MATERIAL SAFETY DATA SHEET
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SECTION 1 - IDENTITY

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>SUPERKNOT</th>
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</thead>
<tbody>
<tr>
<td>GENERIC NAME</td>
<td>KNITTED AMPHORPHOUS SILICA FIBER</td>
</tr>
<tr>
<td>INTENDED USE</td>
<td>MEDIUM/HIGH TEMPERATURE THERMAL INSULATION</td>
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</tbody>
</table>

SECTION 2 - INGREDIENTS

| CHEMICAL NAME               | SILICON DIOXIDE, AMORPHOUS SILICA |
| FORMULA                     | SiO₂, 96% MINIMUM CONTENT         |
| GAS NUMBER                  | 7631-86-9                         |

SECTION 3 - PHYSICAL PROPERTIES

| APPEARANCE               | WHITE FIBER                        |
| FIBER SIZE               | NOMINALLY 6 MICRONS, NON-RESPIRABLE |
| PEL                        | 6mg/m³                             |
| TLV                        | 10mg/m³                            |
| SPECIFIC GRAVITY          | 2.1g/cm                            |
| MELTING POINT             | 3000°F                             |
| INCOMPATIBILITY           | BASIC PHOSPHATES, BASIC HYDROXIDES, HYDROFLUORIC ACID |

SECTION 4 - HEALTH HAZARDS

| RESPIRABILITY             | INDEPENDENT STUDIES PERFORMED ON SUPERKNOT |
| TARGET ORGANS             | MAY CAUSE MINOR IRRITATION OR INFLAMMATION OF EYES, TEMPORARY IRRITATION OF SKIN OR RASH, MINOR IRRITATION OR SCRATCHING OF THROAT AND NASAL PASSAGES. |
| CHRONIC EFFECTS           | NONE KNOWN WHEN HEATED AT STEADY STATE TEMPERATURES AT OR BELOW 1800°F. MAY PHASE CHANGE TO CRYSTALLINE SILICA OR CRUSTALISATION, A KNOWN CARCINOGEN, WHEN HEATED AT STEADY STATE TEMPERATURES ABOVE 1800°F. MAY AGGRAVATE PREEXISTING UPPER RESPIRATORY AND LUNG DISEASES. |

SECTION 5 - PERSONAL PROTECTION EQUIPMENT

| CLOTHING                  | WEAR LOOSE-FITTING, LONG SLEEVED CLOTHING AND GLOVES. WASH CLOTHING SEPARATELY.             |
| EYE PROTECTION            | WEAR SAFETY GLASSES WITH SIDE SHIELDS |
| RESPIRATORY               | NON REQUIRED FOR HANDLING PRODUCT EXPOSED TO STEADY STATE TEMPERATURES AT OR BELOW 1800°F. IF NUISANCE FIBERS CAUSE NASAL OR THROAT IRRITATION WEAR DUST MASK. IF HEATED AT STEADY STATE TEMPERATURES ABOVE 1800°F WEAR HRP HALF MASK RESPIRATOR |

SECTION 6 - HANDLING AND DISPOSAL

| HANDLING                  | MINIMIZE AIRBORNE DUST BY SUFFICIENT NATURAL OR MECHANICAL VENTILATION. DISPOSE IN LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. |

SECTION 7 - FIRST AID

| EYES                      | FLUSH WITH copious AMOUNTS OF WATER FOR 15 MINUTES |
| SKIN                      | WASH THROUGHLY WITH SOAP AND WATER |
| RESPIRATORY              | REMOVE TO FRESH AIR |

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# Material Safety Data Sheet

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## Product and Company Identification
- **Product Name**: Manwool
- **Use**: Medium/High temperature thermal insulation

## Composition and Information Ingredients
- **Product Description**: Amorphous Silica Fibre Needle felt (Minimum filament diameter 6 micron)
- **Composition**: Fabric: >95% Amorphous silica (After drying)

## Potential Health Effects
- **Ingestion**: Not Applicable
- **Skin Contact**: May cause temporary irritation or inflammation.
- **Inhalation**: Irritation or soreness in throat or nose.
- **Eye Contact**: May cause temporary irritation or inflammation.

## Hazard Identification

### First Aid Measures
- **Skin**: Wash affected areas with soap and warm water.
- **Eyes**: Flush eyes with copious amounts of water for 15 minutes.
- **Inhalation**: Remove from the exposure area to fresh air; drink water to clear throat and blow nose to evacuate fibres.
- **Other First Aid Information**: In all cases if irritation persists, seek medical attention.

### Fire Fighting Measures
- **Extinguishing Media**: All standard fire fighting media.
- **Special fire fighting procedures**: None

### Accidental Release Measures
- **Action to be taken if material is released or spilled**: Not Applicable

## Handling & Storage
- **Handling precaution**: *Minimize airborne dust* *Wear a dust mask if necessary* *Avoid contact with skin and eyes.*
- **Storage**: No special requirements.

## Exposure Controls and Personal Protection
- **Exposure controls for hazardous components**: Amorphous silica
- **Exposure Limits**: ACGIH TLV 10 mg/m³
- **Personal Protective Equipment**
  - **Respiratory**: Appropriate respiratory protection if necessary.
  - **Hand**: Sensitive individuals may need to wear gloves.
  - **Eye**: Sensitive individuals may need to wear goggles.
  - **Skin**: Wear loose fitting long sleeved clothing.

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Physical and Chemical Properties
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Form : Needlefelt
Color : White
Odor : None
Safety Related Information :
Boiling point/Boiling range : Not Applicable
Flashpoint : Not Applicable
Melting point/Melting range : 3000°F
Auto ignition temperature : Not Applicable
Specific Gravity : 2.2

Stability and Reactivity
Conditions to avoid : Manwool will not undergo a phase change to crystalline silica (cristobalite) when exposed to temperature below 1800°F. There is a possibility of conversion when the material is exposed to temperatures above this for extended periods.
Materials to avoid : Basic phosphates, alkalis, hydrofluoric acid, some oxides and hydroxides.

Toxicological Information
Potential health effects :
Medical conditions, which may be aggravated : Pre existing upper respiratory and lung disease could be aggravated.
Target organs : Lungs, skin and eyes.
Acute health effects : Mechanical irritant to skin, eyes and upper respiratory track.
Chronic health effects : None known
Primary entry routes : Inhalation, skin and eye contact.

Ecological Information
Silica products are not readily biodegradable, No known harmful effects on the environment.

Waste Disposal
Dispose as solid waste according to local regulations.

Transport Information
No special requirements.

Regulatory Information
Symbols : None
Risk phrases : None
Safety phrases : None

Other Information
This product data safety sheet was prepared in compliance with Council Directive 91/55/ECC 67/548 and 88/379/EEC as well as their relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labeling of dangerous substances and preparations.
All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. Mannings USA shall not be held responsible for any defect in the product covered by this SDS should the existence of such defect not be detectable considering the current state of scientific and technical knowledge.