not induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head positioned between legs to avoid breathing in of vomit, rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

**Most Important Symptoms and Effects (Acute or Delayed)**

Causes skin/eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure if inhaled.

**Immediate Medical Attention and Special Treatment**

Eyes - stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid as needed.  
Skin - This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns.  
Ingestion - Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound.  
Respiratory - Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from exposure to any diisocyanate.

**SECTION 5. FIRE-FIGHTING MEASURES**

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**Suitable Extinguishing Media**

Use media suitable to the surrounding fire such as water spray, carbon dioxide and dry chemical.

**Unsuitable Extinguishing Media**

Not available

**Specific Hazards Arising from the Product**

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO<sub>2</sub> formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

**Special Protective Equipment and Precautions for Firefighters**

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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### **Personal Precautions, Protective Equipment and Emergency Procedures**

Do not get in eyes or on skin. Do not breathe fume/mist/vapours. Use appropriate personal protection equipment (PPE). Evacuate danger area. Equip cleanup crew with proper protection.

### **Methods for Containment and Cleaning Up**

In the event of a minor spill or leak, use conventional absorbents. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. In the event of a major spill or leak, released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat.

## SECTION 7. HANDLING AND STORAGE

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### **Precautions for Safe Handling**

Do not breathe vapours, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This product can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning of this product. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not seal if contamination is suspected.

### **Conditions for Safe Storage**

Store in a dry place.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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<b>Control Parameters</b>	ACGIH Exposure Limit = 0.005 ppm TWA 0.051 mg/m <sup>3</sup> OSHA Exposure Limit = 0.02 ppm Ceiling 0.20 mg/m <sup>3</sup> Ceiling
<b>Appropriate Engineering Controls</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ensure all national/local regulations are observed.
<b>Individual Protection Measures</b>	Respiratory protection is required if the concentrations exceed exposure. NIOSH-approved respirators are recommended. A self-contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Impervious gloves must be worn when using this product. Wear as appropriate: Nitrile rubber; Polyvinylchloride; Butyl rubber; Neoprene. Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance</b>	Cloudy liquid
<b>Odour</b>	None
<b>Odour Threshold</b>	Not available
<b>pH</b>	Not available

<b>Melting Point/Freezing Point</b>	<0°C (32°F)
<b>Initial Boiling Point/Boiling Range</b>	209°C (408°F)
<b>Flash Point</b>	>137°C (278°F)
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not available
<b>Upper/Lower Flammable/Explosive Limit</b>	Not available
<b>Vapour Pressure</b>	Less than $1 \times 10^{-5}$ mm/Hg at 25 °C (77°F)
<b>Vapour Density</b>	8.5 (MDI) (Air = 1)
<b>Relative Density</b>	Not available
<b>Solubility in Water</b>	Soluble, emits carbon dioxide
<b>Solubility in Other Liquids</b>	Not available
<b>Partition Coefficient, n-Octanol / Water</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available

## SECTION 10. STABILITY AND REACTIVITY

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<b>Reactivity</b>	None under normal conditions.
<b>Chemical Stability</b>	Stable under recommended handling and storage

conditions (refer to section 7).

<b>Possibility of Hazardous Reactions</b>	Hazardous polymerization may occur following contact with moisture, other materials that react with isocyanates or temperatures above 177°C (350°F).
<b>Conditions to Avoid</b>	None under normal conditions.
<b>Incompatible Materials</b>	Water, amines, strong bases, alcohols, copper alloys, aluminum.
<b>Hazardous Decomposition Products</b>	By high heat and fire: carbon monoxide, oxides of nitrogen, hydrogen cyanide, carbon dioxide, dense black smoke, isocyanate, isocyanic acid, other undetermined compounds.

