



SAFETY DATA SHEET

SDS-181-rev1 Issue Date: 07/20/2017

SILVER-COATED HOLLOW GLASS MICROSPHERES

1. IDENTIFICATION OF SUBSTANCE

1.1 PRODUCT NAME(S)	Silver-Coated Hollow Glass Microspheres
1.2 PRODUCT IDENTIFIER(S)	HGMS-AG, M-18-AG, M-40, M-60
1.3 INTENDED USE	Industrial and research applications
1.4 SUPPLIER'S DETAILS	Cospheric LLC, PO Box 6762, Santa Barbara, CA 93160 info@cospheric.com www.cospheric.com
1.5 EMERGENCY TELEPHONE	+1-805-687-3747 Monday-Friday, 08:00-17:00 PST [UTC-8]

2. HAZARDS IDENTIFICATION

2.1 HAZARD CLASSIFICATION

GHS Classification	H400 Very toxic to aquatic life
	H410 Very toxic to aquatic life with long lasting effects

2.2 LABEL ELEMENTS None per US OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.3 HAZARDS NOT OTHERWISE CLASSIFIED Dust may cause irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NUMBER	% (W/W)
Silver	7440-22-4	>50%
Glass oxide microspheres	308066-94-6	<50%

4. FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Eye contact	Rinse with plenty of water. Seek medical advice if symptoms persist.
Skin contact	If symptoms occur, wash with soap and water.
Inhalation	If symptoms occur, move to fresh air. Seek medical advice if necessary.
Ingestion	If symptoms occur, seek medical advice.

4.2 IMPORTANT SYMPTOMS/EFFECTS, ACUTE OR DELAYED

Inhalation of high concentrations of dust may cause respiratory irritation.

5. FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Use extinguishing measures that are appropriate to local circumstances and the surrounding fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Product not classified as flammable, but will burn on contact with flame or exposure to high temperature.

5.3 SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved) and full protective gear.



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6. ACCIDENTIAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Follow precautions for safe handling described in this safety data sheet (Section 8).

6.2 ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Dispose of any waste according to prescribed federal, state, local and competent authority guidelines.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEAN UP

Collect spillage with shovel, broom or the like. Transfer to a container for disposal.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Avoid handling practices that cause dust formation. Avoid inhalation of high concentrations of dust. Observe occupational exposure limits and minimize the risk of inhalation of dust.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in tightly closed original container in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Nuisance Dust (Particles Not Otherwise Regulated)			
OSHA	Permissible Exposure Limit (PEL)	Respirable fraction	5mg/m ³
		Total dust	15mg/m ³
Silver			
OSHA	Permissible Exposure Limit (PEL) (dust)		0.1mg/m ³
ACGIH	Threshold Limit Value Time Weighted Average (TLV-TWA)		0.1mg/m ³

8.2 ENGINEERING CONTROLS

Avoid handling practices that cause dust formation. Use local exhaust ventilation to prevent or control exposure.

8.3 INDIVIDUAL PROTECTION MEASURES (PERSONAL PROTECTIVE EQUIPMENT)

Respiratory protection: When handling practices cause dust formation, select respiratory protection appropriate for the particle size of the material.

Eye/face protection: Chemical goggles.

Skin protection: Wear suitable protective clothing and gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey spherical particles
Relative density	Per product specification (<1g/cc)
Softening Temperature	Per product specification
Flammability	Not classified as flammable.



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Flammable limits	Not-applicable
Auto-ignition temperature	Not-applicable
Decomposition temperature	No information available
Odor	Odorless
Vapor pressure	Not-applicable
Vapor density	Not-applicable
pH	Not-applicable
Melting point	Not-applicable
Solubility in water	Insoluble
Initial boiling point	Not-applicable
Flash point	Not-applicable
Evaporation rate	Not-applicable
Partition coefficient	Not-applicable
Viscosity	Not-applicable

10. STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions of use.
Chemical stability	Stable under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Likely route(s) of exposure	Dermal, inhalation
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SIGNS AND SYMPTOMS OF EXPOSURE

Eye contact	Direct contact with eyes may cause temporary mechanical irritation. Signs and symptoms may include pain, redness.
Skin contact	Direct contact with skin may cause sensitization in hypersensitive individuals. Signs and symptoms may include redness, pain and itching. Prolonged or repeated exposure to silver may cause argyria – gray pigmentation of eyes, skin and mucous membranes.
Inhalation	Inhalation above recommended exposure levels may cause respiratory irritation including cough.
Ingestion	Signs and symptoms may include abdominal pain, vomiting and diarrhea.

TOXICOLOGICAL DATA (SPECIFIC TO SILVER UNLESS NOTED OTHERWISE)

Acute toxicity	Oral LD50>2000 mg/kg (rat)
Skin corrosion/irritation	No information available/not sufficient for classification
Serious eye damage/eye irritation	No information available/not sufficient for classification
Respiratory or skin sensitization	No information available/not sufficient for classification
Germ cell mutagenicity	No information available/not sufficient for classification
Carcinogenicity	Not listed as a carcinogen (OSHA, NTP, IARC)



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Reproductive toxicity	No information available/not sufficient for classification
STOT-single exposure	No information available/not sufficient for classification
STOT-repeated exposure	No information available/not sufficient for classification
Aspiration hazard	No information available/not sufficient for classification

12. ECOLOGICAL INFORMATION

Toxicity	Contains silver which is toxic to terrestrial and aquatic organisms. LC ₅₀ (96-hr) = 1.2ug/L (Pimephales promelas) EC ₁₀ = 0.19ug/L (Salmo trutta) (OECD 201)
Persistence and degradability	No information available
Bioaccumulation potential	No information available
Mobility in soil	No information available

13. DISPOSAL CONSIDERATIONS

Dispose of any waste according to prescribed federal, state, local and competent authority guidelines. Recover and recycle if possible.

14. TRANSPORTATION INFORMATION

This product is not subject to regulations for the transport of hazardous materials (DOT, IATA, IMO).

15. REGULATORY INFORMATION

This SDS has been prepared to meet the US OSHA Hazard Communication Standard, 29 CFR 1910.1200.

16. OTHER INFORMATION

The information contained in this document is correct to the best of our knowledge at the date of publication. It should not be viewed as all inclusive, but as a guide only. It does not represent any guarantee of the properties of the product. Cospheric LLC shall not be held liable for any damage resulting from handling of or from contact with the above product. For these reasons, it is important that product users carry out their own tests to satisfy themselves as to the suitability of the safety precautions for their own intended applications.

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