

SAFETY DATA SHEET – RIGID GROUT B

SECTION 1. IDENTIFICATION

Product Identifier	Rigid Grout B
Other Means of Identification	Rigid Grout
Recommended Use	One component of a dual-component polyurethane grout used to stabilize water-bearing soils and fill open voids.
Restrictions on Use	Professional use only
Supplier Identifier	Multiurethanes Ltd. 5245 Creekbank Rd, Mississauga, ON L4W 1N3 (Canada)
Emergency Telephone Number	1-800-663-6633

SECTION 2. HAZARD IDENTIFICATION

Classification This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute Toxicity (Inhalation) - Category 4
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2A
Respiratory Sensitization - Category 1
Skin Sensitization - Category 1
Specific Target Organ Toxicity (Single Exposure) (Respiratory tract irritation) - Category 3
Specific Target Organ Toxicity (Repeated Exposure) (Respiratory system) - Category 2

Label Elements

Hazard Pictograms



Signal Word
DANGER

Hazard Statements

Harmful if inhaled.
Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure (respiratory system).

Precautionary Statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

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Wear appropriate protective equipment.
Avoid breathing fume/mist/vapours.
Use only outdoors or in a well-ventilated area.
Wash hands thoroughly after handling.

Response

IF ON SKIN: Wash with plenty of soap and water. If irritation or rash occurs, seek medical attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, seek medical attention.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Seek medical attention.

Storage

Keep container tightly closed and sealed until ready for use. Store in original container protected from high temperatures. Keep away from incompatibles.

Disposal

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 sole responsibility of the waste generator.

Other Hazards None known

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Concentration (% by weight)</u>	<u>Common Names / Synonyms</u>	<u>Other Identifiers</u>
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	80 - 100%	Not available	Not available
4,4'-Methylenediphenyl Diisocyanate	101-68-8	30 - 60%	Not available	Not available

Notes

The exact percentage (concentration) in the composition has been withheld as a trade secret following the amended HPR as of April 2018 (Canada) and with paragraph (i) of §1910.1200. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

SECTION 4. FIRST-AID MEASURES

Inhalation

Remove the victim to fresh air and keep them at rest comfortably for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Seek medical attention. If necessary, call a poison centre or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. Symptoms may be delayed in the inhalation of decomposition

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products during a fire. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin Contact

Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Seek medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye Contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Seek medical attention.

Ingestion

Wash out mouth with water. Remove dentures, if any. Remove the victim to fresh air and keep them at rest comfortably for breathing. If the material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick, as vomiting may be dangerous. Do not induce vomiting unless medical personnel instruct it. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.

Most Important Symptoms and Effects, Acute and Delayed

Causes serious eye damage. Adverse symptoms may include pain, irritation, watering, and redness. Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Adverse symptoms may include respiratory tract irritation, coughing, wheezing, breathing difficulties, and asthma. Causes skin irritation. May cause an allergic skin reaction. Adverse symptoms may include irritation and redness.

Indication of Immediate Medical Attention and Special Treatment Needed

Symptoms may be delayed in the inhalation of decomposition products during a fire. The exposed person may need to be kept under medical surveillance for 48 hours. Treat symptomatically. If exposed or concerned, seek medical advice and attention. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use dry chemicals, CO₂, water spray (fog) or foam.

Unsuitable Extinguishing Media

None known

Specific Hazards Arising from the Product

No specific fire or explosion hazard. Decomposition products may include the following materials: carbon dioxide, carbon monoxide, and nitrogen oxides.

Special Protective Equipment and Precautions for Firefighters

If there is a fire, promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk

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or without suitable training. Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece in positive pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe fume/mist/vapours. Provide adequate ventilation. Wear an appropriate respirator when ventilation is inadequate. Use appropriate personal protective equipment.

