

THERMAL CERAMICS
MATERIAL SAFETY DATA SHEET

MSDS GROUP: 201

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PRODUCT IDENTIFICATION
KAOWOOL PRODUCTS

BLANKET:

Standard (NF or Non-NF)
Blanket S
Blanket B
Blanket B-1800
2600 Blanket
HP Blanket
HP Blanket B
FireMaster Blanket
Strip
FireMaster Strip
Tank Car Insulation
Weld Insulation (WIK)
430 SS Mesh Enclosed Shapes
Cerawool Blanket
Cerablanket (CB)
Thermo-Mat

MODULES:

HP Modules
2600 Modules
Unibloc Modules (CB)
Saber Bloc Modules
Saber Bloc II Modules
Saber Sections
Pyro-Fold "M" Modules
Pyro-Fold "Y" Modules
Quad-Bloc I
Z-Blok (CB)

BULK FIBER:

(Chopped &
Unchopped):
Bulk D
Bulk C
Bulk D-73F
Bulk 88-70
Bulk 89-10
Bulk XE
ST Bulk
Chopped Fiber
Cerawool Bulk
Cerafiber BULK

ULTRAFELT PRODUCTS:

Ultrafelt Blanket
Ultrafelt Paper

MANUFACTURER:

Thermal Ceramics
P.O. Box 923
2102 Old Savannah Road
Augusta, GA 30906

CHEMICAL NAME AND SYNONYMS:

N/A Mixture

SECTION I

EMERGENCY TELEPHONE NUMBER:
(404) 796-4200

CHEMICAL FAMILY:

Aluminosilicate (CAS #65997-17-3)

SECTION II - HAZARDOUS INGREDIENTS

A. AS MANUFACTURED:

Refractory Ceramic Fiber (RCF)
[CAS # 65997-17-3]

WT. %

100

TLV/PEL
1 Fiber/cc*

* Thermal Ceramics Recommended Exposure Guidelines (REG)

B. AFTER NORMAL USE:

See Section IX

SECTION III - PHYSICAL DATA

Boiling Point:	N/A	Specific Gravity Range (H ₂ O = 1):	2.56
Vapor Pressure (mm Hg.):	N/A	Percent Volatile by Volume (%):	N/A
Vapor Density (Air = 1):	N/A	Evaporation Rate:	N/A
Solubility in Water:	Insoluble		
Appearance and Odor:	Wool-like fibrous material. No odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media:	N/A	FLASH POINT (Method Used):	N/A
Flammable Limit:	N/A	LEL:	N/A
Unusual Fire and Explosive Hazards:	N/A	UEL:	N/A
Special Fire Fighting Procedures:	N/A		

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SECTION V - HEALTH HAZARD DATA

Primary Route of Entry: Inhalation, ingestion and skin contact

Effects of Overexposure: This substance or mixture has not been classified a carcinogen by NTP or OSHA. Exposure to dust should be minimized. Long-term exposure to RCF causes no known chronic health problems in humans. No Federal or State agency regulates occupational exposure to RCF. Limited testing with laboratory animals has produced conflicting results concerning the possible carcinogenicity of RCF. IARC has placed RCF, along with fiber glass wool and mineral wool, in Category 2B (IARC believes there is sufficient evidence of carcinogenicity in animals but insufficient data in humans). Handling RCF products may generate respirable particulates which may cause temporary irritation or discomfort of the skin, eyes, nose, throat or lungs and may aggravate bronchial disorders.

Emergency and First Aid Procedures:

Inhalation: Remove to fresh air. **Ingestion:** Drink plenty of water. **Skin:** Wash with mild soap and water. **Eyes:** Flush with plenty of water. If irritation persists, call a physician.

SECTION VI - REACTIVITY DATA

Stability: Stable

Hazardous Polymerization: Will not occur.

Materials/Conditions to Avoid: None

SECTION VII - SPILL OR LEAK PROCEDURES

Spill or Leak: Follow routine housekeeping procedures. Vacuuming with HEPA filter is preferred. If sweeping is necessary, use a dust suppressant. **Waste Disposal:** Wastes are not hazardous wastes as defined by RCRA (40 CFR 261). Comply with Federal, State and Local regulations.
Method of Disposal: Landfill. RQ - N/A.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection:

MSHA/NIOSH/-approved and cristobalite whenever

times REG/PEL - 3M 90

with high efficiency filter type C supplied air or equivalent

Ventilation:

Local Exhaust:

Follow OSHA Standard 29 CFR 1910.94

Mechanical (General): Follow OSHA Standard 29 CFR 1910.94

Protective Gloves:

Recommended

Eye Protection:

Goggles/safety glasses with sideshields are recommended

Other Protective Equipment: Long-sleeved shirts, long pants, cap.

t inhalation of RCF

respectively. Up to 5

irvivair full facepiece

-00-06 full facepiece

NOTE: See attached new "Respirator Protection Guide" HS91-C2, December, 1991.

