Sphere Scientific Corporation

Material Safety Data Sheet

1. Product Identification

Prodcut Name: Polymer Microsphere Aqueous Suspension

Contents: Polymers include polystyrene, polystyrene divinylbenzene (PSDVB), polymethylmethacrylate (PMMA), or other styrene copolymers.

2. Composition/Information on Ingredients

Componet	CAS Number	Formula	Percentage
polystyrene or	9003-53-6	$(C_8H_8)x$	< 0.1-25 (varies depending on product)
polystyrene divinylbenzene or	9003-70-7		
polymethylmethacrylate	9011-14-7		
water	7732-18-5	H_2O	75-99.9
surfactant/dispersant	Proprietary	Proprietary	<0.5 (if any)
preservative.	Proprietary	Proprietary	<0.1 (if any)

3. Hazards Identification

Inhalation: No guide established; considered to be low hazard from inhalation.

Ingestion: Low single dose toxicity.

Skin Contact: Shot exposure – no irritation; repeated prolonged exposure – mild irritation, possibly a mild superficial burn.

Skin Adsorption: Not likely to be absorbed in toxic amounts; possible weak sensitizer.

Eye Contact : May cause irritation.

Systemic & Other Effects:

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

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

Carcinogenicity: Ingredients are not listed by NTP, IARC or OSHA as carcinogens.

Medical Conditions Aggravated by Exposure: None known.

Occupational Exposure Limit: None established by ACGIH and OSHA. The ACGIH threshold limit value (TLV) for “Particulates Not Ohterwise Classified” (PNOC) is 10mg/m^3 for total dust. The OSHA exposure limit (PEL) is 15mg/m^3 for total dust and 5mg/m^3 for respirable dust. The CalOSHA PEL is 10mg/m^3 for total dust and 5mg/m^3 for respirable dust.None established by OSHA and ACGIH

4. First Aid Measures

Inhalation: Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion : Low in toxicity. Induce vomiting if large amounts are ingested.

Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Treat as any contact dermatitis. If burn is present, treat as any thermal burn.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Physician should stain for evidence of corneal injury.

Systemic & Other Effects: Human effects not established. No specific antidote. Treatment based on sound judgment of physician and the individual reactions of the patient.

5. Fire Fighting Measures

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).

Special Firefighting Methods: Not applicable

Special Information : Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Vacuuming or wet sweeping may be used to avoid dust dispersal. Wear appropriate personal protective equipment as specified in Section 7. Spills: Flush area with water immediately. Avoid unnecessary exposure and contact.

7. 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.

8. Handling and Storage

Keep in a tightly closed container. Protect against physical damage and avoid puncturing containers. Keep from freezing. Store at 4－30℃ unless otherwise specified on product label or literature. When creating aerosols of fine particles, use minimal and directional (away from the user) airflow.

9. Physical and Chemical Properties

Appearance: Milky white liquid emulsion

Boiling Point: 100℃

Melting Point: 0℃

Odor: Odorless

Solubility: Insoluble

Particle Density: 0.95 － 1.05 g/cm^3 for styrene polymers

Particle Density: 1.19 g/cm^3 for PMMA

polymers

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Polymerization: Will not occur.

Hazardous Combustion or Decomposition Products: Not known.

Incompatibilities: For PMMA only, product should not be suspended in alcohol or other organic solvents.

Conditions to Avoid: Moisture, extreme heat, and incompatibles.

11. Toxicological Information

See section 3. **Hazards Identification**

12. Environmental Information

No data

13. Disposal Considerations

In large amounts, will color streams and rivers. Has practically no biological oxygen demand, but will settle out and form sludge or film. Large amounts may plug up sanitary sewers. Divert to pond or burn solid waste in an adequate incinerator.

14. Transport Information

No dada

15. Other Information

No data.

Abbreviations

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration