1. IDENTIFICATION

   Product Identifier

   Other Means of Identification
   SDS Number
   Bioactive Glass
   Product Code

   Recommended Use
   Not available.

   Recommended Restrictions
   None known.

   Manufacturer/Importers/Supplier/Distributor Information

      Manufacturer/Supplier
      Mo-Sci Corporation, Mo-Sci Health Care, LLC, and Mo-Sci Specialty Products LLC
      Address
      4040 Hypoint North Rolla, MO, USA 65401
      Telephone Number
      573-364-2338
      e-mail
      mo-sci@mo-sci.com
      Contact Person
      Krista Grayson
      Emergency Telephone Number
      573-364-2338

2. HAZARD IDENTIFICATION

   Physical hazards
   Not classified

   Health hazards
   Not classified

   OSHA defined hazards
   Not classified

   Label elements
   None

   Hazard symbols
   None

   Signal word
   None

   Hazard statement
   May irritate skin, eyes, mucous membranes.

   Prevention
   Observe good industrial hygiene practices.

   Response
   Wash hands after handling.

   Storage
   Store away from incompatible materials.

   Disposal
   Dispose of in accordance with local regulations.

   Hazard(s) not otherwise Classified (HNOC)
   None known

   Glass is an amorphous fusion of materials whose constituents are tightly bound together and are in a specific chemical environment, totally different from the initial state (in raw materials) and from that occurring in simple compounds (metals or oxides). Under normal conditions, glass never gives metal or oxide as direct dissociation products. Under extreme conditions, only a tiny fraction of glass constituents could leach from the glass matrix into aqueous solutions.

3. COMPOSITION/INFORMATION ON INGREDIENTS

   Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass, Oxide, Chemicals</td>
<td>65997-17-3</td>
<td>100</td>
</tr>
</tbody>
</table>

   Constituents

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Composition comments
   Concentrations are in percent by weight unless ingredient is a gas.
   Gas concentrations are in percent by volume.
4. FIRST-AID MEASURES

Inhalation  
If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Skin Contact  
Wash with soap and water. Get medical attention if symptoms occur.

Eye Contact  
Material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Ingestion  
Seek medical advice.

Most Important Symptoms/Effects, Acute and Delayed  
Direct contact with eyes may cause temporary irritation.

Indication of Immediate Medical Attention and Special Treatment Needed  
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media  
Water, Water fog, Foam, Dry chemical, and Carbon dioxide (CO2)

Unsuitable Extinguishing Media  
None known

Specific Hazards Arising from the Chemical  
None known

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire-fighting Equipment/Instructions  
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures  
Wear protective clothing as described in Section 8 of this SDS

Methods and Materials for Containment and Cleaning Up  
Sweep or scoop up and remove.

For waste disposal, see Section 13 of the SDS

Environmental Precautions  
Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE

Precautions for Safe Handling  
Wear appropriate personal protective equipment (See Section 8).

Wash thoroughly after handling.

Observe good industrial hygiene practices.

Dust or powder: Use only with adequate ventilation.

Avoid breathing dust.

Conditions for Safe Storage, including any Incompatibilities  
Store in a cool dry environment.

Store away from incompatible materials (See Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

US OSHA Table z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust (CAS-)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>

US OSHA Table Z-3 (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust (CAS-)</td>
<td>TWA</td>
<td>5 mg/m³, 15 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 millions of particles</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 millions of particles</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

US ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust (CAS-)</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>

Biological Limit Values  
No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls  
Ensure adequate ventilation, especially in confined areas.

Individual Protection Measures, such as Personal Protective Equipment
Eye/Face Protection
Normal eye protection practices should be used. If dusty conditions exist, chemical goggles are recommended.

Skin Protection
Hand Protection
Regular work gloves.

Other
Wear apron or protective clothing in case of contact. If contact with forearms is likely wear gauntlet style gloves.

Respiratory Protection
- If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
- In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.
- Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Thermal Hazard
Wear appropriate thermal protective clothing, when necessary.

General Hygiene
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, or/and smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance
Solid.

Physical State
Solid.

Form
Solid. Glass.

Color

Odor
Not available.

Odor Threshold
Not available.

pH (in water @25C)
Not available.

Melting Point/Freezing Point
Not available.

Softening Temperature
Not measured.

Initial Boiling Point and Boiling Range
Not applicable.

Flash Point
Not applicable.

Evaporation Rate
Not available.

Flammability (solid, gas)
Not applicable.

Upper/Lower Flammability or Explosive Limits
- Flammability Limit-Lower (%)
  Not applicable.
- Flammability Limit-Upper (%)
  Not applicable.

Vapor Pressure
Not available.

Vapor Density
Not applicable.

Relative Density
Not available.

Solubility
- Solubility (water)
  Soluble (rate not measured).

Partition Coefficient
No data available.

Auto-ignition Temperature
Not applicable.