Methods and Material for Containment and Cleaning Up

Stop the leak if it is without risk. Move containers from the spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Wash spillages into an effluent treatment plant and proceed as follows: Contain and collect the spillage with non-combustible, absorbent material, e.g., sand, earth, vermiculite, or diatomaceous earth, and place it in a container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Notification Procedures

Not available

Environmental Precautions

Avoid dispersal of spilled material, runoff, and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Put on appropriate personal protective equipment (refer to section 8). Persons with a history of skin sensitization problems, asthma, allergies, or chronic or recurrent respiratory disease should not be employed in any process using this product. Avoid exposure – obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in the eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear an appropriate respirator when ventilation is inadequate. Keep it in the original container or an approved alternative made from a compatible material, and keep it tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse the container. Good housekeeping is needed when storing, transferring, handling, and using this material. Handle following good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product.

Conditions for Safe Storage (including incompatibilities)

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area, away from incompatible materials (water, amines, strong bases, alcohols, copper alloys, aluminum) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters – Occupational Exposure Limits

Chemical Name	Type	Exposure Limit Values	Source
Isocyanic acid, polymethylenepolyphenylene ester	OEL	0.07 mg/m ³ 8 hours 0.005 ppm 8 hours	AB (CA, 06/2018)
Isocyanic acid, polymethylenepolyphenylene ester	TWA	0.005 ppm 8 hours	BC (CA, 07/2018) ON (CA, 01/2018)
Isocyanic acid, polymethylenepolyphenylene ester	CEIL	0.01 ppm	BC (CA, 07/2018)
Isocyanic acid, polymethylenepolyphenylene ester	CEIL	0.02 ppm	ON (CA, 01/2018)
4,4'-Methylenediphenyl Diisocyanate	OEL	0.005 ppm 8 hours 0.05 mg/m ³ 8 hours	AB (CA, 06/2018)
4,4'-Methylenediphenyl Diisocyanate	TWA	0.005 ppm 8 hours	ACGIH TLV (US, 03/2018); BC (CA, 07/2018); ON (CA, 01/2018); SK (CA, 07/2013)
4,4'-Methylenediphenyl Diisocyanate	TWA	0.05 mg/m ³ 10 hours	NIOSH REL (US, 10/2016)
4,4'-Methylenediphenyl Diisocyanate	CEIL	0.2 mg/m ³ 10 minutes 0.02 ppm 10 minutes	NIOSH REL (US, 10/2016)
4,4'-Methylenediphenyl Diisocyanate	CEIL	0.2 mg/m ³ ; 0.02 ppm	OSHA PEL (US, 05/2018)
4,4'-Methylenediphenyl Diisocyanate	CEIL	0.01 ppm	BC (CA, 07/2018)
4,4'-Methylenediphenyl Diisocyanate	TWA EV	0.005 ppm 8 hours 0.05 mg/m ³ 10 hours	QC (CA, 01/2014)
4,4'-Methylenediphenyl Diisocyanate	STEL	0.015 ppm 15 minutes	SK (CA, 07/2013)

Appropriate Engineering Controls Use only adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual Protection Measures

Eye/Face Protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates it is necessary to avoid exposure to liquid splashes, mists, gases, or dust. If contact is possible, the following protection should be worn unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin Protection
If a risk assessment indicates this is necessary, chemical-resistant, impervious gloves complying with an approved standard should always be worn when handling chemical products. Considering the parameters specified by the glove manufacturer, check that the gloves retain their protective properties during use. It should be noted that the time to breakthrough for any glove material may differ for different manufacturers. In the cases of mixtures consisting of several substances, the protection time of the gloves cannot be accurately estimated. Personal protective equipment for the body should be selected based on the task and the risks involved and approved by a specialist before handling this product. Appropriate footwear and additional skin protection measures should be chosen based on the task and the risks involved and approved by a

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specialist before handling this product.

Respiratory Protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other essential uses.

