Material Safety Data Sheet

MSDS Date: February, 2009
Product Name: Vetrazzo® Recycled Glass Surfacing

1. Product and Company Description

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Product Use: Vetrazzo recycled glass surfacing panels.

2. Hazards Identification Emergency Overview:

Exposed glass edges may pose a cutting or puncture hazard. Use caution in handling exposed edges.
Appearance/Odor: Multi-colored recycled glass & cement surfacing. No odor
Potential Health Effects:

- Product in finished form does not present a health hazard through eyes, skin, inhalation, ingestion or prolonged exposure.
- Dusts and flying particles generated during cutting, grinding and forming may cause irritation and injury as specified below:
- **Acute Eye:** Dust and particles may cause irritation or injury.
- **Acute Skin:** Dusts generated from this product may cause skin irritation.
- **Acute Inhalation:** Dusts from product may cause irritation to respiratory tract, nose, throat and lungs.
- **Acute ingestion:** Not considered a potential health hazard via this route of entry. This product may cause gastrointestinal irritation if large quantities of dusts are swallowed.
- **Chronic Exposure:** The adverse health effects from silica exposure - silicosis, cancer, scleroderma, tuberculosis, and nephrotoxicity - are chronic effects.
- **Aggravation of Pre-existing Conditions:** None identified.

3. Hazardous Chemical Composition

Component: Recycled glass:
As shipped, this material does not pose any health hazard because it does not contain ingredients that are known to cause immediate or serious effects.
Component: Portland Cement:
Hazardous Ingredients:

- Portland Cement
  ACGIH TLV 10 mg/m^3
  OSHA PEL 15 mg/m^3 5 mg/m^3
  OSHA PEL 50 mppcf (crystalline silica < 1%)
  Cal/OSHA PEL 10 mg/m^3 5 mg/m^3
- Gypsum (CAS# 13397-24-5) - approximately 5% to 6.5% by weight.
  ACGIH TLV 10 mg/m^3
  OSHA PEL 15 mg/m^3 5 mg/m^3
  Cal/OSHA PEL 10 mg/m^3 5 mg/m^3
- Limestone (CAS# 1317-65-3) - approximately 0% to 15% by weight.
  ACGIH TLV 10 mg/m^3
  OSHA PEL 15 mg/m^3 5 mg/m^3
  Cal/OSHA PEL 10 mg/m^3 5 mg/m^3
- Crystalline Silica (CAS# 14808-60-7) - approximately 0% to 0.3% by weight.
  ACGIH TLV 0.1 mg/m^3
  OSHA PEL 13 mg/m^3 (30 mg/m^3 / (0.3% SiO_2 +2))
  OSHA PEL 4.3 mg/m^3 (10 mg/m^3 / (0.3% SiO_2 +2))
  OSHA PEL 47 mppcf (250 / (0.3% SiO_2 +5)) mppcf
  Cal/OSHA PEL 0.3 mg/m^3 0.1 mg/m^3

Component 1:
Appearance and Odor: Fine, off-white powder; odorless
Specific Gravity: 2.60
Bulk Density: 25 – 27 lbs/ft3
Solubility in Water: Insoluble.
% Volatile (by weight): Not applicable
PH in 5% slurry: 4.5%
Bulk Density: 25-27 lbs/ft3 (loose)
Stability: Stable
Reactivity: Inert

Component 2:
Physical Form: White acicular, free fl owing non-metallic mineral powder. No characteristic odor.
Number EINECS No.: 13983-17-0 237-772-5
Melting Point: 1540° C
Density: 2.9 g/ml
Solubility in Water: 0.01 g/100 cc
pH: 9.9 Aqueous Solution

Component 3:
Physical Form: Odorless liquid
Color: Clear
Melting Point: Liquid
pH: 8.2 – 9.2
Flash point: Not flammable

4. First Aid Measures

- **Eye Exposure:** Immediately flush eyes with copious amounts of water for a minimum of 15 minutes. Seek immediate medical attention if adverse effect occurs.
- **Skin Exposure:** Wash skin with soap and water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Seek medical attention if adverse effect occurs.
- **Inhalation:** Remove person to fresh air. If necessary, use artificial respiration.
- **Ingestion:** If the material is swallowed, seek medical attention or advice.

5. Fire Fighting Measures

- **Auto-ignition:** None.
- **Flash Point:** Vetrazzo is non-combustible and non-explosive.
- **Flammability Limits:** NA
- **Extinguishing Media:** NA

6. Accidental Release Measures

Cleanup and Disposal of Spill: Solid panels or partial panels can be collected as necessary. If large amounts of dust or waste are generated by cutting process, vacuum or sweep up material avoiding dust generation or dampen spilled material with water to avoid airborne dust. Wear sufficient respiratory protection and protective clothing where necessary and/or use engineering methods for dust control. If excessive amounts of material dust enter the waterways contact the Environmental Protection Authority, or local Waste Management Authority. Dispose of waste in accordance with local, state and federal regulations.

7. Handling and Storage

Avoid breathing dust. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash thoroughly after work using soap and water. Good industrial hygiene practices should be followed when handling this material. Product is heavy and breakable; handle with care to avoid injury and prevent damage.

8. Exposure Controls/Personal Protection

- **Exposure Guidelines:** Avoid activities that cause dust to become airborne.

- **Engineering Controls:** Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. Wet saws and cutting methods as well as wet shaping and polishing methods are recommended to reduce dust exposure during fabrication.
- **Respiratory Protection:** If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93 and applicable standards of Canadian Provinces.
- **Eye / Face Protection:** During cutting, grinding or sanding operations safety glasses with side shields or goggles should be worn.
- **Skin Protection:** During cutting, grinding or sanding operations use body protection appropriate for task including work gloves if handling sharp or rough edges and steel-toed shoes if lifting product.

9. Physical and Chemical Properties

- **Physical Appearance:** Multi-colored recycled glass and cement surfacing material
- **Odor:** None
- **pH:** NA
- **Specific Gravity/Density**: 2.37
- **Water Solubility:** Insoluble
- **Melting Point:** NA
- **Freezing Point:** NA
- **Boiling Point:** NA
- **Vapor Pressure:** NA
- **Percent Volatiles by Volume:** NA
- **Evaporation Rate:** NA
- **Viscosity:** NA
- **Flash Point:** NA
- **Explosion Limits: Lower:** ND, Upper: ND
- **Auto-ignition Temp:** NA

10. Stability and Reactivity

- **Chemical Stability:** Stable
- **Conditions to Avoid:** None
- **Materials / Chemicals to Be Avoided:** This product is incompatible with hydrofluoric acid. Silica will dissolve in hydrofluoric acid and produce the corrosive gas silicon tetrafluoride.
- **Hazardous Decomposition Products:** Upon decomposition, various hydrocarbons, carbon dioxide, carbon monoxide fumes, and water may be released.
- **Hazardous Polymerization:** Will not occur.

11. Toxicological Information Acute Effects: No known acute toxicological effects.
Chronic Effects:

- Silicosis: The major concern is silicosis, caused by the inhalation and retention of respirable silica dust. Symptoms include: Silicosis develops over time when dust-containing silica is inhaled into the lungs. For some unknown reason silica in crystalline form is toxic to the lining of the lungs. When they come into contact with each other a strong inflammatory reaction occurs. Over time this inflammation causes the lung tissue to become irreversibly thickened and scarred –called fibrosis. The most common form of silicosis is called chronic silicosis, and the symptoms develop over many years of exposure. However, in the rarer form, called acute silicosis, the symptoms develop very quickly after only a short period of exposure to high levels of silica dust. Because this disease maybe debilitating, it is very important to seek medical treatment as soon as possible. The American Thoracic Society position on the issue of silica carcinogenicity was published in Adverse Effects of Crystalline Silica Exposure, American Journal of Respiratory and Critical Care Medicine, Vol. 155, pp. 761-765 (1997). The official statement concluded that "The available data support the conclusion that silicosis produces increased risk for bronchogenic carcinoma. The cancer risk may also be increased by smoking and other carcinogens in the workplace."

- Scleroderma: There is evidence that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of scleroderma, an immune system disorder manifested by a fibrosis (scarring) of the lungs, skin and other internal organs.
- Tuberculosis: Individuals with silicosis are at increased risk to develop tuberculosis, if exposed to persons with tuberculosis.
- Nephrotoxicty: There are several recent studies suggesting that exposure to respirable silica or that the disease silicosis is associated with the increased incidence of kidney disorders.
- Mutagenicity: No Data
- Reproductive Effects: No Data
- Developmental Effects: No Data

12. Ecological Information
- **Environmental Fate:** Not Determined
- **Environmental Toxicity:** Not Determined

13. Disposal Considerations
Waste Disposal Method: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal regulations.

14. Transportation Information
- **Proper Shipping Name:** Not Regulated
- **Hazard Class:** Not Regulated
- **ID Number:** Not Regulated
- **US Department of Transportation Packing Group**: Not Regulated

15. Regulatory Information
- **Federal Regulations:** NA
- **SARA Title III Hazard Classes:** None
- **Fire Hazard:** No
- **Reactive Hazard:** No
- **Release of Pressure:** No
- **Acute Health Hazard:** No
- **Chronic Health Hazard:** Yes

U.S. State Regulations: California Prop 65 List: Crystalline silica (quartz) is classified as a substance known to the state of California to be a carcinogen.

16. Other Information
National Fire Protection Assoc. NFPA(R) and Hazardous Materials Identification System (HMIS) Hazard Ratings:
- **Health Hazard:** 1
- **Flammability:** 0
- **Reactivity:** 0

The information provided herein was believed by Vetrazzo, LLC to be accurate at the time of preparation and prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. Dispose in accordance with federal, state and local requirements.