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Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: HGMS-Ni, Nickel Coated Hollow Glass Microspheres
SYNONYMS: Nickel Coated Glass Spheres, Nickel Spheres
MANUFACTURER: Cospheric LLC, PO Box 6762, Santa Barbara, CA 93160
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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:	CAS NO.	% WT
Glass, Oxide & Chemicals	65997-17-3	70-99%
Nickel	7440-02-0	1-30%

SECTION 3: HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

Emergency Overview: Grey odorless, powder, May cause respiratory tract irritation. Causes mild eye irritation and slight skin irritation. Noncombustible.

Eye Contact: Causes mild eye irritation

Skin Contact: Causes slight skin irritation

Inhalation: May cause respiratory tract irritation

Ingestion: Low toxicity makes ingestion of acutely toxic amounts of this material very difficult or impossible.

Chronic hazards: Not listed by TP, IARC or OSHA as a carcinogen

Physical hazards: Slipping hazard can be present when spilled on floor.

PRIMARY ROUTES OF EXPSURE: Respiratory, skin and eye contact.

SECTION 4: FIRST AID MEASURES

EYES: Flush irritated eye with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Seek medical care.

SKIN: Flush skin with plenty of soap and water for at least 15 minutes, while removing contaminated clothing and shoes. Seek medical care.

INHALATION: Remove victim to well-ventilated area. If condition does not improve, seek medical care.

INGESTION: Not considered a likely route of exposure. If swallowed, drink two glasses of water. Never give fluids or induce vomiting if the victim is unconscious or having convulsion. If symptoms persist, seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY: Nickel dust is moderately flammable when exposed to flame or chemical oxidizers.

EXTINGUISHING MEDIA: Combustible Metals Extenguisher..

HAZARDS TO FIRE FIGHTERS: See section 3 for information on hazards when this material is present in the area of a fire.

FIRE FIGHTING EQUIPMENT: The following protective equipment for fire fighters is recommended when this material is present in the area of a fire: body-covering protective clothing, chemical resistant gloves, rubber boots, and self-contained breathing apparatus (SCBA).

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Put on appropriate NIOHS/MSHA approved respirator. Wear chemical gloves, goggles, and body-covering protective clothing..

ENVIRONMENTAL HAZARDS: Not an extremely hazardous substance under SARA Title III Section 302. Not a toxic chemical under SARA Title III Section 313. Hazard catagories under SARA Title III Sections 311/312: Acute.

SMALL SPILL CLEANUP: Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use appropriate Personal Protective Equipment. See Section 8.

LARGE SPILL CLEANUP: Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use appropriate Personal Protective Equipment. See Section 8. In case of contact with water, prevent runoff from entering storm sewers and ditche3s which lead to natural waterways.

CERCLA RQ: There is no CERCLA reportable quantity for this material. If a spill goes off site, notification of state and local authorities is recommended.

SECTION 7: HANDLING AND STORAGE

HANDLING: Avoid dust formation. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Promptly clean up spills.. Wash thoroughly after handling and before mealtimes. Follow all MSDS and label precautions even after container is emptied since it may contain residual material.

STORAGE: Store containers closed. Containers which are opened should be closed, and kept upright to prevent leakage and contamination. In case of high humidity or extended storage us plastic bags to enclose product containers to avoid caking.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LEVELS:

Component:	OSHA PEL	ACGIH TLV	Unit
Nuisance dust (>5um)	15	10	mg/m ³
Nuisance Dust Respirable (<5um)	5	5	mg/m ³
Airborne Silver in Powder Form	0.01	0.1	mg/m ³

ENGINEERING CONTROLS:

Ventilation: Provide adequate general mechanical exhaust.

Safety shower and eyewash fountain should be within direct access.

PERSONAL PROTECTION:

Eye Protection: Wear chemical goggles

Skin Protection: Wear body-covering protective clothing and gloves.

Respiratory Protection: Use NIOSH/MSHA approved respirator as needed to control exposure.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Dark Grey Powder.

ODOR: Odorless

PHYSICAL STATE: Fine Dry powder

SOFTENING POINT: 650°C glass

SPECIFIC GRAVITY: 0.15-1.10 g/cc

SOLUBILITY IN WATER: In Soluble

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Exposure to Strong bases and acids..

INCOMPATIBILITY (MATERIAL TO AVOID): Strong acids or base materials such as Hydrofluoric Acid and Sodium Hydroxide

HAZARDOUS DECOMPOSITION BY-PRODUCTS: None.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE DATA:

When tested for primary irritation potential, this material caused mild eye irritation and slight skin irritation. This product has not been tested for oral toxicity. The acute oral LD50 in rats of sodium silicate ranges from 1500 mg/kg to 3200 mg/kg; and the acute oral LD50 in rats of sodium borate is 2660 mg/kg as boric acid.

SUBCHROMIC DATA:

This product has not been tested for respiratory toxicity. When a similar material was tested for respiratory toxicity in a 6-month intratracheal study in rats. No mortalities, untoward reactions, or observations correlated with exposure to the material. Minimum multifocal inflammation of the lung occurred in 90% of males and 80% of females. No appreciable increase in fibrous tissue was present in these lesions. Boric acid has been investigated as a mutagen, reproductive effector.

SPECIAL STUDIES:

Sodium silicate was not mutagenic to the bacterium E. Coli when tested in mutagenicity bioassay. There are no known reports of carcinogenicity of sodium silicates or sodium borates. Sodium silicate, sodium borate and amorphous silica are all not listed by IARC, NTP or OSHA as carcinogens.

SECTION 12: ECOLOGICAL INFORMATION

REMARKS: This product has not been tested for ecotoxicity potential. The following data is reported for sodium silicates: a 96 hour median tolerance for fish (*Gambusia affinis*) of 2320 ppm; a 96 hour median tolerance for water fleas (*Daphnia magna*) of 247 ppm; a 96 hour median tolerance for snail eggs (*Lymnaea*) of 632 ppm; and a 96 hour median tolerance for amphipoda of 160ppm.

The Product should not be allowed to enter drains, waterways or other bodies of water. It floats in water.

SECTION 13: DISPOSAL CONSIDERATIONS

REMARKS: Responsibility for proper waste disposal rests with the generator of the waste. Dispose of any waste material in accordance with all applicable federal, state and local regulations. Note that these regulations may also apply to empty containers, liners and rinsate. Processing, use, dilution or contamination of this product may cause its physical and chemical properties to change.

RCRA HAZARD CLASS: Non-Hazardous

SECTION 14: TRANSPORT INFORMATION

Not regulated, Considered non-hazardous under transport regulations
Class 55, Item Number 87660, Proper Shipping Name: Glass

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA (Toxic Substance Control Act): All Components of this product are included on the TSCA inventory in compliance with the toxic substances control act, 15 U.S.C. 2601 ET.SEQ.

CERCLA (Comprehensive Environmental response compensation, and liability act): This is not a regulated material under 40 CFR 117.302. Notification of spills is not required.

SARA TITLE III (Superfund amendments and reauthorization act): This product contains no known chemicals contained on the list of toxic chemicals subject to the reporting requirements of section 313 of the emergency planning & community right to know act of 1986 & of 40 CFR372. Not an extremely hazardous substance under Section 302. Hazard Categories under Section 311 and 312: Acute

SECTION 16: OTHER INFORMATION

DISCLAIMER:

The statements made here are intended to describe the product with regard to necessary safety precautions. They do not guarantee special characteristics. This information is furnished without warranty, expressed or implied, except that it is accurate to the best of our current knowledge.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

PREPARATION INFORMATION: Updated on 05/22/2012