

**MATERIAL SAFETY DATA SHEET**



**MONTERREY FLOOR & MOSAIC TILE  
Permabrites & Permatones Series**

**DAL-TILE CORPORATION**

Dal-Tile Group  
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**EMERGENCY ASSISTANCE:** Environmental, Health and Safety Department  
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Tile products manufactured by Dal-Tile are environmental preferable building materials when compared to other floor/wall coverings. As defined by guidelines issued by the Environmental Protection Agency, the American Society for Testing & Materials, and the Federal Trade Commission, Muskogee Porcelain Tile is one of the most environmentally friendly building materials you can buy today. Should you desire additional information, please direct your inquiry to the address above.

**1. PRODUCT IDENTIFICATION**

Common Name: Floor & Mosaic Tile  
 Synonyms: Ceramic Tile and wares  
 Chemical Name: None  
 Chemical Family: Natural inorganic products  
 Chemical Formula: Not applicable to tiles.  
 CAS Reg. No.: Not applicable to the tiles. Listed for individual components in Section 2.

This document has been prepared in accordance with the Occupational Safety and Health Administration (OSHA) Hazard Communication standard, 29 Code of Federal Regulations (CFR) 1910.1200, and American National Standard for Hazardous Industrial Chemicals, ANSI Z400.1-1993, Material Safety Data Sheets - Preparation.

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Tile products are mixtures of predominately Clays and other naturally-occurring mineral, that have been mixed with water and fired in a high temperature kiln.  
 Tiles are manufactured in various shapes, sizes, and colors.  
 These products do not contain asbestos.  
 Under normal condition these products do not release hazardous materials after installation and are not considered hazardous waste should disposal be necessary..

Composition	CAS Number	Estimated % By Wt.	OSHA PEL	NIOSH IDLH	ACGIH TLV*	Units
Crystalline silica as quartz - respirable fraction	14808-60-7	14-18	$\frac{10}{\%SiO_2+2}$	25	0.025	mg/m <sup>3</sup>
- total dust			$\frac{30}{\%SiO_2+2}$	N.E.	N.E.	mg/m <sup>3</sup>

**2. COMPOSITION/INFORMATION ON INGREDIENTS (Cont.)**

Composition	CAS Number	Estimated % By Wt.	OSHA PEL	NIOSH IDLH	ACGIH TLV*	ACGIH STEL	Units
Clays	1332-58-7	30-40					
- respirable fraction			5	N.E	2	N.E	mg/m <sup>3</sup>
- total dust**			15	N.E	10	N.E	mg/m <sup>3</sup>
Nepheline syenite	37244-96-5	45					
- respirable fraction**			5	N.E.	N.E.	N.E	mg/m <sup>3</sup>
- total dust**			15	N.E.	N.E.	N.E	mg/m <sup>3</sup>

\* 2001 Edition, respirable fraction to be determined as per Appendix D of ACGIH TLV.

\*\* Covered as particles not otherwise regulated per OSHA and particles not otherwise classified per ACGIH.

N.D. - Not determined

N.E. - Not established

### 3. HAZARDS IDENTIFICATION

#### 3.1 Summary

Tile products are mixtures of predominantly clays and other natural occurring minerals that have been mixed with water and fired in a high temperature kiln. The tiles are odorless, stable, non-flammable, and pose no immediate hazard to health. Respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates if dust is produced by cutting tiles or if dust is produced by any other operations, including removal.

#### 3.2 Potential Health Effects

##### **Primary Routes of Exposure**

None for intact tile. Inhalation and potential eye exposure to eyes, hands, or other body parts if contact is made with broken, and/or during procedures involving the cutting of tiles, and/or for operations involving the removal of installed tiles.

##### **Acute Effects**

No acute effects from exposure to intact tile are known. Working with broken or cut tile produces a potential for cuts to the hands and exposed body parts. Acute effects such as eye irritation may occur if associated with high dust operations such as dry cutting tile or during the removal of tile surfaces. In very rare cases, symptoms of acute silicosis, a form of silicosis (a nodular pulmonary fibrosis) associated with exposure to respirable crystalline silica, may develop following acute exposure to extremely dusty environments generated from tile dust. Signs such as labored breathing and early fatigue may indicate silicosis; however, these symptoms can arise from many other causes.

##### **Chronic Effects**

No chronic effects are known for exposure to intact tile. Long-term, continual exposure to respirable crystalline silica at or above allowable occupational exposure limits may lead to the development of silicosis (a nodular pulmonary fibrosis), and are associated with pulmonary tuberculosis, bronchitis, emphysema, and other airway diseases. This type of exposure may also be related to the development of autoimmune disorders, chronic renal disease, and other adverse health effects. Recent epidemiologic studies demonstrate that workers exposed to elevated silica concentrations have a significant risk of developing chronic silicosis. Signs such as labored breathing and early fatigue may indicate silicosis; however, these symptoms can arise from many other causes.

#### 3.2 Potential Health Effects (Continued)

##### **Potential Adverse Interactions**

Silicosis may be complicated by severe mycobacterial or fungal infections and result in tuberculosis (TB). Epidemiologic studies have established that silicosis is a risk factor for developing TB. Any existing respiratory or pulmonary diseases may be complicated by exposure to respirable crystalline silica. Smoking may increase the risk of adverse effects if done in conjunction with occupational exposure to silica at or above allowable limits.

