

SAFETY DATA SHEET

NATURAL STONE

FILE NO.: SDS.NATURALSTONE.01

SDS DATE: January 2015

SECTION 1: IDENTIFICATION

PRODUCT NAME: Natural Stone Products (Tiles, Trim, Decoration)
SYNONYMS: Marble, Onyx, Travertine, Limestone
PRODUCT CODES: All current product references
PRODUCT USE: Residential & Commercial Construction Applications

CHEMICAL NAME: N/A
CHEMICAL FAMILY: Inorganic Compound
CHEMICAL FORMULA: Natural occurring Calcium Carbonate Mixture

MANUFACTURER: Anatolia Tile & Stone (Designer & Importer)
DIVISION: Corporate Office
ADDRESS: 8300 Huntington Road, Vaughan, ON Canada L4L 1A5

EMERGENCY PHONE: 905-771-3800
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PREPARED BY: Diana Vacca

SECTION 2: HAZARD(S) IDENTIFICATION



CARCINOGEN



IRRITANT / RESPIRATORY TRACT IRRITATION

NOTES: Not applicable for intact stone products. Excessive exposure to dust can cause discomfort and mechanical irritation. Long term exposure to silica dusts can lead to silicosis.

EMERGENCY OVERVIEW:

OSHA LISTS THESE AS CATEGORY "B" STONES (CONTAINING LESS THAN 1% CRYSTALLINE SILICA), CONSIDERED TO BE A NUISANCE PARTICULATE FROM DUST THAT CAN ACCUMULATE IN THE LUNGS. AVOID DUST PRODUCTION BY CUTTING UNDER WATER, AND USE PROTECTIVE BREATHING APPARATUS AND EYE PROTECTION, AS OUTLINED IN SECTION 8.

POTENTIAL HEALTH EFFECTS

EYES: Mechanical stress through eye rubbing if exposed to dust or airborne particulates

SKIN: Skin irritation if exposed to dust or airborne particulates

INGESTION: Potential choking hazard if exposed to airborne particulates

INHALATION: Mechanical stress from inhalation of dust or airborne particulates

ACUTE HEALTH HAZARDS: No further relevant information available.

CHRONIC HEALTH HAZARDS: No further relevant information available

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SECTION 2: HAZARD(S) IDENTIFICATION - CONTINUED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: No further relevant information available

CARCINOGENICITY

*: 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). #: Particulate matter containing no asbestos and <1% crystalline silica.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS CHEMICAL NAME	CAS REGISTRY NO.	% by WEIGHT (approximate)	MSHA/OSHA PEL	ACGIH TLV-TWA
Calcium Carbonate, CaCO ₃	471-34-1	40-100	(T) 15 mg/m ³ (R) 5 mg/m ³	#10 mg/m ³
Calcium Oxide, CaO	1305-78-8	0-43	5 mg/m ³	2 mg/m ³
Silicon Dioxide*, SiO ₂	14808-60-7	0-10	(R) 10 mg/m ³ / (% SiO ₂ + 2) §	(R) 0.05 mg/m ³
Magnesium Oxide, MgO	1309-48-4	0-8	15 mg/m ³	10 mg/m ³
Aluminum Oxide, Al ₂ O ₃	1344-28-1	<1	(T) 15 mg/m ³ (R) 5 mg/m ³	#10 mg/m ³
Ferric Oxide, Fe ₂ O ₃	1309-37-1	<1	10 mg/m ³	5 mg/m ³
Potassium Oxide, K ₂ O	12136-45-7	<1	--	--
Sodium Oxide, Na ₂ O	1313-59-3	<1	--	2 mg/m ³ as NaOH

SECTION 4: FIRST AID MEASURES

Respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates if dust is produced by cutting or if dust is produced by any other operations, including removal.

EYES: Do not rub eyes in order to avoid possible cornea damage as a result of mechanical stress. Check for and remove any contact lenses. Rinse out with water with eyelid held wide open. Do not attempt to remove any material from the eye. Get medical attention if irritation persists.

SKIN: Wash off immediately with soap and plenty of water. Remove contaminated clothing and was work clothes after each use. Get medical attention if irritation persists.

INGESTION: Rinse out mouth and make victim drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting unless directed to do so by medical personnel; call for medical help.

INHALATION: Remove from exposure. Keep warm and at rest and provide fresh air. Dust in throat and nasal passages should clear spontaneously. Get medical attention if irritation persists.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No further information available.

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SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: Not Flammable
(% BY VOLUME) LOWER: Not Flammable

FLASH POINT: No Data Available

F: N/A

C: N/A

METHOD USED:

AUTOIGNITION TEMPERATURE: No Data Available

F: N/A

C: N/A

EXTINGUISHING MEDIA: Limestone does not burn. Use extinguishing media appropriate to surrounding fire conditions.

