

MATERIAL SAFETY DATA SHEET

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 or **Dial 911** American Poison Control Center

SECTION 1 – PRODUCT IDENTIFICATION			
Material Name: GLASS TILE		NOT A CONTROLLED PRODUCT	
Chemical Family Inorganic Compound	Chemical Formula Mixture	Molecular Weight Not Applicable	
Material Use Aggregates, Tile		DOT Identification No. None	
Trade Name and Synonyms Aggregate, Sand, Tumbled Glass, Stained Glass, Colored Glass, Soda-Lime Silicon Dioxide, Glass, Tile.			

SECTION 2 – COMPOSITION AND INFORMATION ON INGREDIENTS				
COMPONENTS CHEMICAL NAME	CAS REGISTRY NO.	% by WEIGHT (approximate)	MSHA/OSHA PEL	ACGIH TLV-TWA
Glass, SiO ₂ -Na ₂ O	65887-17-3	> 97.0	(R) 5 mg/m ³ (T) 15 mg/m ³	(R) 3 mg/m ³ (T) 10 mg/m ³
Silicon Dioxide,* SiO ₂ Crystalline Silica as Quartz	14808-60-7	< 2.8	(R) 10 mg/m ³ / (% SiO ₂ +2) § (T) 30 mg/m ³ / (% SiO ₂ +2) §	(R) 0.1 mg/m ³ (T) 0.3 mg/m ³

*: The composition of SiO₂ may be up to 100% crystalline silica. (R): Respirable (T): Total §: Crystalline silica is normally measured as respirable dust. The OSHA standard also presents a formula for calculation of the PEL based on total dust: 30 mg/m³ / (% SiO₂ + 2). MANY STAINED GLASS PRODUCTS CONTAIN METAL OXIDES. WHILE THE GLASS MATRIX CONTAINS BOUND METALS, GRINDING TO AN EXTREMELY FINE MESH SIZE CAN LIBERATE SOME METALS INTO THE AIR. GLASS CONTAINS NO FREE (OR CRYSTALLINE) SILICA; ALL COMPONENTS ARE AMORPHOUS/NON-CRYSTALLINE; CHEMICALS USED TO PRODUCE GLASS ARE NOT AVAILABLE TO THE ENVIRONMENT UNLESS ONE HEATS THE PRODUCT ABOVE 2000 °F OR GRINDS IT TO AN EXTREMELY FINE PARTICLE SIZE. OSHA CONSIDERS DUST AS A NUISANCE. HAND, EYE, AND OTHER BODY PARTS MAY NEED PROTECTION IF CUTTING OR REMOVING INSTALLED GLASS TILES. OTHER HAZARDS ARE DUE TO THE EXCESSIVE WEIGHT OF GLASS WHEN STACKED. USE CRATES THAT WILL NOT BREAK, AND PALLET RACKS RATED HIGHER THAN THE LOAD BEING STORED. BE AWARE OF UNSECURED STACKS OF TILE AND BREAKING CRATES. GLASS TILE PRODUCTS ARE MIXTURES OF NATURAL OCCURRING MINERALS THAT HAVE BEEN COLORED AND FIRED IN A HIGH TEMPERATURE KILN. PROPER INSTALLATION INSURES THESE PRODUCTS AS SAFE.

SECTION 3 – PHYSICAL AND CHEMICAL PROPERTIES	
Appearance and Odor Tiles are brittle, solid, and manufactured in various colors, shapes, and sizes. Odorless.	Specific Gravity Approximately 2.5 g/cm³
Boiling Point, Melting Point Not applicable, Not available (>2000 °F)	Vapor Density in Air (Air = 1) Not applicable
Vapor Pressure Not applicable	% Volatile, by Volume 0%
Evaporation Rate 0%	Solubility in Water Insoluble

SECTION 4 – STABILITY AND REACTIVITY DATA	
Stability Stable under all conditions.	Hazardous Polymerization Will not occur
Conditions to Avoid Avoid contact with dust particles and sharp edges, usually generated while cutting or removing.	
Incompatibility (material to avoid) Hydrofluoric Acid	
Hazardous Decomposition Products Glass sand is not classified as a hazardous material by the criteria of the OSHA Hazard Communication Standard, Title 29, Code of Federal Regulations, Section 1910.1200.	

