

SAFETY DATA SHEET – MME UNIVERSAL RESIN

SECTION 1. IDENTIFICATION

| | |
|--------------------------------------|---|
| Product Identifier | MME Universal Resin |
| Other Means of Identification | Universal Resin, hydrophobic polyurethane 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>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 |
| <u>Specific Target Organ Toxicity - Repeated Exposure (Respiratory System)</u> | Category 2 |

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Label Elements

Hazard Pictograms



Signal Word

DANGER

Hazard Statements

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. 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 sunlight in a dry, cool, and well-ventilated area. 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

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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. Get 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 irritation. Over-exposure symptoms may include pain, watering, and redness. 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, asthma. Causes skin irritation. May cause an allergic skin reaction. Over-exposure symptoms may include irritation, 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 media suitable to the surrounding fire.

Unsuitable Extinguishing Media None known

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| Specific Hazards Arising from the Product | 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

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| 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 get in eyes or on skin. 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). |

SECTION 7. HANDLING AND STORAGE

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| 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 |
|--------------------------------------|--|

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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 not 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, 06/2018) |
| Isocyanic acid, polymethylenepolyphenylene ester | TWA | 0.005 ppm 8 hours | Province of British Columbia (Canada, 07/2018); Province of Ontario (Canada, 01/2018) |
| Isocyanic acid, polymethylenepolyphenylene ester | C | 0.01 ppm | Province of British Columbia (Canada, 07/2018) |
| Isocyanic acid, polymethylenepolyphenylene ester | C | 0.02 ppm | Province of Ontario (Canada, 01/2018) |
| 4,4'-Methylenediphenyl Diisocyanate | TWA | 0.005 ppm 8 hours | ACGIH TLV (US, 03/2018); Province of British Columbia (Canada, 07/2018). Absorbed through skin. Inhalation sensitizer.; Province of Ontario (Canada, 01/2018); 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) |

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|-------------------------------------|--------------|---|---|
| 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, 05/2018) |
| 4,4'-Methylenediphenyl Diisocyanate | 8 hrs OEL | 0.005 ppm 8 hours 0.05 mg/m ³ 8 hours | Province of Alberta (Canada, 06/2018) |
| 4,4'-Methylenediphenyl Diisocyanate | C | 0.01 ppm | Province of British Columbia (Canada, 07/2018). Absorbed through skin. Inhalation 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) |

Appropriate Engineering Controls

Use only adequate ventilation. If user operations generate dust, fumes, gas, vapour, or mist, 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 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

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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

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|---|--|
| Appearance | Brown to light brown liquid |
| Odour | Slightly musty |
| Odour Threshold | Not available |
| pH | Not available |
| Melting Point / Freezing Point | Not available |
| Initial Boiling Point and Boiling Range | Not available |
| Flash Point | Closed cup: > 93.33°C (> 200°F) [Pensky-Martens.] EPA 1010 |
| Evaporation Rate (BuAe = 1) | Not available |
| Flammability (solid, gas) | Not available |
| Upper/Lower Flammability or Explosive Limits | Not available |
| Vapour Pressure | Not available |
| Vapour Density (air = 1) | Not available |
| Relative Density (water = 1) | 1.131 |
| Solubility in Water | Insoluble in water. Reacts slowly with water to liberate carbon dioxide. |
| Solubility (other) | Not available |

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| Partition Coefficient, n-octanol / water (logKow) | Not available |
| Auto-ignition Temperature | Not available |
| Decomposition Temperature | Not available |
| Viscosity | Dynamic: 235 to 335 mPa·s (235 to 335 cP) @ 77°F |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Reactivity | Reacts with moisture and other materials that react with isocyanate. |
| Chemical Stability | The product is stable. |
| Possibility of Hazardous Reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to Avoid | Avoid extreme heat, direct sunlight, and moisture. |
| 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. |

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicological Data – Acute Toxicity

| <u>Chemical Name</u> | <u>Result</u> | <u>Species</u> | <u>Dose</u> | <u>Exposure</u> |
|---|-----------------------|----------------|-----------------------|-----------------|
| Isocyanic acid, polymethylenepolyphenylene ester | LC50 Inhalation Vapor | Rat | 490 mg/m ³ | 4 hours |
| Isocyanic acid, polymethylenepolyphenylene ester | LD50 Dermal | Rabbit | >9400 mg/kg | - |
| Isocyanic acid, polymethylenepolyphenylene ester | LD50 Oral | Rat | 49 g/kg | - |
| 4,4'-Methylenediphenyl Diisocyanate | LD50 Oral | Rat | 9200 mg/kg | - |
| Oxirane, 2-methyl-, polymer with Oxirane | LC50 Inhalation Vapor | Rat | 320 mg/m ³ | 4 hours |
| Oxirane, 2-methyl-, polymer with Oxirane | LD50 Oral | Rat | 5700 mg/kg | - |