Suitable: Water, alcohol resistant foam, CO2, dry chemical powder

Unsuitable: Water jet

SPECIAL FIRE FIGHTING PROCEDURES:

Limestone is generally non-flammable, but ignites on contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride. These substances may cause fire and/or explosions. Silica dissolves readily in hydrofluoric acid producing a corrosive gas – silicon tetra fluoride. Wear adequate personal protection to prevent contact with material or its combustion products. Firefighters should use self-contained NIOSH approved breathing apparatus with full face piece to protect against the products of combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: See above

HAZARDOUS DECOMPOSITION PRODUCTS:

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

For non-emergency personnel: Keep unnecessary and unprotected personnel from entering. Wear appropriate personal protective equipment as described in Section 8. Follow the advice for safe handling and use given in Section 7.

For emergency responders: Emergency procedures are not required. However, respiratory protection is needed in situations with high dust levels.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP

Do not empty into drains and sewers. Keep from entering into water and ground water systems. Contain spillage where possible and safe to do so. Inform appropriate authority in case of accidental contamination of watercourses or drains.

Use dry clean up methods such as vacuum exhaust which do not generate dust formation. Never use compressed air for cleaning. If dust is formed applying a dry cleaning method, personal protective equipment must be used. Avoid inhalation of product dust and skin contact. Place the spilled material in an appropriate waste disposal container for proper disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Respirable crystalline silica-containing dust usually appears during processing, cutting, drilling, routing, storage, and removal. Do not breathe dust. Always wear protection from breathing dust while processing. Use the personal protection and controls identified in Section 8 of this MSDS as appropriate. Avoid contact with skin and eyes.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Store in accordance with local regulations. Store in a dry, cool and well ventilated area, away from incompatible materials (see Section 10) and food and drink.

OTHER PRECAUTIONS:

Do not stand on stacked tiles, as they may be unstable. Use appropriate equipment for handling large pieces: forklift, jacks, etc. and follow all safety rules. Store tiles using appropriately strong racks and crates designed to handle large loads.

EXPOSURE GUIDELINES: Attempt to stop spillage without personal risk. Should not be released into the environment. Prevent product from entering drains.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION



ENGINEERING CONTROLS:

Contains the following ingredients with occupational exposure limit values:

Crystalline Silica (Quartz): TWA: 0.1 mg/cubic meter (respirable dust)

VENTILATION : Provide adequate ventilation. Provide local exhaust or general room ventilation to minimize dust concentrations. The highest probability of silica exposure occurs during dry cutting. Wet cutting methods are recommended.

RESPIRATORY PROTECTION:

- Wear a NIOSH approved dust respirator for respirable quartz levels that exceed or are likely to exceed an 8-hr TWA of 0.1 mg/m³.
- Wear a NIOSH approved HEPA filter respirator for respirable quartz levels that exceed or are likely to exceed an 8-hr TWA of 0.5 mg/m³.
- Wear a NIOSH approved positive pressure, full face respirator or equivalent if respirable quartz levels exceed or are likely to exceed an 8-hr TWA of 5 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

EYE PROTECTION:

Use tight fitting safety goggles or safety glasses with side shields where dust is formed. Contact lenses may absorb irritants. Do not wear contact lenses in work areas. Have emergency eyewash station available in area where tiles are cut

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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION - CONTINUED

SKIN PROTECTION: Wear dust proof protective gloves, boots, and long sleeved clothing.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None required

WORK HYGIENIC PRACTICES: Do not eat, drink or smoke when working. Wash hands and if necessary shower before breaks and after work to remove adherent product. Avoid contact with eyes and skin. After working with product, workers should wash or shower and use skin care products. Clean contaminated clothing, footwear etc thoroughly before re-using them.

SECTION 9: PHYSICAL DATA

APPEARANCE: Solid angular gray, white, and/or tan particles ranging in size

ODOR: Odourless

PHYSICAL STATE: Solid

pH AS SUPPLIED: No data available

pH (Other):

BOILING POINT: No data available

F: 5162

C: 2850

MELTING POINT:

F: > 4662

C: > 2572

FREEZING POINT: No data available

F:

C:

VAPOR PRESSURE (mmHg): Not applicable

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F:

C:

VAPOR DENSITY (AIR = 1): not applicable

@

F:

C:

SPECIFIC GRAVITY (H₂O = 1): 2.3 – 2.75 g / cubic centimeter

@

F:

C:

EVAPORATION RATE: Not applicable

BASIS (=1):

SOLUBILITY IN WATER: Not soluble

PERCENT SOLIDS BY WEIGHT: 100%

PERCENT VOLATILE: Not applicable

BY WT/ BY VOL @

F:

C:

VOLATILE ORGANIC COMPOUNDS (VOC): Not applicable

WITH WATER: LBS/GAL

WITHOUT WATER: LBS/GAL

MOLECULAR WEIGHT: Not applicable

VISCOSITY: Not applicable

@

F:

C:

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SECTION 10: STABILITY AND REACTIVITY DATA

STABILITY: The product is **STABLE** under normal conditions of storage and use. Contact with incompatible materials should be avoided.