SECTION 5 – FIRST AID MEASURES	
Eyes Immediately rinse contaminated eye(s) with gently running lukewarm water (saline solution is preferred) for at least 15 minutes, while holding the eyelid(s) open. In the case of an embedded particle in the eye, or if irritation occurs, consult a physician. Beyond flushing, do not attempt to remove material from the eye(s).	
Skin Carefully and gently, brush the contaminated body surfaces in order to remove all traces of glass dust. Use a brush, cloth, or gloves. Remove all contaminated clothing. Wash work clothes after each use. Wash dust-exposed skin with soap and water before eating or drinking. Contact a physician if irritation persists or later develops.	
Inhalation Move source of dust away from person, or move victim to source of fresh air. Dust in throat and nasal passages should clear spontaneously. Obtain medical attention immediately. If victim does not breath, give artificial respiration. Contact a physician immediately.	
Ingestion If victim is conscious, wash out mouth with water. Have conscious person drink several glasses of water. Induce vomiting. Contact a physician immediately. Never give anything by mouth to an unconscious or convulsing person.	
General Advice Consult a physician for all exposures except minor instances of inhalation.	

SECTION 6 – HAZARDS AND TOXICITY

Exposure Limits

Below is a definition of exposure limits in the workplace, that is especially important when contact with this product and other chemicals is concurrent. Unless specified otherwise, limits are eight-hour time-weighted averages (TWA). Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half of the limits for quartz.

Route of Entry

Skin Contact

Skin Absorption

Eye Contact

Ingestion

Acute Inhalation

Chronic Inhalation

Effects of Acute Exposure to Product

Skin There are no known acute effects from exposure to intact tile. Direct contact with broken or cut tile produces a potential for cuts to the hands and exposed body parts by mechanical abrasion. Skin absorption is usually not a significant route of exposure.

Eyes Acute effects, such as eye irritation and runny eyes, may occur with high levels of dust exposure during dry cutting or removal of installed tile by mechanical abrasion with discomfort or pain, local redness, and swelling of the conjunctiva.

Inhalation If inhaled in the form of dust, it may cause nose, throat, and respiratory tract irritation by mechanical abrasion. Exposures in excess of allowable occupational exposure limits may cause coughing, sneezing, chest pain, shortness of breath, inflammation of mucous membrane, and flu-like fever may occur.

Ingestion Small amounts (a tablespoonful) swallowed during normal handling operations are not likely to cause injury. Ingestion of large amounts may cause gastrointestinal irritation and/or blockage.

Use of glass tile for construction purposes should not cause acute toxic effects. However, inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions. Exposure to dust may aggravate existing skin and or eye conditions.

Effects of Chronic Exposure to Glass Dust

There are no known effects for exposure to intact tile. Excessive inhalation of dust may result in the development of autoimmune disorders or respiratory disease.

Irritancy of Product

Eyes

Sensitization to Product

None

Synergistic Materials

None reported

SECTION 7 – REGULATORY INFORMATION

Carcinogenicity Reproductive Effects Teratogenicity Mutagenicity

Glass is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

CALIFORNIA PROPOSITION 65: WARNING (Safe Drinking Water and Toxic Enforcement Act of 1986)
Component glass does not appear on the above regulatory listing.

CWA 311 – Clean Water Act List of Hazardous Substances

Glass does not appear on the Clean Water Act (CWA) list of hazardous substances.

Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) / The Emergency Planning and “Community Right-to-Know” Act (EPCRA) / Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Component Glass has been reviewed against the following regulatory listings:

- ◆ **Section 302 – Emergency Planning Notification. Extremely Hazardous Substances (EHS) List and Threshold Planning Quantity (TPQ). (40 CFR, Part 355, Section 30): Not listed.**
- ◆ **Section 304 – Emergency Release Notification. Extremely Hazardous Substances (EHS) and Reportable Quantity (RQ) List. (40 CFR, Part 355, Section 40): Not listed.**
- ◆ **Section 311/312 – Hazard Categories (40 CFR, Part 370): This product is regulated under Title 29, CFR 1910.1200 (OSHA Hazard Communication).**
- ◆ **Section 313 – Toxics Release Inventory (TRI). Toxic Chemical List (40 CFR, Part 372): Not listed.**

Transportation – Hazardous Materials Regulations (USA) & Transportation of Dangerous Goods (TDG) Regulations (Can).

Glass tile does not appear on the above regulatory listings.