Decomposition Temperature
Not applicable.

Viscosity
Not applicable.

Specific Gravity
Not measured.

Refractive Index
Not measured.

10. STABILITY AND REACTIVITY
Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transportation.

Chemical Stability
Stable under the prescribed storage conditions.

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Contact with incompatible materials.

Incompatible Materials
- Strong acids.
- Strong bases.

Hazardous Decomposition Products
Metal oxides.
11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

- **Ingestion**: No harmful effects expected in amounts likely to be ingested by accident.
- **Inhalation**: No inhalation hazard under normal conditions. Contact with dust: May cause irritation to the respiratory system.
- **Skin contact**: May cause skin sensitization in hypersensitive individuals.
- **Eye contact**: Direct contact with eyes may cause temporary irritation.

Symptoms Related to the Physical, Chemical and Toxico logical Characteristics

Direct contact with eyes may cause temporary irritation.

Information on Toxicological Effects

- **Acute Toxicity**: May cause discomfort if swallowed.
- **Skin Corrosion/Irritation**: Dust may irritate skin.
- **Serious Eye Damage/Eye Irritation**: Direct contact with eyes may cause temporary irritation.
- **Respiratory or Skin Sensitization**
  - **Respiratory Sensitization**: No data available.
  - **Skin Sensitization**: Prolonged skin contact may cause dermatitis.
- **Germ Cell Mutagenicity**: No data available.
- **Carcinogenicity**
  - **IARC Monographs. Overall Evaluation of Carcinogenicity**: Glass, oxide, chemicals (CAS 65997-17-3) 3 not classifiable as to carcinogenicity to humans.
  - **NTP Report on Carcinogens**: Glass, oxide, chemicals (CAS 65997-17-3) Reasonably anticipated to be a Human Carcinogen.

- **Reproductive Toxicity**: No data available.
- **Specific Target Organ Toxicity - Single Exposure**: No data available.
- **Specific Target Organ Toxicity - Repeated Exposure**: No data available.
- **Aspiration Hazard**: Not applicable.

12. ECOLOGICAL INFORMATION

- **Ecotoxicity**: Not expected to be harmful to aquatic organisms.
- **Persistence and Degradability**: No data available.
- **Bioaccumulative Potential**: No data available.
- **Mobility in Soil**: The product is not mobile in soil.
- **Other Adverse Effects**: None known.

13. DISPOSAL CONSIDERATIONS

- **Disposal Instructions**: Do not discharge into drains, water courses or onto the ground.
- **Local Disposal Regulations**: Dispose in accordance with all applicable regulations.
- **Hazardous Waste Code**: Not regulated. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
- **Waste from Residues/Unused Products**: Recover and recycle, if practical.
- **Contaminated packaging**: Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

- **DOT**: Not regulated as dangerous goods.
- **IATA**: Not regulated as dangerous goods.
- **IMDG**: Not regulated as dangerous goods.
- **Transport in Bulk According to Annex II of MARPOL 73-78 and IBC Code**: Not applicable.

15. REGULATORY INFORMATION

- **US Federal Regulations**: This product is not hazardous according to OSHA 29CFR 1910-1200.
- **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**: Not regulated.
- **CERCLA Hazardous Substance List (40CFR 302.4)**: Not listed.
- **Superfund Amendments and Reauthorization Act of 1986 (SARA)**
  - **Hazardous Categories**: Immediate Hazard No.
Delayed Hazard          No
Fire Hazard            No
Pressure Hazard        No
Reactivity Hazard      No

SARA 302 Extremely Hazardous Substance     Not listed.
SARA 311/312 Hazardous Chemical            No
SARA 313 (TRI reporting)                  No

Other Federal Regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List     Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated.
Safe Drinking Water Act (SDWA)                                      Not Regulated.

US State Regulations
US Massachusetts RTK – Substance List
Aluminum oxide (CAS 1344-28-1)
Quartz (CAS 14808-60-7)

US New Jersey Worker and community Right-to-Know Act
Aluminum oxide (CAS 1344-28-1)
Quartz (CAS 14808-60-7)

US Pennsylvania worker and Community Right-to-Know Law
Aluminum oxide (CAS 1344-28-1)
Quartz (CAS 14808-60-7)

US Rhode Island RTK
Aluminum oxide (CAS 1344-28-1)

US- California Proposition 65-Carcinogens & Reproductive Toxicity (CTR): Listed substance
Quartz (CAS 14808-60-7)

Warning: This product contains chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

Internal Inventories

<table>
<thead>
<tr>
<th>Countries or Region</th>
<th>Inventory Name</th>
<th>On Inventory *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substance control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "no" indicates that one or more components of the products are not listed or except from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION
Issue Date          16-March-2018
Revision Date        14-Feb-2020
Version              04
Further Information  The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

NFPA Ratings

Disclaimer
The information in the sheet was written based on the best knowledge and experience currently available.