## SECTION 11. TOXICOLOGICAL INFORMATION

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<b>Acute Toxicity</b>	Not available
<b>LD50 and LC50 Data</b>	Oral LD50, rat = greater than 2,000 mg/kg Dermal LD50, rabbit = >10,000 mg/kg Inhalation LC50, rat = 490 mg/m <sup>3</sup> , vapor, 4 h
<b>Skin Corrosion/Irritation</b>	Irritation may occur.
<b>Serious Eye Damage/Irritation</b>	Irritation may occur.
<b>Respiratory or Skin Sensitization</b>	Irritation may occur.
<b>Germ Cell Mutagenicity</b>	Genetic Toxicity in Vitro: Bacterial – gene mutation assay: negative (Salmonella typhimurium, Metabolic Activation: with/without). Positive and negative results were reported. The use of certain solvents which rapidly hydrolyze diisocyanates is suspected of producing the positive mutagenicity results. Genetic Toxicity in Vivo: Micronucleus Assay: negative (Mouse)
<b>Teratogenicity</b>	Rat, Female, inhalation, gestation days 6-15, 6 hrs/day, NOAEL (teratogenicity): 12 mg/m <sup>3</sup> , NOAEL (maternal): 4 mg/m <sup>3</sup> - No Teratogenic effects observed at doses

tested. Fetotoxicity seen only with maternal toxicity.

<b>Carcinogenicity</b>	Rate, Male/Female, inhalation, 2 years, 6 hrs/day 5 days/week: Exposure to a level of 6 mg/m <sup>3</sup> polymeric MDI was related to the occurrence of lung tumours. This level is significantly over the TLV for MDI.
<b>Specific Target Organ Toxicity (Single Exposure)</b>	Not available
<b>Specific Target Organ Toxicity (Repeated Exposure)</b>	90 days inhalation: NOAEL: 0.3 mg/m <sup>3</sup> , (Rat Male/Female, 18 hrs/day 5 days/week) Irritation to lungs and nasal cavity.
<b>Reproductive Toxicity</b>	Not available
<b>Aspiration Hazard</b>	Not available
<b>Symptoms/Injuries After Inhalation</b>	Irritation may occur.
<b>Symptoms/Injuries After Skin Contact</b>	Irritation may occur.
<b>Symptoms/Injuries After Eye Contact</b>	Irritation may occur.
<b>Symptoms/Injuries After Ingestion</b>	Irritation may occur.
<b>Chronic Symptoms</b>	Not available

## SECTION 12. ECOLOGICAL INFORMATION

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<b>Ecotoxicity</b>	Acute and prolonged toxicity to fish - LC0: >1,000 mg/l (Zebra fish ( <i>Brachydanio rerio</i> ), 96 hrs); LC0: >3,000 mg/l (Killifish ( <i>Oryzias latipes</i> ), 96 h)  Acute toxicity to aquatic invertebrates - EC50: >1,000 mg/l (Water flea ( <i>Daphnia magna</i> ), 24 hrs)
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Toxicity to aquatic plants - NOEC:1,640 mg/l, End Point: growth (Green algae (Scenedesmus subspicatus), 72 hrs)

Toxicity to microorganisms - EC50: > 100 mg/l, (Activated sludge microorganisms, 3 hrs)

**Persistence and Degradability** 0%, exposure time 28 days.

**Bioaccumulative Potential** Rainbow trout, exposure time 112 d, <1 BCF

**Mobility in Soil** Not available

**Other Adverse Effects** Avoid release to the environment.

## SECTION 13. DISPOSAL CONSIDERATIONS

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**Disposal Methods** If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of material in accordance with all applicable federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

## SECTION 14. TRANSPORT INFORMATION

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Regulation	UN No.	UN Proper Shipping Name	Transport Hazard Class	Packing Group
Not regulated	Not applicable	Not applicable	Not applicable	Not applicable

**Special Precautions** Not applicable

**Environmental Hazards** Refer to Section 12.

**Transport in Bulk** Not applicable

## SECTION 15. REGULATORY INFORMATION

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<b>OHSA Status</b>	Hazardous; irritant
<b>TSCA Status</b>	Components are listed on TSCA Inventory.
<b>CERCLA Reportable Quantity</b>	Not applicable for typical product application.
<b>SARA Title III Section 302</b>	Extremely hazardous substances - no known reportable constituents.
<b>SARA Title III Section 311/312</b>	Hazard categories - acute health hazard; chronic health hazard
<b>SARA Title III Section 313</b>	Toxic Chemical Release Reporting - not applicable
<b>RCRA Status</b>	It is the responsibility of the product user to determine, at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
<b>WHMIS Rating</b>	Skin Irritation - Category 2 Eye Irritation - Category 2B Respiratory Sensitization - Category 1 Skin Sensitization - Category 1
<b>NAERG Rating</b>	156

## SECTION 16. OTHER INFORMATION

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**Date of Latest Revision**      May 26, 2017