



# LEED

## CERTIFICATION

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## GEOLOGIC COLLECTION



### Safety Data Sheet

#### Section 1 - Identification

**Material Name:** Porcelain Fired Tile  
**Other Designations:** None  
**Manufacturer's Name:** Florim USA, Inc.  
**Manufacturer's Address:** 300 International Boulevard  
Clarksville, TN 37040  
**Telephone Number (for information):** 1-931-553-7500  
**Telephone Number (for emergencies):** 1-931-553-7500  
**Recommended Use:** Architectural application for floors and walls  
**Restrictions for Use:** None

#### Section 2 – Hazard(s) Identification

##### Summary/Overview of Hazards

Solid flat rectangles. Dust or powder (particulates), which typically results from cutting, crushing, or otherwise breaking fired tile, can cause irritation of the eyes or respiratory system through eye contact or inhalation. Contains crystalline silica (quartz). When exposed to high temperatures, free quartz can change crystal structure to form tridymite (above 870° C.) or cristobalite (above 1470° C.) which have greater health hazards than quartz due to their more fibrogenic characteristics. Manufacturers who crush and grind ceramic bodies fired to high temperatures should recognize the possible presence of tridymite and/or cristobalite.

The following hazards are of minimal concern as long as the material (fired tile) is not being cut, crushed, or otherwise broken, as exposure to particulates should not occur.

**Potential Routes of Exposure:** Inhalation, eye contact.

**Target Organs:** Eyes, respiratory system.

**Symptoms of Overexposure (by route):**

**Inhalation:** Mild irritation of nose and throat.

**Eye Contact:** Mild irritation of eyes.

**Acute Effects:** Irritation of eyes and/or respiratory tract as noted above.

**Chronic Effects:** This material contains crystalline silica which may cause delayed respiratory disease (silicosis) if inhaled over a prolonged period of time. IARC MONOGRAPH VOLUME 68, 1997 concludes that there is sufficient evidence that inhaled crystalline silica causes cancer in humans.



The NTP, in the Sixth Annual Report on Carcinogens, 1991, has added crystalline silica to its list of substances that are “reasonably anticipated to be carcinogens”. This product contains Titanium Dioxide (TiO<sub>2</sub>). Inhalation may cause damage to the respiratory system. TiO<sub>2</sub> is identified as a potential carcinogen by NIOSH. The OSHA TWA for TiO<sub>2</sub> is 15 mg/m<sup>3</sup>.

**Medical Conditions Aggravated By Long-Term Exposure:** Pre-existing disorders of the eyes and respiratory tract may be exacerbated by exposure to fired tile particulates.

**Section 3 - Composition / Information on Ingredients**

<u>CHEMICAL NAME</u>	<u>%</u>	<u>CAS #</u>	<u>OSHA PEL</u>	<u>NIOSH IDLH</u>	<u>ACGIH TLV</u>
Feldspathic Materials	40-60	14808-60-7			
SiO <sub>2</sub>			0.1 mg/m <sup>3</sup>	25 mg/m <sup>3</sup>	0.025 mg/m <sup>3</sup> *
Respirable Dust				N.E.	N.E.
Clays	30-50	1332-58-7			
Total Particulate			15 mg/m <sup>3</sup>	N.E.	10 mg/m <sup>3</sup>
Respirable Fraction			5 mg/m <sup>3</sup>	N.E.	2 mg/m <sup>3</sup>
Sand/Silica	0-10		N.E.		
Total Particulate		--	--	N.E.	N.E.--
Respirable Fraction		--	--	0.1 mg/m <sup>3</sup>	N.E.--

\*As crystalline, respirable dust. Otherwise as mineral dust.

**Section 4 - First Aid Measures**

**First Aid Measures are applicable only to the dust resulting from crushing, grinding or sawing of porcelain tiles. Intact tiles pose no eye or inhalation hazards.**

**Eye Exposure:** Immediately and thoroughly flush eyes with water for 10-15 minutes while holding eyelids open. Contact physician if irritation persists.

**Inhalation:** Remove victim to fresh air and provide oxygen if breathing is difficult. Contact physician if breathing difficulty persists.

**Section 5 - Fire Fighting Measures**

**Non-flammable**

**Extinguishing Media:** NA

**Unusual Fire or Explosion Hazards:** NA

**Recommended Fire-Fighting Procedures:** NA



**Section 6 - Accidental Release Measures**

**Recommended Spill / Leak Response Procedures:**

**Large Spills:** Clean up and collect spilled material. Use wet sweeping compound or water to minimize particulates. Do not exceed recommended PEL or TLV. Avoid breathing particulates. If particulates are involved, evacuate the area of unprotected personnel during cleanup and wear an appropriate respirator.

**Small Spills:** Clean up and collect spilled material. Use wet sweeping compound or water to minimize particulates. Avoid breathing particulates.

**Section 7 - Handling and Storage**

**Storage Requirements:** Store in a dry area at ambient temperature. Maintain employee exposure below recommended PEL though the provision of adequate exhaust ventilation where necessary. Where particulates cannot be controlled in this way, a NIOSH approved respirator should be employed.

**Recommended Handling Precautions:** Use of respirator and goggles is recommended where respirable particulates are present at levels in excess of PEL.

Respirable particulates are of minimal concern as long as the material (fired tile) is not being cut, crushed, or otherwise broken.

**Section 8 - Exposure Controls / Personal Protection**

**Applicable Exposure Limits:**

For Particulates Not Otherwise Regulated:

OSHA PEL (8-hour TWA)

15 mg/m<sup>3</sup> total dust

5 mg/m<sup>3</sup> respirable dust

For Crystalline Silica (respirable):

OSHA PEL (8-hour TWA)

0.1 mg/m<sup>3</sup>

NIOSH 8-hour TWA

0.05 mg/m<sup>3</sup>

IDLH

50 mg/m<sup>3</sup>

For Cristobalite:

ACGIH-TLV (8-hour TWA)

0.05 mg/m<sup>3</sup>

IDLH

25 mg/m<sup>3</sup>

**CAUTION:** Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870° C (1,598° F) it can change to a form of crystalline silica known as trydimite, and if crystalline silica (quartz) is heated to more than 1,470° C (2,678° F) it can change to a form of crystalline silica known as cristobalite. Crystalline silica as trydimite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA PEL for crystalline silica as trydimite and cristobalite is one-half the PEL for crystalline silica as quartz; the ACGIH TLV for crystalline silica as trydimite and cristobalite is one-half the TLV for crystalline silica as quartz.

**Recommended Engineering Controls:** Provide adequate exhaust ventilation.



**Recommended Administrative Controls:** Train employees on the hazards of fired tile particulates.

**Recommended Personal Protective Equipment (PPE):** Wear goggles if there is likelihood of contact with eyes. Utilize NIOSH-approved respiratory protective equipment as necessary in atmospheres containing concentrations of respirable silica in excess of the PEL. Utilize either an air-purifying respirator fitted with a particulate filter or an atmosphere-supplying respirator, as warranted by the airborne concentration.

**Recommended Hygiene Practices:** Clean PPE and work clothing contaminated with fired tile particulates prior to reuse. After working with this product, be sure to wash before eating, smoking, drinking, or applying cosmetics.

Respirable particulates are of negligible concern as long as the material (fired tile) is not being cut, crushed, or otherwise broken.

### Section 9 - Physical and Chemical Properties

**Appearance:** Solid, flat rectangles, any color

**Odor:** none

**Odor Threshold:** NA

**Vapor Pressure:** 0 mm

**Boiling Point:** NA

**Freezing Point:** NA

**Water Solubility:** insoluble

**Molecular Weight:** Unknown

**Specific Gravity:** 2.4-2.7

**Flash Point:** NA

**Autoignition Temperature:** NA

**Lower Explosive Limit (LEL):** NA

**Upper Explosive Limit (UEL):** NA

**Vapor Density (air = 1):** NA

### Section 10 - Stability and Reactivity

**Stability:** Stable

**Polymerization:** Will not occur

**Chemical Incompatibilities:** none

**Conditions to Avoid:** Any conditions which promote particulate creation or agitation.

**Hazardous Products of Decomposition:** none

### Section 11 - Toxicological Information

**Carcinogenicity:** The following carcinogenic considerations are of minimal concern as long as the material (fired tile) is not being cut, crushed, or otherwise broken, as inhalation of particulates should not occur.

IARC MONOGRAPH VOLUME 68, 1997 concludes that there is sufficient evidence that inhaled crystalline silica causes cancer in humans.

The NTP, in the Sixth Annual Report on Carcinogens, 1991, has added crystalline silica to its list of substances that are “reasonably anticipated to be carcinogens”.

This product contains Titanium Dioxide (TiO<sub>2</sub>). Inhalation may cause damage to the respiratory system. TiO<sub>2</sub> is identified as a potential carcinogen by NIOSH.

**Mutagenicity:** Not indicated

**Reproductive Effects:** Not indicated

### Section 12 - Ecological Information

No harmful effects known other than those associated with suspended inert solids in water.



### Section 13 - Disposal Considerations

**EPA Waste Codes:** If this material becomes a waste, it is not a RCRA (40 CFR Part 261) hazardous waste.

**Recommended Disposal Methods/Technologies:** A disposal method should be selected based upon environmental acceptability in the following order of preference:

- 1) Recycle or rework if feasible.
- 2) Landfill at an approved facility.

Contact the appropriate government environmental agencies if further disposal guidance is required.

### Section 14 - Transport Information

This material is not regulated by DOT.

### Section 15 - Regulatory Information

**EPA Designations:**

**Hazardous Waste (RCRA):** No

**Hazardous Substance (CERCLA):** No

**Reportable Quantity (RQ):** None found

**Extremely Hazardous Substance (SARA-302):** No

**Threshold Planning Quantity (TPQ):** NA

**Toxic Chemical (SARA-313):** No

**Hazardous Air Pollutant (CAA):** No

### Section 16 - Other Information

**Prepared By:** Florim USA, Inc.

**Revision Date:** September 28, 2015

**Sources of Information:** 40 CFR Part 126; NIOSH Pocket Guide to Chemical Hazards (2014); Material Safety Data Sheets for various tile components.

**Disclaimer:** While the information and recommendations set forth herein are believed to be accurate as of the date hereof, the preparer and/or manufacturer makes no warranty with respect thereto, and disclaims liability from reliance thereon. This data relates only to the specific material(s) designated herein, and does not relate to use in combination with any other material(s) or in any process. Any use of this data and information must be determined by the user to be in accordance with Federal, State, and local laws and regulations.