

SAFETY DATA SHEET – RIGID GROUT B

SECTION 1. IDENTIFICATION

Product Identifier	Rigid Grout B
Other Means of Identification	Chemical grout
Recommended Use	Professional use only
Restrictions on Use	None known
Supplier Identifier	Multiurethanes Ltd. 5245 Creekbank Rd Mississauga, ON L4W 1N3 Canada
Emergency Telephone Number	1-800-663-6633

SECTION 2. HAZARD IDENTIFICATION

Classification

<u>Acute Toxicity (Inhalation)</u>	Category 4
<u>Skin Corrosion/Irritation</u>	Category 2
<u>Serious Eye Damage/Eye Irritation</u>	Category 2A
<u>Respiratory Sensitization</u>	Category 1
<u>Skin Sensitization</u>	Category 1
<u>Carcinogenicity</u>	Category 2
<u>Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation)</u>	Category 3

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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.
Suspected of causing cancer.
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.
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.

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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	≥ 90%	Not available	Not available
4,4'-Methylenediphenyl Diisocyanate	101-68-8	≥ 25 - ≤ 50%	Not available	Not available

Notes

Any concentration shown as a range is to protect confidentiality or is due to batch variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4. FIRST-AID MEASURES

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. 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.

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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 victim to fresh air and keep at rest in a position comfortable for breathing. If 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 directed to do so by medical personnel. 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. Over-exposure 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. Over-exposure symptoms may include respiratory tract irritation, coughing, wheezing, breathing difficulties, and asthma. Causes skin irritation. May cause an allergic skin reaction. Over-exposure symptoms may include irritation and redness.
Indication of Immediate Medical Attention and Special Treatment Needed	In case of inhalation of decomposition products in a fire, symptoms may be delayed. 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.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media Use dry chemical, CO₂, water spray (fog) or foam.

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Unsuitable
Extinguishing Media

None known

Specific Hazards Arising from the Product

In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include carbon dioxide, carbon monoxide and nitrogen oxides.

Special Protective Equipment and Precautions for Firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated 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 appropriate respirator when ventilation is inadequate. Use appropriate personal protective equipment.

Methods and Material for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in 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 and 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).

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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 or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure – obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breath vapour or mist. Do no ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Good housekeeping is needed during storage, transfer, handling, and use of this material. Handle in accordance with good industrial hygiene and safety procedures. Always wash 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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters – Occupational Exposure Limits

<u>Chemical Name</u>	<u>Type</u>	<u>Exposure Limit Values</u>	<u>Source</u>
Isocyanic acid, polymethylenepolyphenylene ester	8 hrs OEL	0.07 mg/m ³ 8 hours 0.005 ppm 8 hours	Province of Alberta (Canada, 04/2009)
Isocyanic acid, polymethylenepolyphenylene ester	TWA	0.005 ppm 8 hours	Province of British Columbia (Canada, 07/2016); Province of Ontario (Canada, 07/2015)
Isocyanic acid, polymethylenepolyphenylene ester	CEIL	0.01 ppm	Province of British Columbia (Canada, 07/2016)
Isocyanic acid, polymethylenepolyphenylene ester	CEIL	0.02 ppm	Province of Ontario (Canada, 07/2015)

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<u>Chemical Name</u>	<u>Type</u>	<u>Exposure Limit Values</u>	<u>Source</u>
4,4'-Methylenediphenyl Diisocyanate	TWA	0.005 ppm 8 hours	ACGIH TLV (US, 03/2017); Province of British Columbia (Canada, 07/2016). Absorbed through skin. Skin sensitizer.; Province of Ontario (Canada, 07/2015); Province of Saskatchewan (Canada, 07/2013)
4,4'-Methylenediphenyl Diisocyanate	TWA	0.05 mg/m ³ 10 hours 0.005 ppm 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	0.02 ppm 0.2 mg/m ³	OSHA PEL (US, 06/2016)
4,4'-Methylenediphenyl Diisocyanate	8 hrs OEL	0.005 ppm 8 hours 0.05 mg/m ³ 8 hours	Province of Alberta (Canada, 04/2009)
4,4'-Methylenediphenyl Diisocyanate	C	0.01 ppm	Province of British Columbia (Canada, 07/2016). Absorbed through skin. Skin sensitizer.
4,4'-Methylenediphenyl Diisocyanate	TWAEV	0.005 ppm 8 hours 0.051 mg/m ³ 8 hours	Province of Quebec (Canada, 01/2014). Skin sensitizer.
4,4'-Methylenediphenyl Diisocyanate	STEL	0.015 ppm 15 minutes	Province of Saskatchewan (Canada, 07/2013)
4,4'-Methylenediphenyl Diisocyanate	8 hrs OEL	0.005 ppm 8 hours 0.05 mg/m ³ 8 hours	Province of Alberta (Canada, 04/2009)

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 this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin Protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different

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for different glove 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 being performed and the risks involved and should be approved by a 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 important aspects of use.