SECTION IX - SPECIAL PRECAUTIONS

Precautions To Be Taken After Service and Upon Removal: As manufactured, RCF products are aluminosilicates which may transform upon heating to mullite and cristobalite (a form of crystalline silica). Removal of RCF products after service may generate dust. Prolonged/repeated inhalation of respirable free crystalline silica dust may cause delayed lung injury (silicosis). IARC has placed crystalline silica in Category 2A (IARC believes there is sufficient evidence of carcinogenicity in animals but evidence for the carcinogenicity to humans is limited). The OSHA recommended TLV and PEL for respirable cristobalite is 0.05 mg/m³. Appropriate ventilation and respiratory protection should be provided in compliance with OSHA Standards 29 CFR 1910.94 and 1910.134, respectively.

For further information, refer to Thermal Ceramics' publication, "HEALTH AND SAFETY ASPECTS OF REFRACTORY CERAMIC FIBERS", dated 05/90.

Date Prepared: 5/1/87

Date Revised: 8/01/91

PRODUCT SAFETY INFORMATION



Member
National Safety Council

"RESPIRATORY PROTECTION GUIDE"

December 1991

Before providing respirators to employees (especially negative pressure type), employers should 1) have the workers health evaluated by a physician to determine the workers' ability to wear respirators, 2) implement respiratory protection training programs, and 3) monitor for airborne fibers and respirable cristobalite concentrations using NIOSH method 7400(B) and 7500 respectively and select the appropriate respiratory protection based upon the results of that monitoring.

Use NIOSH/MSHA approved respirators, in compliance with OSHA Respiratory Protection Standard 29 CFR 1910.134, for the particular hazard or airborne concentrations to be encountered in the work environment.

Minimum Acceptable Respiratory Type When Handling RCF Products

AS-PRODUCED OR "VIRGIN" FIBERS		AFTER-SERVICE FIBERS & CRISTOBALITE	
CONCENTRATION*	RESPIRATOR	CONCENTRATION*	RESPIRATOR
Up to 1 fiber/cc	OPTIONAL: Disposable dust/mist respirator (e.g. 3M 9900)		
1 - 5 fibers/cc	Half-face, air-purifying respirator equipped with high efficiency particulate air (HEPA) filter cartridges (e.g. 3M 6000 Series)	Up to 5 fibers/cc or Up to 0.5 mg/m ³ respirable cristobalite	Half-face, air-purifying respirator equipped with high-efficiency particulate air (HEPA) filter cartridges (e.g. 3M 6000 Series)
5 - 25 fibers/cc	Full face air-purifying respirator with high efficiency particulate air (HEPA) filter cartridges (e.g. 3M 7800 with 7255 filters) or powered air-purifying respirator (PAPR) equipped with HEPA filter cartridges (e.g. 3M W3265S with W3267 filters)	5 - 25 fibers/cc or 0.5 - 2.5 mg/m ³ respirable cristobalite	Full face air-purifying respirator with high efficiency particulate air (HEPA) filter cartridges (e.g. 3M 7800 with 7255 filters) or powered air-purifying respirator (PAPR) equipped with HEPA filter cartridges (e.g. 3M W3265S with W3267 filters)
Greater than 25 fibers/cc	Full face positive pressure supplied air respirator (e.g. 3M 7800 with W9435 hose and W3196 regulator)	Greater than: 25 fibers/cc or 2.5mg/m ³ respirable cristobalite	Full face positive pressure supplied air respirator (e.g. 3M 7800 with W9435 hose and W3196 regulator)

If airborne fiber or cristobalite concentrations are not known, as minimum protection use half-face air-purifying respirator with HEPA filter cartridges. (e.g. 3M 6000 Series)

Note: cc = Cubic centimeter
 mg/m³ = Milligrams per cubic meter of air
 * = Eight hour time weighted average (TWA) of concentrations determined by air samples collected and analyzed using NIOSH method 7400(B) for airborne fibers and method 7500 for Cristobalite.