Toxic Substances Control Act (TSCA)

All naturally occurring components of this product are automatically included in the USEPA TSCA Inventory List per 40 CFR 710.4 (b). Glass tile is exempt from reporting under the inventory update rule.

Canadian Environmental Protection Act (CEPA)

Glass does not appear on the Domestic Substances List (DSL).

ANSI/NSF 60 – Drinking Water Treatment Additives.

Not applicable.

FDA – U.S. Food and Drug Administration, Department of Health and Human Services

Not applicable.

SECTION 8 – PREVENTATIVE MEASURES, PERSONAL PROTECTION, AND CONTROLS

Personal Protective Equipment (PPE)



Wear clean, dry gloves, full-length pants over boots, long sleeved shirt buttoned at the neck, head protection, and approved eye protection selected for the working conditions.

Eyes



Wear safety glasses with side shields as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.

Skin

Clothing, boots, and gloves that fully covers all skin provides the best protection.

Respiratory Protection



- ◆ **Wear a NIOSH approved dust respirator for dust levels that exceed or are likely to exceed an 8-hr TWA of 3 mg/m³.**
- ◆ **For respirable dust levels that exceed or are likely to exceed an 8-hr TWA of 10 mg/m³, a NIOSH approved HEPA filter respirator is recommended.**
- ◆ **Wear a NIOSH approved positive pressure, full-face respirator or equivalent if dust levels exceed or are likely to exceed an 8-hr TWA of 15 mg/m³.**
- ◆ **Respirator use must comply with applicable MSHA or OSHA standards, which include provisions for a user-training program, respirator repair and cleaning, respirator fit testing, and other requirements.**

Hygiene

Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use. Avoid breathing dust. Avoid skin and eye contact.

Engineering Controls

- ◆ **Ventilation: Use local exhaust, general ventilation, or natural ventilation adequate to maintain exposures below appropriate exposure limits.**
- ◆ **Monitor respirable dust levels regularly.**
- ◆ **Dust levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.**

SECTION 9 – STORAGE AND HANDLING PRECAUTIONS

Protection

Respirable dust may appear during processing, cutting, drilling, routing, storage, and removal. Do not breathe dust. Use the personal protection and controls identified in Section 8 of this MSDS as appropriate. Avoid contact with skin and eyes. Always wear gloves to prevent cuts, protective clothing to prevent lacerations, and eye protection.

Storage

Do not store near food and beverages or smoking materials. Shelf life is unlimited.

Handling

This product is not an abrasive blasting medium or for foundry applications. Do not stand on a pile of material, as it may be unstable. Use appropriate equipment for handling large pieces: forklift, jacks, etc. and follow all safety rules. Store tiles on appropriately strong racks and in crates designed to handle large loads.

SECTION 10 – SPILL OR LEAK CLEANUP AND WASTE DISPOSAL

Material Release or Spill

- ◆ **Spilled material may break and provide a slippery surface.**
- ◆ **Use the personal protection and controls identified in Section 8 of this MSDS as appropriate.**
- ◆ **Wetting of spilled material, vacuuming, and/or use of respiratory protective equipment, eye protection, and protective clothing may be necessary.**
- ◆ **Do not dry sweep spilled material if ground to a fine dust.**
- ◆ **Prevent spilled material from inadvertently entering streams, drains, or sewers.**
- ◆ **Train all personnel on handling and safety rules for working with glass, forklifts, sampling, wear hand and eye protection, etc. as needed.**

Waste Disposal

- ◆ **Collect and reuse clean material.**
- ◆ **Waste materials should be disposed of in a landfill certified to accept such materials in accordance with applicable federal, state, provincial, and local environmental laws and regulations.**

SECTION 11 – FIRE AND EXPLOSION HAZARD DATA

Flammable

Yes No

Extinguishing Media

Glass does not burn. Use extinguishing media appropriate to surrounding fire conditions.

Special Fire Fighting Procedures

Glass is non-flammable. Glass will react with hydrofluoric acid producing a corrosive gas – silicon tetra fluoride.

