SAFETY DATA SHEET

1. Identification

Material name: PERMAROOF MB MESH - 4" X 300' ROLL
Material: 40040M300

Recommended use and restriction on use

Recommended use: Article
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Republic Powdered Metals
2628 Pearl Road
Medina OH 44256
US

Contact person: EH&S Department
Telephone: 330-273-5090
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards
Carcinogenicity Category 1B

Unknown toxicity - Health
Acute toxicity, oral 0 %
Acute toxicity, dermal 80 %
Acute toxicity, inhalation, vapor 100 %
Acute toxicity, inhalation, dust or mist 100 %

Unknown toxicity - Environment
Acute hazards to the aquatic environment 100 %
Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: May cause cancer.
Precautionary Statement:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibrous Glass</td>
<td>65997-17-3</td>
<td>60 - 100%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Rinse mouth thoroughly.

Inhalation: Move to fresh air.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Eye contact: Rinse immediately with plenty of water.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.
## Suitable (and unsuitable) extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media:</th>
<th>Use fire-extinguishing media appropriate for surrounding materials.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media:</td>
<td>Do not use water jet as an extinguisher, as this will spread the fire.</td>
</tr>
<tr>
<td>Specific hazards arising from the chemical:</td>
<td>During fire, gases hazardous to health may be formed.</td>
</tr>
</tbody>
</table>

## Special protective equipment and precautions for firefighters

| Special fire fighting procedures: | No data available. |
| Special protective equipment for fire-fighters: | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |

## 6. Accidental release measures

| Personal precautions, protective equipment and emergency procedures: | No data available. |
| Methods and material for containment and cleaning up: | Collect spillage in containers, seal securely and deliver for disposal according to local regulations. |
| Notification Procedures: | In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. |
| Environmental Precautions: | Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. |

## 7. Handling and storage

| Precautions for safe handling: | Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust. |
| Conditions for safe storage, including any incompatibilities: | Store locked up. |

## 8. Exposure controls/personal protection

<p>| Control Parameters | Occupational Exposure Limits |</p>
<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibrous Glass - Inhalable fraction.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
</tr>
<tr>
<td>Fibrous Glass - Fiber.</td>
<td>TWA</td>
<td>1 fibers/cm³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.2 fibers/cm³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
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</tbody>
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<th>Chemical name</th>
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<th>Source</th>
</tr>
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<tr>
<td>Fibrous Glass - Fiber.</td>
<td>TWA</td>
<td>0.2 fibers/cm³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1 fibers/cm³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
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<td>Fibrous Glass - Inhalable fibers.</td>
<td>TWA</td>
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</tr>
<tr>
<td>Fibrous Glass - Inhalable</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Fibrous Glass - Respirable fibers.</td>
<td>TWA</td>
<td>1 fibers/mL</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Fibrous Glass - Fiber.</td>
<td>TWA</td>
<td>0.2 fibers/mL</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Fibrous Glass - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Fibrous Glass - Fiber.</td>
<td>TWA</td>
<td>1 fibres/cm³ (non-asbestos fibres) -- size restriction s apply</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>2 fibres/cm³ (non-asbestos fibres) -- size restriction s apply</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
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</tbody>
</table>

**Appropriate Engineering Controls**

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

**Individual protection measures, such as personal protective equipment**

**General information:** Use personal protective equipment as required.

**Eye/face protection:** Wear goggles/face shield.

**Skin Protection**

Hand Protection: Use suitable protective gloves if risk of skin contact.

**Other:** No data available.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

**Hygiene measures:** Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product.
9. Physical and chemical properties

Appearance

Physical state: solid
Form: solid
Color: White
Odor: Slight
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.

Vapor pressure: No data available.
Vapor density: No data available.
Relative density: 2.025

Solubility(ies)

Solubility in water: Insoluble in water
Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid heat or contamination.

Incompatible Materials: No data available.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.
11. Toxicological information

Information on likely routes of exposure

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Moderately irritating to skin with prolonged exposure.

Eye contact: Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: No data available.

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: May cause cancer.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Fibrous Glass Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
Fibrous Glass Reasonably Anticipated to be a Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro Product: No data available.

In vivo Product: No data available.

Reproductive toxicity Product: No data available.

Specific Target Organ Toxicity - Single Exposure Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure Product: No data available.

Aspiration Hazard Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product: No data available.

Aquatic Invertebrates Product: No data available.
Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in Soil: No data available.
Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG: Not Regulated

CFR / DOT: 000000007703
Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<table>
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<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
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<tr>
<td>Fibrous Glass</td>
<td>500 lbs</td>
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</table>

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.
US. New Jersey Worker and Community Right-to-Know Act
Chemical Identity
Fibrous Glass

US. Massachusetts RTK - Substance List
Chemical Identity
Fibrous Glass

US. Pennsylvania RTK - Hazardous Substances
Chemical Identity
Fibrous Glass

US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Inventory Status:
Australia AICS: One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List: All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP: One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List: One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances: One or more components in this product are not listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI): One or more components in this product are not listed on or exempt from the Inventory.

Canada NDSL Inventory: One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS: One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory: All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals: One or more components in this product are not listed on or exempt from the Inventory.

Japan ISHL Listing: One or more components in this product are
Japan Pharmacopoeia Listing: One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision

Revision Date: 07/29/2015
Version #: 1.0
Further Information: No data available.
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