Hygiene Measures

Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, using the lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing it. Ensure that eyewash stations and safety showers are nearby.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown liquid
Odour	Slightly musty
Odour Threshold	0.4 ppm
pH	Not applicable
Melting Point / Freezing Point	Melting point = 0°C (32°F)
Initial Boiling Point and Boiling Range	208°C (406.4°F)
Flash Point	198.89°C (390°F) (closed cup method)
Evaporation Rate (BuAe = 1)	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limits	Not available
Vapour Pressure	<0.000013 kPa (<0.0001 mm Hg) [room temperature]
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.24
Solubility in Water	Insoluble. Reacts with water.
Solubility (other)	Not available
Partition Coefficient, n-octanol / water (logKow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available

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Viscosity Dynamic (room temperature): 175 to 270 mPa·s (175 to 270 cP)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity is available for this product or its ingredients.
Chemical Stability	Stable under recommended handling and storage conditions (refer to section 7).
Possibility of Hazardous Reactions	Polymerization may occur when it comes into contact with moisture, other materials containing isocyanates, or temperatures above 177°C (350°F).
Conditions to Avoid	Avoid high temperatures.
Incompatible Materials	Water, amines, strong bases, alcohols, copper alloys, and aluminum.
Hazardous Decomposition Products	By heat and fire: carbon monoxide, oxides of nitrogen, hydrogen cyanide, carbon dioxide, dense black smoke, isocyanate, isocyanic acid, and other undetermined compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicological Data

<u>Chemical Name</u>	<u>LC50 (4hr)</u>	<u>LD50</u>
Isocyanic acid, polymethylenepolyphenylene ester	Inhalation vapour, rat: 490 mg/m ³	Dermal, rabbit: >9400 mg/kg Oral, rat: 49 g/kg
4,4'-Methylenediphenyl Diisocyanate	Not available	Oral, rat: 9200 mg/kg

Respiratory and/or Skin Sensitization	Not available
Skin Corrosion / Irritation	Not available
Serious Eye Damage / Irritation	Not available
Specific Target Organ Toxicity - Single Exposure	4,4'-Methylenediphenyl Diisocyanate - Category 3 – Respiratory tract irritation
Specific Target Organ Toxicity - Repeated Exposure	4,4'-Methylenediphenyl Diisocyanate - Category 2 – Respiratory system
Reproductive Toxicity	No known significant effects or critical hazards.
Germ Cell Mutagenicity	No known significant effects or critical hazards.
Aspiration Hazard	Not available
Information on Likely Routes of Exposure	<u>Inhalation</u> Yes <u>Skin Contact</u> Yes

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Eye Contact

Yes

Ingestion

Yes

Signs and Symptoms of Exposure

Inhalation

Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Adverse symptoms may include respiratory tract irritation, coughing, wheezing, breathing difficulties, and asthma.

Skin Contact

Causes skin irritation. May cause an allergic reaction. Adverse symptoms may include irritation and redness.

Eye Contact

Causes serious eye irritation. Adverse symptoms may include pain, irritation, watering, and redness.

Ingestion

No known significant effects or critical hazards.

Potential Chronic Health Effects

Exposure to it for prolonged or repeated periods may damage organs. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity

Lung tumours have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m³) for their lifetime. Tumours occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

<u>Chemical Name</u>	<u>IARC</u>	<u>ACGIH</u>	<u>OSHA</u>
Isocyanic acid, polymethylenepolyphenylene ester	3	-	-
4,4'-Methylenediphenyl Diisocyanate	3	-	-

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Not available
Persistence and Degradability	Not available
Bioaccumulative Potential	<u>4,4'-Methylenediphenyl Diisocyanate</u> LogP _{ow} = 4.51; BCF = 200; Potential = Low
Mobility in Soil	Not available
Other Adverse Effects	No known significant effects or critical hazards.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions, and by-products should comply with
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environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated in the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of safely. Care should be taken when handling empty containers not cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material, runoff, and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

