

1. Identification

Product Identifier	GL 0811 13-93 Bioactive Glass
Other means of identification	
SDS number	GL 0811 Glass
Product Code	GL 0811 Glass
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 Gann
Emergency telephone number	573-364-2338

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbols	None.
Signal word	Not assigned.
Hazard statement	Not assigned.
Precautionary statement	
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

Chemical Name	CAS number	%
Glass, Oxide, Chemicals	65997-17-3	100

Constituents

Chemical Name	CAS number	%
Proprietary		

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, carbon dioxide (CO2)
Unsuitable extinguishing media None known.
Specific hazards arising from the chemical None known.
Special protective equipment and precautions for firefighters 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 safety data sheet.
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 at ambient temperature and atmospheric pressure.
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)

Components	Type	Value	Form
Dust (CAS-)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Dust (CAS-)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 millions of particles	Total dust.
		15 millions of particles	Respirable fraction.

US ACGIH Threshold Limit Values

Components	Type	Value	Form
Dust (CAS-)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Total dust.

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/or 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

White.

Odor

Odorless.

Odor threshold

Not available.

pH (in water @25C)

Not available.

Melting point/freezing point

Not available.

Softening Temperature

>600°C.

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

2.66 g/cm³.

Refractive Index

1.555 n_D.

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	No adverse effects due to skin contact are expected. May cause skin sensitization in hypersensitive individuals.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological 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	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.

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)

Internal Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substance control Act (TSCA) Inventory	Yes

*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

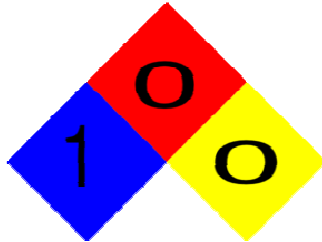
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Version 01

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.