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## MATERIAL SAFETY DATA SHEET

### SECTION 1. PRODUCT IDENTIFICATION

Product Name: Glass Microspheres  
Product Content: Borosilicate Glass, Soda Lime Glass

### SECTION 2. PRODUCT COMPOSITION

Component:	CAS Number:	Formula:	Percentage:
Glass microspheres	Various	Various	100

NOTE: This MSDS addresses potential worker health and safety issues associated with the handling of the final product (i.e., during its transportation, distribution, and use).

### SECTION 3. HEALTH HAZARDS

#### WARNING STATEMENT

CAUTION: May cause lung irritation if inhaled.

ROUTES OF EXPOSURE: Inhalation, accidental ingestion, skin or eye contact.

EYE: No data available. If material contacts eye, may cause reversible irritation.

SKIN: No data available. If material contacts skin, may cause reversible irritation.

SYSTEMIC: Acute: If inhaled in large quantities, may cause reversible lung irritation.

Chronic: If inhaled in large quantities, may cause reversible lung irritation.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY: Material is not considered to be a reproductive or developmental toxicant.

CARCINOGENICITY: Material is not listed by NTP, IARC or OSHA as a carcinogen.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

OCCUPATIONAL EXPOSURE LIMIT: None established by OSHA, ACGIH or Duke Scientific Corporation. The ACGIH threshold limit value (TLV) for "Particulates Not Otherwise Classified" (PNOC) is 10mg/m<sup>3</sup> for total dust. The OSHA permissible exposure limit (PEL) is 15mg/m<sup>3</sup> for total dust and 5mg/m<sup>3</sup> for respirable dust. The CalOSHA PEL is 10mg/m<sup>3</sup> for total dust and 5mg/m<sup>3</sup> for respirable dust.

### SECTION 4. FIRST AID MEASURES

EYE CONTACT: Wash thoroughly with water. If an irritation develops, seek medical advice.

SKIN CONTACT: Wash thoroughly with soap and water. If an irritation develops, seek medical advice.

INHALATION: Remove to fresh air and seek medical advice.

INGESTION: Give one to two glasses of water and seek medical advice.

### SECTION 5. FIRE PROTECTION

FLAMMABILITY/EXPLOSIVENESS: Not considered flammable or explosive.

FIRE FIGHTING INSTRUCTIONS: Use extinguishing media appropriate for surrounding fire (water, foam, vaporizing liquid, or multipurpose dry chemical).

### SECTION 6. SPILL AND RELEASE MEASURES

Areas covered with spilled microspheres may be slippery. If material is spilled or released, cordon off the area. Collect material by wiping the spill area with a damp paper towel or disposable wipe, and place materials into an appropriate container. Avoid inhaling fine particle dust. Discard collected material in containers suitable for proper disposal.

### SECTION 7. HANDLING AND STORAGE

When creating aerosols of fine particles, use minimal and directional (away from the user) airflow. Keep tightly sealed to prevent contamination. Store at room temperature in a dry area. Avoid damaging or puncturing containers.

**SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION**

EYE PROTECTION: Safety glasses with side shields are suggested.

SKIN PROTECTION: Powder-free latex or vinyl gloves are suggested.

RESPIRATORY PROTECTION: Respiratory protection for dust and aerosol generation is recommended (e.g., NIOSH approved filtering dust mask).

ENGINEERING CONTROLS: Use minimal and directional (away from the user) airflow to minimize worker exposure.

**SECTION 9. PHYSICAL/CHEMICAL PROPERTIES**

BOILING POINT:	Not applicable (solid)	SOLUBILITY IN WATER:	Insoluble
MELTING (SOFTENING) POINT:	590-750 degrees C (depending on product)	PERCENT VOLATILE:	Negligible
MOLECULAR WEIGHT:	Varies	VAPOR PRESSURE:	Negligible
DENSITY:	1.7-2.5 g/cm <sup>3</sup>	VAPOR DENSITY:	Negligible
APPEARANCE, COLOR, ODOR:	White powder, no odor		

**SECTION 10. STABILITY AND REACTIVITY**

STABILITY: Stable.

INCOMPATIBILITY: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Not known.

**SECTION 11. TOXICOLOGICAL INFORMATION**

See Section 3. Health Hazards

**SECTION 12. ENVIRONMENTAL INFORMATION**

No data available.

**SECTION 13. WASTE DISPOSAL METHODS**

All wastes containing the product should be specially contained, properly labeled, and stored separately from other facility waste discharges. Dispose of any waste residues according to prescribed federal, state, and local guidelines (e.g., to an appropriately permitted chemical waste incinerator). Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner (e.g., appropriately permitted municipal or on-site wastewater treatment facility or be collected for disposal according to prescribed federal, state and local guidelines).

**SECTION 14. TRANSPORTATION INFORMATION**

HAZARD CLASS: Not classified per U.S. DOT or IATA.

UN NUMBER: Not assigned per U.S. DOT or IATA.

**SECTION 15. LABELING/REGULATORY INFORMATION**

HAZARD LABELING: May cause lung irritation if inhaled.

EU RISK AND SAFETY PHRASES: None required.

CALIFORNIA PROPOSITION 65: Not regulated.

**SECTION 16. OTHER INFORMATION**

No additional information.

**ABBREVIATIONS**

ACGIH: American Conference of Governmental Industrial Hygienists  
 CalOSHA: Occupational Safety and Health Administration of California  
 DOT: Department of Transportation  
 EU: European Union  
 IARC: International Agency for Research on Cancer

IATA: International Air Transport Association  
 NIOSH: National Institute for Occupational Safety and Health  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration

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