<u>Regulation</u>	<u>UN No.</u>	<u>Proper Shipping Name</u>	<u>Technical Name (for N.O.S. entry)</u>	<u>Transport Hazard Class(es)</u>	<u>Packing Group</u>
TDG	None	Not regulated	Not regulated	Not regulated	Not regulated
49 CFR/DOT	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	(4,4'-Methylenediphenyl Diisocyanate)	9	III
Additional information	<p>DOT (RQ) Details: 4,4'-Methylenediphenyl Diisocyanate 5000 lbs / 2270 kg</p> <p>DOT Classification: Reportable quantity = 11111.1 lbs / 5044.4 kg [1074.7 gal / 4068.1 L]. The classification of the product is due solely to the presence of one or more US DOT-listed 'Hazardous substances' that are subject to reportable quantity requirements and only applies to shipments of packages greater than, or equal to, the product reportable quantity. Package sizes less than the product reportable quantity are not regulated as hazardous materials.</p>				
IMDG	None	Not regulated	Not regulated	Not regulated	Not regulated
ICAO/IATA	None	Not regulated	Not regulated	Not regulated	Not regulated

Tariff Classification Number 3909.50.5000

Special Precautions For transport within the user's premises, always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do during an accident or spillage.

Environmental Hazards Refer to section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available

SECTION 15. REGULATORY INFORMATION

Canadian Information Canada inventory (DSL/NDSL)
All components are listed or exempted.

NPRI: CEPA Toxic substances
The following components are listed: Isocyanic acid, polymethylenepolyphenylene ester; 4,4'-Methylenediphenyl Diisocyanate.

US Information United States Inventory (TSCA 8b)
All components are listed or exempted.

Clean Water Act (CWA) 307
4,4'-Methylenediphenyl Diisocyanate

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Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)
Listed

Clean Air Act Section 602 Class I Substances; Clean Air Act Section 602 Class II Substances; DEA List I Chemicals (Precursor Chemicals); DEA List II Chemicals (Essential Chemicals)
Not listed

SARA 302/304
No products were found.

SARA 311/312
Acute Toxicity (inhalation) – Category 4
Skin Corrosion/Irritation – Category 2
Serious Eye Damage/Eye Irritation – Category 2A
Respiratory Sensitization – Category 1
Skin Sensitization – Category 1
Specific Target Organ Toxicity (Single Exposure) (Respiratory tract irritation) – Category 3
Specific Target Organ Toxicity (Repeated Exposure) (respiratory system) – Category 2

Isocyanic acid, polymethylenepolyphenylene ester
Acute Toxicity (inhalation) – Category 4
Serious Eye Damage/Eye Irritation – Category 2B

4,4'-Methylenediphenyl Diisocyanate
Acute Toxicity (inhalation) – Category 4
Skin Corrosion/Irritation – Category 2
Serious Eye Damage/Eye Irritation – Category 2A
Respiratory Sensitization – Category 1
Skin Sensitization – Category 1
Carcinogenicity – Category 2
Specific Target Organ Toxicity (Single Exposure) (Respiratory tract irritation) – Category 3
Specific Target Organ Toxicity (Repeated Exposure) (respiratory system) (inhalation) – Category 2

SARA 313
Form R – Reporting Requirements: Isocyanic acid, polymethylenepolyphenylene ester (CAS #9016-87-9); 4,4'-Methylenediphenyl Diisocyanate (CAS #101-68-8)

Supplier Notification: Isocyanic acid, polymethylenepolyphenylene ester (CAS #9016-87-9); 4,4'-Methylenediphenyl Diisocyanate (CAS #101-68-8)

State Regulations (MA, NY, PA)
The following components are listed: 4,4'-Methylenediphenyl Diisocyanate

State Regulations (NJ)
The following components are listed: Isocyanic acid, polymethylenepolyphenylene ester; 4,4'-Methylenediphenyl Diisocyanate.

State Regulation (California Prop. 65)
This product does not require a Safe Harbor warning under California Prop. 65.

International Information

Not available

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SECTION 16. OTHER INFORMATION

Date of Latest Revision

July 4, 2024

Disclaimer

The information provided in this document is correct to the best of our knowledge, information, and belief at the date of its publication. This information is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. This information is designed only as general guidance and should not be considered a warranty or quality specification. This information relates only to the specific material designated. Unless specified above, it may not be valid for such material used in combination with other materials or in any process.

END OF SAFETY DATA SHEET