MATERIAL SAFETY DATA SHEET – Pipe and Tank Insulation (Mineral Wool)

GLT Products
6810 Cochran Road
Solon, OH 44139

GLT Products
Date Prepared: 01/10/03
Emergency Phone: Chem-Tel 800/255-3924
Information Phone: 440/914-1122

Section 1 – Product Identification
Name: Pipe and Tank Insulation (Mineral Wool)

Section 2 – Component Data

Exposure Limits:

A). Man Made Vitreous Fiber

<table>
<thead>
<tr>
<th></th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
<th>NIOSH-REL</th>
<th>TIMA-REL</th>
<th>CAS#</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>15 mg/m³</td>
<td>10 mg/m³</td>
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<tr>
<td>Respirable</td>
<td>5 mg/m³</td>
<td>Respirable</td>
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</table>

B). Urea extended phenol formaldehyde resin-cured

<table>
<thead>
<tr>
<th></th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
<th>CAS#</th>
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<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
<td>25104-55-6</td>
</tr>
</tbody>
</table>

C). For ASJ jacketed products only, adhesive contains ethylene-vinyl acetate copolymer

<table>
<thead>
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<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Section 3 – Physical Characteristics

- Boiling Point: N/A
- Vapor Pressure (mm Hg): N/A
- Vapor Density (Air=1): N/A
- % Solubility: Nil
- Odor: Faint resin odor
- Specific Gravity (H2O=1): Var.
- Melting Point: 2000°F
- Evaporation Rate: N/A
- Appearance: Yellow-beige, may be faced

Section 4 – Fire and Explosion Hazard Data

- Flash Point: N/A
- Flammable Limits: LEL N/A
- Autoignition Temperature: N/A
- Extinguishing Media: Use media appropriate to the surrounding fire conditions.
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Special Fire Fighting Procedures: Treat as residential building materials.
Unusual Fire & Explosion Hazards: The facing on faced products may burn and care should be exercised when working around an open flame. The organic binder and the facing will emit toxic fumes and smoke when oxidized and ventilation is recommended on initial equipment start-up.

Section 5 – Health Hazard Data

Routes of Entry: Inhalation, skin and eye contact.
Acute Effects: Manmade Vitreous Fibers (MMVF) are mechanical irritants to skin, eyes and upper respiratory system.
Chronic Effects: Extensive medical-scientific research has been conducted into the health aspects of MMVF’s over the past 50 years. The International Agency for Research on Cancer (IARC), an agency for the World Health organization (WHO) has reviewed this research. The research has included studies of over 50,000 workers employed in the industry as well as animal studies.

Animal studies have shown that MMVF’s were not a carcinogen in inhalation. Malignant tumors were produced in animals when large doses of MMVF were implanted surgically or injected into the chest or abdomen by passing the animal’s natural defense mechanisms. As a result, IARC has classified MMVF’s in group 2B, “possibly carcinogenic to humans”. No increased risk has been demonstrated through inhalation experiments, even at doses of 3000f/ml over a two-year period.

The results of human studies showed a somewhat higher risk of lung cancer among workers employed in the industry during the early days of production (1930-1950). A variety of carcinogens used at the time and the lack of dust-suppressing agents contributed to the hazard.

The OSHA does not currently list or regulate MMVF’s as a carcinogen, but does regulate those materials as “particulates, not otherwise regulated”. However, OSHA is in the process of establishing separate exposure limits for MMVF’s at this time.

Section 6 – Reactivity Data

Hazardous Polymerization: Will not occur
Stability: Stable
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Incompatibility: Hydrofluoric Acid  
Conditions to Avoid: None in designed use  
Hazardous Decomposition or By-Products: Carbon dioxide, carbon monoxide, hydrocarbon particles, carbon-hydrogen-nitrogen and nitrogen-oxygen compounds, methyl isocyanale, cyanic acid and hydrogen cyanide.

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**Section 7 – Emergency and First Aid Procedures**

Eye Contact: Flush with copious quantities of water. Contact a physician if irritation persists.  
Inhalation: Remove to fresh air and drink water.  
Skin Contact: Cleanse with cold water, then warm water and soap.  
Ingestion: Not likely, contact physician if it occurs.

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**Section 8 – Recommended Work Practices**

Wear Loose Clothing: Wearing long-sleeved shirts and blouses, loose at the neck and wrists, along with long pants and caps will protect skin areas from coming in contact with mineral wool fiber. Loose clothing prevents fiber from rubbing into the skin. Depending on job conditions, gloves may be necessary.  
Prevent Airborne Dust: Dust collection systems should be used whenever mineral wool fiber exposures may exceed either established dust standards or recommended fiber standards. Operations such as sawing, machining, and/or blowing mineral wool fiber have the greater potential for high exposures.  
Protect Eyes: Safety glasses, goggles or face shields should be worn whenever fiber materials are being applied overhead or in areas where particles or fibers may get into eyes.  
Skin: Don’t rub or scratch skin. If mineral wool particles and fibers accumulate on exposed skin areas, do not rub or scratch. Remove the material by washing the skin thoroughly but gently with warm water and mild soap. Using a good commercial skin cream or lotion after washing may be helpful.  
Wear Respirators: If there is a possibility that airborne mineral wool fiber concentrations may exceed recommended working levels or if respiratory discomfort is experienced, respirators should be worn. Acceptable respirators are those specifically approved by NIOSH for protection against dusts. Examples are 3M8710, 9910, etc. An appropriate fit-testing program must be incorporated in the respiratory program.  
Work Clothes: Wash work clothes separately. Work clothing worn in areas where exposure to mineral wool fiber is possible.
should be washed separately from other household laundry to prevent fiber from being transferred to their clothing. Rinse the washing machine thoroughly before it is used again. If there is a lot of fiber on clothing it is best to presoak and rinse the garments first, prior to washing.

Work Areas:
Keep work areas clean. Avoid unnecessary handling of scrap materials by keeping waste disposal equipment as close to working areas as possible. Do not let scrap material and debris pile up on floors and other surfaces. Follow an organized housekeeping program at all times.

Section 9 – Additional Information

<table>
<thead>
<tr>
<th>NFPA Rating</th>
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<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
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<tr>
<td>HMIS Rating</td>
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</tbody>
</table>

Section 10 – Disclaimer

The information presented in this MSDS represents the most accurate known presentation of this product. However, due to the many and diverse variables in its end use, it is the end users responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary.