SAFETY DATA SHEET
QUARTZ

1. PRODUCT IDENTIFICATION

Common Name: Quartz products manufactured/sourced by M S International, Inc.
Synonyms: M S International, Inc.
Manufacturer Name: 2095 N. Batavia Street, Orange CA, 92865 (714) 685-7000
Address: Environmental, Health and Safety Department
Emergency Assistance: Gilbert Navarro - 714-685-2723
(714) 875-3641 (24-hour number)
Recommended Use: “Countertop, Flooring, and Wall Application”

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

Quartz products are not hazardous as shipped. The products 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 product 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)

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. Do not breathe dust/spray.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves, protective clothing, eye protection, face protection.

Potential Health Effects:
Inhalation: Do not breathe dust. See “Health Hazards” in Section 11 for more details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Quartz products that have been fabricated into various shapes, sizes, and colors:

<table>
<thead>
<tr>
<th>CAS# / EINECS#</th>
<th>Estimated % by Wt.</th>
<th>EU Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica as quartz</td>
<td>Approx. 90%</td>
<td>(67/548/EEC) Non Haz. (by Directive)</td>
</tr>
<tr>
<td>Polymetric resin</td>
<td>5%-15%</td>
<td>(67/548/EEC) Non Haz. (by Directive)</td>
</tr>
<tr>
<td>Additives</td>
<td>0%-5%</td>
<td>(67/548/EEC) Xi R36/37/38</td>
</tr>
</tbody>
</table>

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 quartz products.

Inhalation: Remove to fresh air if exposed to large amounts of dust. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call for prompt medical attention.

Ingestion: Not applicable for intact quartz products.

Have emergency eyewash station available in area where products are cut.

5. FIRE-FIGHTING MEASURES AND INFORMATION

Flash Point (Method Used): 490
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 respirator protection in the absence of effective engineering controls.
Do not store near acids. If quartz products contact some acids, damage/discoloration to the surface may occur.
Shelf life is unlimited.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Table

<table>
<thead>
<tr>
<th>Reference</th>
<th>Substance</th>
<th>Guideline or limit mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA (29 CFR 1910.1000 Table Z-3)</td>
<td>Respirable crystalline silica, cristobalite and trymite</td>
<td>Total dust, (30mg/m3 / % SIO 2 + 2) Respirable dust (10 mg/m3 / % SIO 2 + 2) As 8hr TWA's (Respirable dust)</td>
</tr>
<tr>
<td>OSHA vacated PEL's ACGIH (2010)</td>
<td>Respirable crystalline silica, cristobalite and trymite</td>
<td>0.025 mg/m3 (8hr TWA)</td>
</tr>
<tr>
<td>Niosh</td>
<td>Respirable crystalline silica, cristobalite and trymite</td>
<td>0.05 mg/m3 98hr TWA</td>
</tr>
</tbody>
</table>

Abbreviation: TWA = Time - Weighted Average, ACGIH = American Conference of Governmental Industrial Hygienists, Inc. OSHA - Occupational Safety and health Adminsitration, NIOSH National Institute of Occupational Safety and Health

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 quarts. Wet cutting methods are recommended.

Respiratory Protection: Use of a properly fitted NIOSH/MSHA approved particulate respirator is recommended when cutting quartz products for installation or during the removal of installed product.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Appearance</td>
<td>Multi-colored engineering stone</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Flash Point</td>
<td>490°C</td>
</tr>
<tr>
<td>Specific Gravity (H2 = 1):</td>
<td>2.4</td>
</tr>
<tr>
<td>Volatile by Volume: Evaporation</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Rate (Ethyl Ether = 1): Viscosity</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

- Stability: Stable in normal conditions and storage conditions
- Conditions to Avoid: N/A
- Incompatibility (Materials to Avoid): Avoid contact with acids (e.g., Hydrochloric, acetic, hydrofluoric, etc.)
- Hazardous Polymerization: Will not occur.
- Hazardous Decomposition Products: None.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Primary Routes of Exposure

None for quartz products. 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 products, and/or for operations involving the removal of installed products.

Acute Effects Crystalline Silica:

No acute effects from exposure to intact quartz products are known. Working with broken or cut quartz 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 or during the removal of installed product. 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 quartz products. 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.

Carcinogenic 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.
11. **TOXICOLOGICAL INFORMATION (CONT.)**

**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**

<table>
<thead>
<tr>
<th>D.O.T Shipping Name:</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
<td>Non-regulated (for disposal purposes material is non-hazardous Class III regulated material)</td>
</tr>
<tr>
<td>ID Number:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Marking:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Label:</td>
<td>None</td>
</tr>
<tr>
<td>Placard:</td>
<td>None</td>
</tr>
<tr>
<td>Hazardous Substance/RQ:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Shipping Description:</td>
<td>Quartz products</td>
</tr>
<tr>
<td>Packaging References:</td>
<td>None</td>
</tr>
</tbody>
</table>

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.

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
- 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 product 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: 0
  - Fire: 0
  - Reactivity: 0

National Fire Protection Association

- **NFPA:**
  - Health: 0
  - Fire: 0
  - Reactivity: 0