SECTION I - PRODUCT NAME (s):
1. DELTA®-PC (Precision Cut) Mineral Wool Pipe Insulation
2. DELTA®-PF (Pre-Formed) Mineral Wool Pipe Insulation
3. DELTA®-FPF (Field Pre-Formed) Mineral Wool Pipe Insulation

SECTION II - PRODUCT INGREDIENTS
1. Chemical Name: Mineral Wool Fiber  
   CAS Number: None Assigned  
   Common Name(s): Slag Wool, Mineral Wool  
   Exposure Limits:  
   - Total Dust: 15mg/M³  
   - Respirable Dust: 5mg/M³  
   Percent: 97% to 99% (Workplace Exposure Guideline)

2. Chemical Name: Modified Urea extended Phenolic Cured Resin  
   CAS Number: 25104-55-6  
   Common Name(s): Binder, Thermal Set Resin, Resin  
   Exposure Limits:  
   Percent: ....from 0.5 % to 1.5 %

3. Chemical Name: Adhesive, (dried)  
   Used to adhered any facing to the exterior mineral wool surface of the pipe insulation.  
   CAS Number: None Assigned, an article  
   Common Name(s): Solvent Based Adhesive  
   Exposure Limits:  
   Percent: .... Less than 1%
4. Chemical Name: Petroleum Hydrocarbon
   CAS Number: None Assigned
   Common Name(s): Anti-dust Oil, Industrial Oil, Dust Surfactant
   Exposure Limits:  
<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>5mg/M³</td>
<td>N.A.</td>
<td></td>
</tr>
</tbody>
</table>
   Percent ........ 0.01% or less

5. Chemical Name: Adhesive (Dried)
   Applied only to Delta®-PF’s & Delta®-FPF’s V-grooves as a resin binder
   CAS Number: None Assigned, an article
   Common Name(s): Solvent Based Adhesive
   Exposure Limits:  
<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td></td>
</tr>
</tbody>
</table>
   Percent ........ 0.1% or less

6. Chemical Name: Continuous filament fibrous glass bonded together with phenolic cured resin; applied with silicate of soda to the Facing/Substrate.
   CAS Number: 65997-17-3
   Common Name(s): Fiber Glass Mat, Dura-Glass Laminating Mat
   Exposure Limits:  
<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Dust</td>
<td>15mg/M³</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Respirable Dust</td>
<td>5mg/M³</td>
<td>1 f/cc**</td>
<td></td>
</tr>
</tbody>
</table>
   Percent ........ Less than 1%

** Under the acceptance of the Health & Safety Partnership Program, Rock Wool Manufacturing Company recommends a maximum workplace exposure of 1 respirable fiber/ cc.

6A. Subpart of Fiber Glass Mat. The following shows ingredients included in the composition of the bonded continuous filament fibrous glass.
   Chemical Name: Modified Urea extended Phenolic Thermal Set Cured Resin
   CAS Number: 9011-05-6
   Common Name(s): Binder, Thermal Setting Resin, Resin
   Exposure Limits:  
<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td></td>
</tr>
</tbody>
</table>
   Percent ........ Less than 0.2%

7. Chemical Name: Vapor Retarder Facing for Insulation (laminated, kraft paper, continuous filament fibrous glass scrim, & aluminum foil) including Self-Sealing Lap
   CAS Number: None Assigned, “An Article” per CFR 1910.1200
   Common Name(s): All Service Jacket (ASJ) Facing, Foil-Scrim-Kraft (FSK) Facing
   Percent ........ Less than 1%

7A. Subpart of Vapor Retarder Facing: The following shows ingredients included in the manufacturer of the facings plus self-sealing lap.
   Components:  
<table>
<thead>
<tr>
<th></th>
<th>CAS No.</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
</table>
   Filament Fibrous Glass | 65997-17-3 | N.A.     | 10mg/M³   |
   Antimony Tri-Oxide    | 1309-64-4 | 0.5 mg/M³ | 0.5 mg/M³ |
   Decabromodiphenyloxide | 1163-19-5 | 5 mg/M³  | 5 mg/M³   |
SECTION III - PHYSICAL DATA

Boiling Point: N.A.       Vapor Density: (air=1) N.A.
Re-Melting Point (Mineral Wool): >2000°F.       Specific Gravity: Variable
Re-Melting Point (Fil. Fibrous Glass): >1600°F.       Pure/Mixture: Mixture
Vapor Pressure: N.A.       % Volatile by Volume: N.A.
Solubility in H₂O: None       Evaporation Rate: N.A.

Appearance and Odor: Yellowish in color. No appreciable odor. Some products have a aluminum foil, white kraft paper laminate, glass mat, or metal mesh facing.

SECTION IV - FIRE & EXPLOSION HAZARD DATA

Flash Point (°F.): Incombustible; Resin will pyrolyze at sustained temperatures above 500°F.
Flammability Limits: LEL = N.A. UEL = N.A.
Auto-Ignition Temperature (°F): N.A.
Extinguishing Media: Water, Foam, Dry Chemical, CO₂

Unusual Fire and Explosion Hazards: No unusual fire and explosion hazards. However, paper and foil facings of some products can burn.

Special Fire Fighting Instructions: Self-contained/supplied-air breathing apparatus is recommended.

SECTION V - REACTIVITY DATA

Stability (conditions to avoid): Materials are stable.
Incompatibility (materials to avoid): Aluminum foil may chemically react to high pH materials such as uncured portland cement with the presence of water.
Hazardous Decomposition Products: Some paper facings, resins, and binder may decompose in a fire causing acid smoke. Decomposition products are carbon monoxide, carbon dioxide, carbon particulates and water.
Hazardous Polymerization: Will not occur

SECTION VI - HEALTH HAZARD DATA

Primary Route(s) of Entry: Inhalation, skin, and eye contact

Inhalation:
   Acute: The release of mineral fibers during normal handling may cause short term irritation to the nose and/or throat.
   Chronic: The International Agency for Research on Cancer (IARC), has classified mineral wool as a group 3 (“not classifiable as to carcinogenicity to humans”).
SECTION VI - HEALTH HAZARD DATA (continued...)

Skin Contact:
Acute: May cause transitory mechanical dermatitis. Skin absorption does not occur.
Chronic: None known

Eye Contact:
Acute: Direct contact will cause mechanical irritation.
Chronic: None known

Ingestion:
Acute: Unlikely to occur under normal conditions of use. If ingested, it may cause temporary irritation to the gastrointestinal (GI) tract (especially the stomach). Observe individual; if symptom develop, consult a physician.
Chronic: None known

Aggravated Medical Conditions: Pre-existing upper respiratory and lung diseases may be aggravated by dust.

The product is a mechanical irritant for skin, eyes, and upper respiratory system

Carcinogenicity: NTP Listed IARC Classified OSHA Regulated
No Yes No

Emergency & First-Aid Procedures:
Inhalation: Remove from exposure. Drink water to clear throat and blow nose to evacuate fibers.
Skin Contact: Frequent washing of skin surface with water to remove accumulated fibers will minimize irritation. If irritation persists consult a physician. Treat as a mechanical irritant.
Eye Contact: Flush eye with flowing water until irritation stops. If symptoms persist, seek medical attention.
Ingestion: Product in not intended to be ingested or eaten. If this product is ingested, irritation of the GI (gastrointestinal) tract may occur, and should be treated symptomatically. Rinse mouth with water to remove fibers, and drink plenty of water to help reduce the irritation. No chronic effects are expected following ingestion.

SECTION VII - SPILL, LEAK & DISPOSAL PROCEDURES
Action to take for spills: Normal clean-up procedures. Avoid creating dust.
Waste Disposal Method: Mineral wool fiber products are generally classified as a non-hazardous inert waste and disposal may be in unlined land fills for noncritical materials. Local regulations should be consulted.
EPA Hazardous Waste Number: N.A.
These materials are not regulated under the "RCRA" hazardous waste regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION (During Installation or Removal.)
Ventilation: Use sufficient natural or mechanical ventilation to maintain airborne dust concentration below Threshold Limit Value (TLV).
Respiratory Protection: Should the Permissible Exposure Limits (PEL) of RESPIRABLE fiber or dust in Section II of this MSDS be exceeded, use a NIOSH approved N-95 respirator.
Eye and Face: Safety glasses, goggles or face shields should be worn when materials are being handled, fabricated, or applied especially overhead.
SECTION VIII - SPECIAL PROTECTION INFORMATION (During Installation or Removal)

General: Wear long-sleeved, loose fitting clothing, gloves and head covering. Wash work clothes separately from other clothing to prevent possible mineral wool fiber migration to other clothes. Rinse washer after use.

SECTION IX - SPECIAL PRECAUTIONS AND OTHER COMMENTS

Handling and Storage:

Keep materials under cover, dry and minimize the generation of dust. Care should be taken to protect faced products from open flames and other sources of ignition. Care should be taken to protect hands when handling metal mesh facings with sharp edges.

Heat-up Precautions: During initial heat-up in excess of 500°F. (260°C.), some organic binder decomposition may occur. Initially, a modicum of smoke and odor may be present. Adequate ventilation must be provided during this period of time.

SECTION X - Footnotes and ABBREVIATIONS:

ACGIH (U.S.) American Conference of Governmental Industrial Hygienists
CAS (U.S.) Chemical Abstract Service
EPA (U.S.) Environmental Protection Agency
IARC (Int’l.) International Agency for Research on Cancer
LEL Lower exposure Limit
N. A. Not Applicable or Not Assigned
NIOSH National Institute of Occupational Safety and Health
NTP (U.S.) National Toxicology Program
OSHA (U.S.) Occupational Safety and Health Administration
PEL (U.S.) Permissible Exposure Limit
RCRA (U.S.) Resource Conservation and Recovery Act
TWA Time Weighted Average
TLV Threshold Limit Value
UEL Upper Exposure Limit

The responsibility to provide a safe workplace remains with the user. As of the date of preparation of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable federal and state law(s). However, THE MANUFACTURER MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

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