#### **Carcinogen Status**

Respirable crystalline silica is classified by the International Agency for Research on Cancer (IRAC) as a Group I Carcinogen (carcinogenic to humans). The National Toxicology Program (9<sup>th</sup> Report) lists respirable crystalline silica as Known to be a Human Carcinogen. USDOL/OSHA and NIOSH have recommended that crystalline silica be considered a potential occupational carcinogen.

#### **Overview of Animal Testing Data**

Short term experimental studies of rats have found that intratracheal instillation of **quartz** particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters.

#### **Oral (silica) Lethality**

LD50 Rat oral >22,500 mg/kg

LD50 Mouse oral >15,000 mg/kg

LC50 Carp >10,000 mg/l (per 72 hr)

### **4. FIRST AID MEASURES**

Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes if dust gets in eyes. Get medical attention if irritation persists.

Skin: Wash thoroughly after working with tiles.

Inhalation: Remove to fresh air if exposed to large amounts of tile dust. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call for prompt medical attention.

Ingestion: Not applicable for intact tiles.

Have emergency eyewash station available in area where tiles are cut.

### **5. FIRE-FIGHTING MEASURES AND INFORMATION**

Flash Point (Method Used): Not applicable.

Autoignition Temperature: Not applicable.

Flammable Limits (% by Volume in Air): LEL - not applicable.

UEL - not applicable.

Fire Extinguishing Media: None required. Non-flammable.

Special Fire Fighting Procedures: None required.

Fire and Explosion Hazards: None.

### **6. ACCIDENTAL RELEASE MEASURES**

If material is released or spilled, avoid creating excessive dust. Clean up dust by vacuum or damp sweeping.

## 7. HANDLING AND STORAGE

When cutting, grinding or removing, use equipment with integral dust collection and/or use local exhaust ventilation. Use wet cutting methods to reduce generation of dust. Use respiratory protection in the absence of effective engineering controls.

Shelf life is unlimited.

Do not store near acids. If tiles contact some acids, damage/discoloration to the surface may occur.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ventilation:** Use adequate ventilation to keep exposure to dust below recommended exposure levels. Avoid inhalation of dust. The highest probability of silica exposure occurs during dry cutting or removal of installed tile. Wet cutting methods are recommended.

**Respiratory Protection:** Use of a properly fitted NIOSH/MSHA approved particulate respirator is recommended when cutting tiles or during the removal of tile surfaces.

**Eye Protection:** Use dust-proof goggles or safety glasses with side shields. Contact lenses may absorb irritants. Do not wear contact lenses in work areas.

**Skin Protection:** Cotton or leather work gloves should be worn when cutting this product to minimize skin exposure to dust and/or cuts. Wash hands prior to eating, drinking, or smoking, and at the end of the work shift, after cutting operations are conducted.

**NOTE:** Personal protection information in Section 8 is based on general information for normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the assistance of an industrial hygienist or other qualified professional be sought.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brittle solid; color may vary.
Odor:	Odorless.
Melting Point:	Not available (>2200 °F).
Boiling Point:	Not applicable.
Vapor Pressure:	Not applicable.
Vapor Density (Air = 1):	Not applicable.
Solubility in Water:	Insoluble.
Specific Gravity (H <sub>2</sub> O = 1):	1.2 to 1.5
Percent Volatile by Volume:	Not applicable.
Evaporation Rate (Ethyl Ether = 1):	Not applicable.
Viscosity:	Not applicable.

## 10. STABILITY AND REACTIVITY

Stability:	Stable in current form.
Conditions to Avoid:	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Incompatibility (Materials to Avoid):	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products:	None.

**11. DISPOSAL CONSIDERATIONS**

Waste should be disposed of in a landfill certified to accept such materials in accordance with federal, state, and local regulations.

**12. TRANSPORTATION INFORMATION**

D.O.T. Shipping Name: Not applicable  
 Hazard Class: Non-regulated (for disposal purposes material is non-hazardous Class III regulated material)  
 ID Number: Not applicable  
 Marking: Not applicable  
 Label: None  
 Placard: None  
 Hazardous Substance/RQ: Not Applicable  
 Shipping Description: Porcelain Ceramic Tiles  
 Packaging References: None

**13. REGULATORY INFORMATION**

This product and/or its components have been previously introduced into U.S. commerce and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce. Hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR Section 721 and 723.250.

This tile contains <1 percent by weight each of the following elements, which are SARA 313 Recordable: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Mercury, Nickel, Lead, Silver, Thallium, Tin, Titanium, Vanadium, and Zinc.

This product or its components meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Sections 3 and 11)	<input type="checkbox"/> Unstable
<input type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

Title 22 Division 2, California Code of Regulation Chapter 3 (Proposition 65): This product contains a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

Note: The information in this data sheet provides information related to the potential hazards associated with dusts which may be produced during cutting or otherwise changing the shape of the tile during installation and/or removal.

**14. ADDITIONAL INFORMATION**

Hazardous Material Identification System

HMIS: Health: 0 Fire: 0 Reactivity: 0

National Fire Protection Association

NFPA: Health: 0 Fire: 0 Reactivity: 0