Hygiene Measures 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. Ensure that eyewash stations and safety showers are in close proximity.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown liquid
Odour	Slightly musty
Odour Threshold	0.4 ppm
pH	Not applicable
Melting Point / Freezing Point	0°C (32°F)
Initial Boiling Point and Boiling Range	208°C (406.4°F)
Flash Point	Closed cup: 198.89°C (390°F)
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 mmHg) [room temperature]

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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
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 available for this product or its ingredients.
Chemical Stability	The product is stable.
Possibility of Hazardous Reactions	Contact with moisture, other materials that react with isocyanates, or temperatures above 177°C (350°F), may cause polymerization.
Conditions to Avoid	Avoid high temperatures.
Incompatible Materials	Water, amines, strong bases, alcohols, copper alloys, aluminum.
Hazardous Decomposition Products	By heat and fire: carbon monoxide, oxides of nitrogen, hydrogen cyanide, carbon dioxide, dense black smoke, isocyanate, isocyanic acid, other undetermined compounds.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

<u>Inhalation</u>	Yes
<u>Skin Contact</u>	Yes
<u>Eye Contact</u>	Yes
<u>Ingestion</u>	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. Over-exposure symptoms may include respiratory tract irritation, coughing, wheezing, breathing difficulties, and asthma.

Skin Contact
Causes skin irritation. May cause an allergic skin reaction. Over-exposure symptoms may include irritation and redness.

Eye Contact
Causes serious eye irritation. Over-exposure symptoms may include pain, irritation, watering, and redness.

Ingestion
No known significant effects or critical hazards.

Potential Chronic Health Effects

May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Acute Toxicity

Inhalation (vapours) - ATE value = 15.95 mg/L
Inhalation (dusts and mists) – ATE value = 4.833 mg/L

Skin Corrosion/Irritation

No data available

Serious Eye Damage/Irritation

Isocyanic acid, polymethylenepolyphenylene ester
Mild irritant (100 mg exposure, rabbit)

4,4'-Methylenediphenyl Diisocyanate
Moderate irritant (100 mg exposure, rabbit)

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Specific Target Organ Toxicity - Single Exposure *Isocyanic acid, polymethylenepolyphenylene ester*
Category 3 – Respiratory tract irritation

4,4'-Methylenediphenyl Diisocyanate
Category 3 – Respiratory tract irritation

Specific Target Organ Toxicity - Repeated Exposure *Isocyanic acid, polymethylenepolyphenylene ester*
Category 2 – Respiratory system (inhalation)

4,4'-Methylenediphenyl Diisocyanate
Category 2 – not determined

Aspiration Hazard No data available

Respiratory and/or Skin Sensitization No data available

Reproductive Toxicity No known significant effects or critical hazards.

Germ Cell Mutagenicity No known significant effects or critical hazards.

Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

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

Toxicological Data

<u>Chemical Name</u>	<u>LC50</u>	<u>LD50</u>
Isocyanic acid, polymethylenepolyphenylene ester	Not available	> 9400 mg/kg (dermal, rabbit) 49 g/kg (oral, rat)
4,4'-Methylenediphenyl Diisocyanate	Not available	9200 mg/kg (oral, rat)

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity Not available

Persistence and Degradability Not available

Bioaccumulative Potential

<u>Chemical Name</u>	<u>LogP_{ow}</u>	<u>BCF</u>	<u>Potential</u>
4,4'-Methylenediphenyl Diisocyanate	4.51	200	Low

Mobility in Soil Not available

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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 any by-products should comply with requirements of 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 untreated to 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 in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and 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'- Methylene)diphenyl Diisocyanate) RQ (4,4'- Methylene)diphenyl Diisocyanate)	9	III
additional information	Reportable quantity 5044.4 kg / 11111.1 lbs [4068.1 L / 1074.7 gal]. 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.				
IMDG	None	Not regulated	Not regulated	Not regulated	Not regulated
ICAO/IATA	None	Not regulated	Not regulated	Not regulated	Not regulated

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 in the event of an accident or spillage.

Environmental Hazards Refer to section 12.

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

SECTION 15. REGULATORY INFORMATION

Canadian Information

<u>WHMIS</u>	Refer to section 2.
<u>NPRI</u>	The following components are listed: Isocyanic acid, polymethylenepolyphenylene ester; 4,4'-Methylenediphenyl Diisocyanate
<u>CEPA Toxic substances</u>	None of the components are listed.
<u>Canada inventory (DSL/NDSL)</u>	All components are listed or exempted.

US Information

<u>TSCA</u>	8(a) PAIR: 4,4'-Methylenediphenyl Diisocyanate 8(a) CDR Exempt/Partial exemption: Not determined 8(b) US inventory: All components are listed or exempted. 8(c) calls for record of SAR: Isocyanic acid, polymethylenepolyphenylene ester; 4,4'-Methylenediphenyl Diisocyanate
<u>Clean Water Act (CWA) 307</u>	4,4'-Methylenediphenyl Diisocyanate
<u>Clean Air Act</u>	Section 112 (b) Hazardous Air Pollutants (HAPs): Listed
<u>SARA Title III - Section 311/312 - Hazard Chemical Inventory</u>	Classification: 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

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Specific Target Organ Toxicity (Repeated Exposure)
(respiratory system) – Category 2

Composition/Information on Ingredients:

Isocyanic acid, polymethylenepolyphenylene ester

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) – Category 2

Specific Target Organ Toxicity (Repeated Exposure)
(respiratory system) (inhalation) – Category 2

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

SARA Title III -
Section 313 – Toxic
Chemical

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

4,4'-Methylenediphenyl Diisocyanate is a listed component in Massachusetts, New York, New Jersey, Pennsylvania.

Isocyanic acid, polymethylenepolyphenylene ester is a listed component in New Jersey.

International Information

Not available

SAFETY DATA SHEET – RIGID GROUT B**SECTION 16. OTHER INFORMATION**

Date of Latest Revision September 13, 2018

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 a general guidance and is not to be considered a warranty or quality specification. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified above.

END OF SAFETY DATA SHEET