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Toxicological Data – Irritation/Corrosion

| <u>Chemical Name</u> | <u>Result</u> | <u>Species</u> | <u>Score</u> | <u>Exposure</u> | <u>Observation</u> |
|--|--------------------------|----------------|--------------|-----------------|--------------------|
| Isocyanic acid, polymethylenepolyphenylene ester | Eyes – Mild irritant | Rabbit | - | 100 mg | - |
| 4,4'-Methylenediphenyl Diisocyanate | Eyes – Moderate irritant | Rabbit | - | 100 mg | - |

Acute Toxicity

| <u>Route</u> | <u>ATE value</u> |
|------------------------------|------------------|
| Inhalation (vapors) | 30.65 mg/L |
| Inhalation (dusts and mists) | 6.17 mg/L |

Specific Target Organ Toxicity - Single Exposure

| <u>Name</u> | <u>Category</u> | <u>Target Organs</u> |
|-------------------------------------|-----------------|------------------------------|
| 4,4'-Methylenediphenyl Diisocyanate | Category 3 | Respiratory tract irritation |

Specific Target Organ Toxicity - Repeated Exposure

| <u>Name</u> | <u>Category</u> | <u>Target Organs</u> |
|-------------------------------------|-----------------|----------------------|
| 4,4'-Methylenediphenyl Diisocyanate | Category 2 | Respiratory system |

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 | - | - |

Respiratory and/or Skin Sensitization No data available

Reproductive Toxicity No data available

Germ Cell Mutagenicity No data available

Aspiration Hazard No data available

Information on Likely Routes of Exposure

Inhalation Yes

Skin Contact Yes

Eye Contact Yes

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Ingestion

Yes

Signs and Symptoms of Exposure

Inhalation

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

Skin Contact

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

Eye Contact

Causes serious eye irritation. Adverse symptoms may include pain, irritation, watering, 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. Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

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

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

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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 | Not regulated | - | - | - | - |
| 49 CFR/DOT | UN3082 | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. | (4,4'- Methylene-diphenyl Diisocyanate) | 9 | III |
| additional information | <i>Non-bulk packages of this product are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤ 5 L or ≤ 5 kg. Reportable quantity 9211.3 kg / 20289.2 lbs [8144.4 L / 2151.5 gal]. Package sizes shipped in quantities less than the reportable quantity are not subject to the RQ transportation requirements.</i> | | | | |
| IMDG | Not regulated | - | - | - | - |
| ICAO/IATA | Not regulated | - | - | - | - |
| additional information | <i>The environmentally hazardous substance mark may appear if required by other transportation regulations.</i> | | | | |

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 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

Canada inventory (DSL/NDSL)

All components are listed or exempted.

NPRI

The following components are listed: Isocyanic acid, polymethylenepolyphenylene ester; 4,4'-Methylenediphenyl Diisocyanate

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

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

Listed

Clean Air Act Section 602 Class I Substances

Not listed

Clean Air Act Section 602 Class II Substances

Not listed

DEA List I Chemicals (Precursor Chemicals)

Not listed

DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 302/304

No products were found.

SARA 304 RQ

Not applicable

SARA 311/312

Skin Corrosion/Irritation – Category 2

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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) – Category 2

| <u>Chemical Name</u> | <u>Classification</u> |
|--|--|
| 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) – Category 2 |

SARA 313

| | <u>Product Name</u> | <u>CAS Number</u> |
|---------------------------------|---|-----------------------|
| Form R – Reporting Requirements | Isocyanic acid, polymethylenepolyphenylene ester 4,4'-Methylenediphenyl Diisocyanate | 9016-87-9 101-68-8 |
| Supplier Notification | Isocyanic acid, polymethylenepolyphenylene ester 4,4'-Methylenediphenyl Diisocyanate | 9016-87-9 101-68-8 |

State Regulation (Massachusetts)

The following components are listed: 4,4'-Methylenediphenyl Diisocyanate

State Regulation (New York)

The following components are listed: 4,4'-Methylenediphenyl Diisocyanate

State Regulation (New Jersey)

The following components are listed: Isocyanic acid, polymethylenepolyphenylene ester; 4,4'-Methylenediphenyl Diisocyanate

State Regulation (Pennsylvania)

The following components are listed: 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 October 12, 2021

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