

Medical Conditions Generally Aggravated by Exposure to Particles: Pre-existing disease or other conditions of the lungs, skin, eyes and mucous membranes.

Section 4 – First Aid Measures

Eye Contact: Flush eyes with large amounts of water. If irritation persists, seek medical attention.

Skin Contact: Wash affected areas with mild soap and water.

Inhalation: If exposed to excessive levels of dust or vapors during heating, remove victim to fresh air. Seek medical attention if coughing or other symptoms persist.

Ingestion: As shipped, product not likely to be ingested; but if it occurs, do not induce vomiting. If victim is conscious, moderate amounts of water or milk may be administered. Seek medical attention.

Section 5 – Fire Fighting Measure

NFPA Code: Flammability: 0 Health: 0 Reactivity: 0 Special: 0

Flash Point: Product is not combustible

Flammable Limits: Not Applicable

Extinguishing Media: As appropriate for surrounding fire.

Fire Fighting Equipment: Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing (bunker gear) when fighting fires.

Section 6 – Accidental Release Measures

If dusts are generated during a spill, these should be collected by gently sweeping the material into a dustpan or collecting with a vacuum device. All personnel engaged in cleanup operations should adhere to the instructions outlined in Section 8 for personal protection. Disposal of wastes from cleanup operations should be carried out in accordance with the guidelines outlined in Section 13.

Section 7 – Handling and Storage

Handling: Avoid direct contact with product or dusts from product by wearing protective clothing, using approved respiratory protection and wearing gloves of the impermeable type.

Storage: The product should be stored in a dry location. Pallet protection such as shrink-wrap or stretch-wrap should be kept in place until the product is required for installation.

Section 8 – Exposure Controls and Personal Protection

Engineering Controls: Process enclosures, local exhaust ventilation, or other engineering process controls may be necessary to keep any air contaminants associated with this product within their TLV's. This is particularly true if user operation generates dust.

Respiratory Protection: Since this product is a proprietary mixture of unique ingredients, it does not have an established limit for airborne concentration (PEL or TLV), which workers can routinely be exposed to without suffering adverse health effects. This MSDS is prepared to alert customers and other users to the various components of the product and their relative quantity and toxicity in the product as it is provided. The user must review his/her own circumstances and then determine what is required to establish a respiratory protection program that meets OSHA 1910.134 requirements. If workplace conditions warrant respiratory protection, use MSHA/NIOSH approved units as listed in the current 29 CFR 1910.134 for the existing conditions. Some type of respiratory protection is recommend for even the best conditions. Actual respirator selection should be made after consultation with a competent health and safety professional.

Personal Protective Equipment: The use of eye protection, dust respirator, gloves and long sleeve clothing is recommended.

Section 9 – Physical and Chemical Properties

Appearance: Pre-formed geometric solid
Odor: No Odor
Water Solubility: Not soluble
Density (H₂O=1): 1.4
% Volatile (By Weight): 0

Vapor Pressure (mm Hg): Not Applicable
Vapor Density (Air=1): Not Applicable
ph (10% solids): 7 - 9
Boiling Point (°C): Not Applicable
Melting Point: Not Applicable
Evaporation Rate: Not Applicable

Section 10 – Stability and Reactivity

Chemical Stability: This product is stable under normal and/or anticipated conditions for shipping, storage and installation.

Chemical Incompatibilities: None

Hazardous Decomposition or Combustion Products: None

Hazardous Polymerization: Not Applicable

Section 11 – Toxicological Information

LD50/CD50 values that are relevant for classification:

	LD₅₀	CD₅₀
Crystalline Silica		
Crystobalite	No Data	No Data
Tridymite	No Data	No Data
Quartz	No Data	No Data
Calcium Aluminate Cement	No Data	No Data

Target Organs

Crystalline Silica	
Crystobalite	Respiratory
Tridymite	Respiratory
Quartz	Respiratory
Calcium Aluminate Cement	No Data

Long Term Toxicity

Crystalline Silica	
Crystobalite	Repeated and prolonged inhalations may cause lung disease (Silicosis)
Tridymite	Repeated and prolonged inhalations may cause lung disease (Silicosis)
Quartz	Repeated and prolonged inhalations may cause lung disease (Silicosis)
Calcium Aluminate Cement	No Data

Short Term Toxicity

Crystalline Silica	
Crystobalite	Repeated and prolonged inhalations may cause lung disease (Silicosis)
Tridymite	Repeated and prolonged inhalations may cause lung disease (Silicosis)
Quartz	Repeated and prolonged inhalations may cause lung disease (Silicosis)
Calcium Aluminate Cement	No Data

Special Studies

Section 12 – Ecotoxicological Information

Accidental Release: No data available on any adverse effects of this material on the environment

Section 13 – Disposal Considerations

Waste Disposal Method: The as-manufactured refractory or dust from this material is not considered a hazardous waste as defined by 40 CFR 261. However, used product (and dusts generated during maintenance and tear-out operations) may be contaminated with other hazardous substances from the particular application (for example, metals). Therefore, appropriate waste analysis may be necessary to determine proper disposal. A qualified environmental professional in accordance with applicable federal, state, and local regulations should determine waste characterization and disposal/treatment methods.

Section 14 – Transport Information

US Department of Transportation: Not regulated by DOT as a hazardous material. No hazard class, no label or placard required, no UN or NA number assigned.

Canadian TDG Hazard Class & Pin: Not regulated

Section 15 – Regulatory Information

Refractory Depot, Inc considers this product to be hazardous as defined by the OSHA Hazardous Communications Standard (29 CFR 1910.1200). Section 2 chemicals, which must be addressed, and the summary of regulatory and other lists upon which they appear are:

Ingredient	CAS Number	Lists (s)
Bauxite	1318-16-7	1,2,3,4
Clay	1302-93-8	1,2,3,4
Cystalline Silica		
Cristobalite	14464-46-1	1,2,3,4
Quartz	14808-60-7	1,2,3,4

The lists are as follows:

1. ACGIH TLV “Threshold Limit Values” (1997)
2. OSHA Air Contaminants – Permissible Exposure Limits (1989)
3. Canadian Domestic Substances List
4. EPA TSCA Chemical Inventory List (1992)

WHMIS Hazard Class (Canada): D2A

SARA Title III:

Section 302 Extremely Hazardous: None

Section 313 Toxic Chemicals: See Section 2

Section 16 – Other Information

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein; however, Refractory Depot, Inc. makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.