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SAFETY DATA SHEET

CERAMIC TILE

Tile Series: **Crystal Stone**

1. PRODUCT IDENTIFICATION

Common Name:	Ceramic Tile (For purposes of this SDS, the term "ceramic" encompasses all types of tile products manufactured/sourced by Dal-Tile Corporation.)
Synonyms:	Ceramic Tile and Wares
Manufacturer Name:	Dal-Tile Corporation
Address:	Headquarters Office 7834 C.F. Hawn Freeway, Dallas, TX 75217
Emergency Assistance:	Environmental, Health and Safety Department Richard Ray - (214) 309-4295 1-800-933-TILE; (214) 398-1411 (24-hour number)
Recommended Use:	Building Material - Tile products manufactured/sourced by Dal-Tile Corporation are environmentally 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, 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.

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(g), Safety Data Sheets.

2. HAZARDS IDENTIFICATION

Tile products are mixtures of predominantly clays, silica sand, and other natural occurring minerals that have been mixed with water and fired in a high temperature kiln. The finished, fired 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 during installation or if dust is produced by any other operations, including demolition/removal projects.

Emergency Overview: Danger! Lung injury and Cancer Hazard
GHS Classification (Global Harmonized Standard Classification):
- Carcinogenicity Category 1A (H350)
- Specific target organ toxicity, single exposure; Respiratory tract irritation - Category 3 (H335)
- Specific target organ toxicity, repeated exposure - Category 1A (H372)

GHS Label, Hazards and Precautionary Statements
GHS Pictogram:

Crystalline Silica: Category 3 (Respiratory tract irritation) (H335)

Categories 1A(Carcinogenicity)(H372)

Label Signal Word: Danger

Hazard Statements:
- (H350) May cause CANCER (inhalation)
- (H335) May cause respiratory irritation
- (H372) Causes damage to organs (lung/respiratory) through prolonged or repeated exposure (inhalation)

2. HAZARDS IDENTIFICATION (CONT)

Precautionary Statements:

Do not handle until all safety precautions have been read and understood. (P202)
Do not breathe dust/spray. (P260 + P261)
Wash skin thoroughly after handling. (P264)
Do not eat, drink or smoke when using this product. (P270)
Wear protective gloves, protective clothing, eye protection, face protection. (P280)

Potential Health Effects:

Inhalation: Do not breathe dust. See "Health Hazards" in Section 11 for more details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Tile products are mixtures of predominately Clays, Silica Sand and other naturally-occurring minerals, 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 conditions these products do not release hazardous materials after installation and are not considered hazardous waste should disposal be necessary.

Composition	CAS# / EINECS#	Estimated % by Wt.	EU Class
Crystalline silica as quartz	CAS: 14808-60-7 EINECS: 238-878-4	0-30	(67/548/EEC) Xn R48/20
Clays	CAS: 1332-58-7 EINECS: 265-064-6	20-55	(67/548/EEC) Xi R36/37/38
Nepheline syenite	CAS: 37244-96-5 EINECS: N/A	0-50	(67/548/EEC) Xi R36/37/38
Talc	CAS: 14807-96-6 EINECS: 238-877-9	0-40	(67/548/EEC) Xi R36/37/38
Feldspar	CAS: 68476-25-5 EINECS: 270-666-7	0-15	(67/548/EEC) Xi R36/37/38
Biotite	CAS: 12001-26-2 EINECS: 215-479-3	0-5	(67/548/EEC) Xi R36/37/38

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

Avoid creating excessive dust. Clean up dust with a vacuum system with a High-efficiency particulate (HEPA) air filter vacuum or damp sweeping. See Section 8 of this SDS concerning PPE information for clean-up.

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.

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

Shelf life is unlimited.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Table

Composition	OSHA PEL	NIOSH IDLH	ACGIH TLV*	Units
Crystalline silica as quartz -respirable fraction	10 / %SiO2+2	0.05	0.025	mg/m3
-total dust	30 / %SiO2+2	N.E.	N.E.	mg/m3
Clays -respirable fraction	5	N.E.	2	mg/m3
-total dust**	15	N.E.	10	mg/m3
Nepheline syenite -respirable fraction**	5	N.E.	N.E.	mg/m3
-total dust**	15	N.E.	N.E.	mg/m3
Talc -respirable fraction	2	2	2	mg/m3
-total dust**	15	10	10	mg/m3
Feldspar -respirable fraction	N.E	N.E.	N.E.	mg/m3
-total dust**	15	N.E.	N.E.	mg/m3
Biotite -respirable fraction**	5	15	3	mg/m3
-total dust**	15	N.E.	N.E.	mg/m3

* 2006 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

8.2 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 installation using dry cutting methods or during 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 for installation or during the removal of installed tile.

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 obtained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brittle solid; color may vary
Odor:	Odorless
Melting Point:	Not Available (>2200 ^{0}F)
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density (Air = 1):	Not applicable
Solubility in Water:	Insoluble
Specific Gravity (H2) = 1):	1.6 to 2.1
Percent Volatile by Volume:	Not applicable
Evaporation Rate (Ethyl Ether = 1):	Not applicable
Viscosity:	Not applicable
Volatility:	0 g/L Volatile Organic Compounds (VOCs)

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. TOXICOLOGICAL INFORMATION

Potential Health Effects

Primary Routes of Exposure

None for intact tile. Inhalation and potential exposure to eyes, hands, or other body parts if contact is made with broken tile, 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 installed tile. 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 caused by generation of tile dust. Signs such as labored breathing and early fatigue may indicate silicosis; however, these same 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 established permissible occupational exposure limits may lead to the development of silicosis, a nodular pulmonary fibrosis (NPF). NPFs are also associated with pulmonary tuberculosis, bronchitis, emphysema, and other airway diseases. This type of chronic exposure to silica dust may also result in 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 same symptoms can also arise from many other causes.

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 dust at or above permissible exposure 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 (9th 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

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.)

12. ECOLOGICAL INFORMATION

No information available at this time.

13. DISPOSAL CONSIDERATIONS

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

14. 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

15. 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.

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.

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):

____ Combustible Liquid	____ Flammable Aerosol	____ Oxidizer
____ Compressed Gas	____ Explosive	____ Pyrophoric
____ Flammable Gas	_X_ Health Hazard (Sections 3 & 11)	____ Unstable
____ Flammable Liquid	____ Organic Peroxide	____ Water Reactive
____ Flammable Solid		

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

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.

16. ADDITIONAL INFORMATION

Global Harmonization Identification System

GHIS:	Health: 3	Fire: 4	Reactivity: 4

Hazardous Material Identification System

HMIS:	Health: 1	Fire: 0	Reactivity: 0

National Fire Protection Association

NFPA:	Health: 1	Fire: 0	Reactivity: 0