CONDITIONS TO AVOID (STABILITY): Avoid contact with incompatible materials (see below) and exposure to crystalline silica (quartz) dust particles, usually generated while cutting, crushing, and/or sawing.

INCOMPATIBILITY (MATERIAL TO AVOID): Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Silica dissolves readily in hydrofluoric acid producing a corrosive gas – silicon tetra fluoride.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica-containing respirable dust particles may release from handling or cutting.

HAZARDOUS POLYMERIZATION: Not known to polymerize

CONDITIONS TO AVOID (POLYMERIZATION): Not applicable

SECTION 11: TOXICOLOGICAL INFORMATION

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.

INHALABLE PARTICULATE LIMITS

- 2001 ACGIH TLV® = 10 mg/m³ (inhalable /total particulate, not otherwise specified)
- 2001 ACGIH TLV® = 3 mg/m³ (respirable particulate, not otherwise specified)
- OSHA PEL = 15 mg/m³ (total particulate, not otherwise regulated)
- OSHA PEL = 5 mg/m³ (respirable particulate, not otherwise regulated).

RESPIRABLE LIMIT, Crystalline Silica (SiO₂ or Quartz)

ACGIH TLV® = 0.05 mg/m³; MSHA and OSHA PEL = 10 mg/m³ (%SiO₂ + 2), for respirable dust containing crystalline silica.

TOTAL DUST LIMITS, RESPIREABLE AND NONRESPIRABLE

1973 ACGIH TLV® = 30 mg/m³ ÷ (% quartz + 3). MSHA PEL = 10 mg/m³ for nuisance particulates listed in Appendix E of the 1973 ACGIH TLV® booklet. [Appendix E includes: alundum (Al₂O₃); calcium carbonate; cellulose (paper fiber); Portland cement; corundum (Al₂O₃); emery; glass {fibrous (< 5-7 μm in diameter) or dust}; glycerin mist; graphite (synthetic); gypsum; vegetable oil mists (except castor, cashew nut, or similar irritant oils); kaolin; limestone; magnesite; marble; pentacrythritol; plaster of Paris; rouge; silicon carbide; starch; sucrose; tin oxide; and titanium dioxide].

ROUTE OF ENTRY:

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> Skin Contact | <input checked="" type="checkbox"/> Eye Contact | <input checked="" type="checkbox"/> Acute Inhalation |
| <input type="checkbox"/> Skin Absorption | <input checked="" type="checkbox"/> Ingestion | <input checked="" type="checkbox"/> Chronic Inhalation |

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SECTION 11: TOXICOLOGICAL INFORMATION - CONTINUED

EFFECTS OF ACUTE EXPOSURE TO PRODUCT

- SKIN** Direct contact may cause irritation by mechanical abrasion. Some components of material may cause mild corrosive effects to skin and mucous membranes. Skin absorption usually is not a significant route of exposure.
- EYES** Direct contact may cause eye irritation by mechanical abrasion with discomfort or pain, local redness, and swelling of the conjunctiva may occur.
- INHALATION** If inhaled in the form of dust, it may cause nose, throat, and respiratory tract irritation by mechanical abrasion or corrosive action. Exposures in excess of appropriate 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 gastro-intestinal irritation and/or blockage. Use of marble, limestone, onyx, or travertine 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 LIMESTONE DUST

Quartz is a natural constituent of the Earth's crust and is not chemically combined with any other substance. Limestone, quartz monzonite, and granodiorite contain 70% to 77% silica. Exposure to silica-containing dust at any time poses a potential health hazard. Repeated overexposure to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods of six months or more have caused acute silicosis. Not all individuals with silicosis will exhibit symptoms (signs) of the disease. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms can appear at any time, even years after exposure has ceased. Symptoms include (but are not limited to): shortness of breath, diminished work capacity, cough, fever, right heart enlargement and/or failure, weight loss, and chest pain. Excessive inhalation of dust may result in respiratory disease, including silicosis, pneumoconiosis, and pulmonary fibrosis. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Smoking may increase the risk of developing lung disorders, including emphysema and lung cancer. Respirable dust containing newly broken silica particles has been shown to be more hazardous to animals in laboratory tests than respirable dust containing older silica particles of similar size.

SECTION 12: ECOLOGICAL INFORMATION

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Waste Treatment Methods Can be deposited in landfills, sent to an incineration or other appropriate means of disposal provided they meet the requirements of local laws.

Methods of Disposal The generation of waste should be avoided or minimized wherever possible. Dispose of in accordance with local regulations.

Contaminated Packaging This material and its package must be disposed of in a safe way

SECTION 14: TRANSPORT INFORMATION

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

Limestone does not appear on the above regulatory listings.