Flash point (°C) and Method
Not applicable

Upper flammable limit
Not applicable

Lower flammable limit
Not applicable

Auto Ignition Temperature (°C)
Not applicable

TDG Flammability Classification
Not applicable

Hazardous Combustion Products
None

Dangerous Combustion Products **None**

EXPLOSION DATA

Sensitivity to Chemical Impact
Not applicable

Rate of Burning
Not applicable

Explosive Power
Not applicable

Sensitivity to Static Discharge
Not applicable

SECTION 12 – TRANSPORT INFORMATION

Dot Hazard Classification – 49 CFR 172.101
Non-Regulated by D.O.T.

Placard Required
None

Label Required
Label as required by the OSHA Hazard Communication standard {29 CFR 1910.1200 (f)}, and applicable state and local regulations. Shipping description: Glass Tiles.

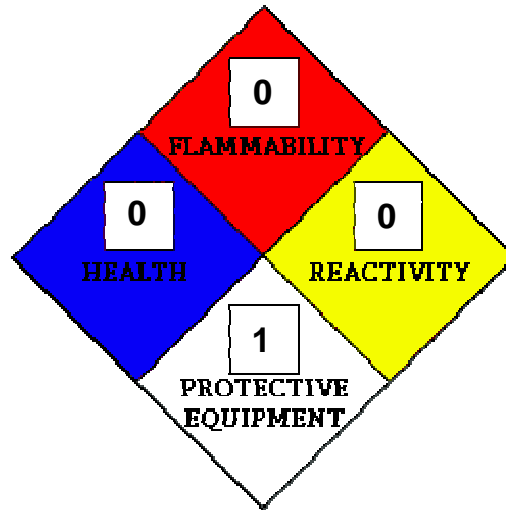
RQ (Reportable Quantity) – 49 CFR 172.101
Not applicable

MATERIAL IDENTIFICATION SYSTEMS – LABELING

[May be required by the OSHA Hazard Communication standard {29 CFR 1910.1200 (f)}, and applicable state and local regulations]



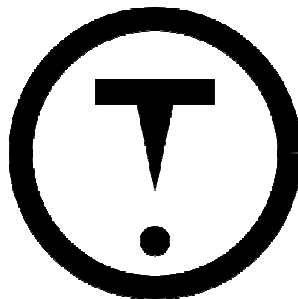
Hazardous Materials Identification System (U.S.)



National Fire Protection Association (U.S.)

Where:

0 = Least 1 = Slight 2 = Moderate
 3 = High 4 = Extreme



D-2A

Workplace Hazardous Materials Information System (Canada)
 Classification D2A Materials causing other toxic effects

SECTION 13 – GLOSSARY

Agencies and Regulations

ACGIH: American Conference of Government Industrial Hygienists
CFR: US Code of Federal Regulations
DOT: US Department of Transportation
DSL: Domestic Substances List
IARC: International Agency for Research on Cancer
NIOSH: National Institute for Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration, US Department of Labor
SARA: Title III of the Superfund Amendments and Reauthorization Act, 1986

Abbreviations

- ◆ **IDLH:** Immediately Dangerous to Life and Health
- ◆ **mg/m³** = milligrams of substance per cubic meter of air.
- ◆ **MSHA PEL** = Permissible Exposure Limit of the Mine Safety and Health Administration (MSHA)
- ◆ **OSHA PEL** = Permissible Exposure Limit of the Occupational Safety and Health Administration (OSHA)
- ◆ **TLV[®]** = Threshold Limit Value of the American Conference of Governmental Industrial Hygienists (ACGIH)
- ◆ **TWA** = Time-Weighted Average

Sources Used

NFPA, TDG, CSST, RSST, (LSRO-FASEB), Hazardous Products Act, Environment Canada, Enviroguide, OSHA, ACGIH, IARC, NIOSH, CFR, NTP, HSDB, EPA SRS, MSHA, Geology of the nonmetallic, Health Canada, Potters Industries Inc. MSDS5-31-05, Vitrohue MSDS 2-26-04, CWC Analysis of Glass Dusts, Marble Institute of America Technical Bulletin "Preparing a Generic MSDS for Natural Stone." BioSpec Products, Inc. MSDS, 3-29-06.

SECTION 14 – PREPARATION OF THIS DOCUMENT

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Notice

Pental Granite & Marble believes the information contained herein is accurate. The suggested precautions and recommendations come from recognized good work practices and experience as of the date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance, as one cannot anticipate all use situations. However, the suggestions should not be confused with nor followed in violation of applicable laws, regulation, rules, insurance requirements, or safety practices. In addition, one must not use this product in a manner that could cause harm.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.