



# SAFETY DATA SHEET

SDS-182-rev1 Issue Date: 07/30/2021

## NICKEL-COATED HOLLOW GLASS MICROSPHERES

### 1. IDENTIFICATION OF SUBSTANCE

- 1.1 PRODUCT NAME(S) Nickel-Coated Hollow Glass Microspheres
- 1.2 PRODUCT IDENTIFIER(S) HGMS-Ni, M-18-Ni
- 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 GHS HAZARD CLASSIFICATION

NFPA 704 DIAMOND



#### CLASSIFICATION

Skin Sensitizer Category 1, Specific target organ toxicity - repeated exposure Category 1, Carcinogenicity Category 2

#### 2.2 LABEL ELEMENTS

##### HAZARD PICTOGRAM(S)



##### SIGNAL WORD

**Danger**

#### HAZARD STATEMENTS

- H317** May cause an allergic skin reaction.
- H351** Suspected of causing cancer.
- H372** Causes damage to organs through prolonged or repeated exposure.
- H412** May cause long lasting harmful effects to aquatic life.
- May form combustible dust concentrations in air (during processing).

#### 2.3 HAZARDS NOT OTHERWISE CLASSIFIED

Combustible Dust.

#### PRECAUTIONARY STATEMENTS



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### PREVENTION

- P201** Obtain special instructions before use.
- P210** Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P241** Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- P240** Ground/bond container and receiving equipment.
- P260** Do not breathe dust/fume.
- P264** Wash all exposed external body areas thoroughly after handling.
- P270** Do not eat, drink or smoke when using this product.
- P280** Wear protective gloves and protective clothing.
- P281** Use personal protective equipment as required.

### RESPONSE

- P302+P352** If on skin: Wash with plenty of water.
- P308+P313** IF exposed or concerned: Get medical advice/attention.
- P314** Get medical advice/attention if you feel unwell.
- P333+P313** If skin irritation or rash occurs: Get medical advice/attention.
- P363** Wash contaminated clothing before reuse.
- P370 + P378** In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

### STORAGE

- P405** Store locked up.

### DISPOSAL

- P501** Dispose of contents/container to authorized hazardous or special waste collection point in accordance with any local regulation.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NUMBER	% (W/W)
Nickel	7440-02-0	<30%
Glass oxide microspheres	308066-94-6	>70%

## 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



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

Metal dust fires need to be smothered with sand, inert dry powders.

- Use dry sand, graphite powder, dry sodium chloride-based extinguishers, G-1 or Met L-X to smother fire.
- Confining or smothering material is preferable to applying water as chemical reaction may produce flammable and explosive hydrogen gas. Chemical reaction with CO<sub>2</sub> may produce flammable and explosive methane.
- If impossible to extinguish, withdraw, protect surroundings and allow fire to burn itself out.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Reacts with acids producing flammable / explosive hydrogen (H<sub>2</sub>) gas.

Do not disturb burning dust. Explosion may result if dust is stirred into a cloud, by providing oxygen to a large surface of hot metal.

### 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.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

#### MINOR SPILL:

Shut off all sources of ignition. Use non-sparking tools. Avoid creating dust clouds.

Control personal contact with the substance, by using personal protective equipment as required.

Avoid breathing vapors/ aerosols/ or dusts and avoid contact with skin and eyes.

Contain and absorb spill with sand, earth, inert material or vermiculite.

Place in a suitable, labelled container for waste disposal. Follow precautions for safe handling described in this safety data sheet (Section 8).

#### MAJOR SPILL:

Clear area of personnel.

Alert Fire Department and tell them location and nature of hazard.

Contain spill with sand, earth or vermiculite.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Prevent spillage from entering drains or water ways. Dispose of any waste according to prescribed federal, state, local and competent authority guidelines. If contamination of drains or waterways occurs, advise emergency services.

### 6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEAN UP

Collect spillage with shovel, broom or the like. Transfer to a container for disposal. Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. Ventilate and wash area and prevent runoff into drains or waterways.

## 7. HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING

Avoid handling practices that cause dust formation.

Observe occupational exposure limits and minimize the risk of inhalation of dust.

Wear protective clothing when risk of exposure occurs.

Avoid contact with skin and eyes.



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Use in a well-ventilated area.  
Avoid contact with incompatible materials.  
When handling, do not eat, drink or smoke.  
Keep containers securely sealed when not in use.  
Avoid physical damage to containers.  
Always wash hands with soap and water after handling.  
Use good occupational work practice.  
Avoid prolonged or repeated exposure.  
Keep away from sources of ignition.  
Take measures to prevent the buildup of electrostatic charge.  
Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.  
Provide appropriate exhaust ventilation at places where dust is formed.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in tightly closed original container in a dry, cool and well-ventilated place.  
Keep away from heat, sparks, and open flame.  
Containers of this material may be hazardous when empty since they retain product residues. Observe all warnings and precautions listed for the product.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

US OSHA Permissible Exposure Limits (PELs)	Inert or Nuisance Dust: Respirable Fraction	5 mg/m <sup>3</sup> / 15 mppcf
	Inert or Nuisance Dust: Total Dust	15 mg/m <sup>3</sup> / 50 mppcf
	Nickel, metal and insoluble compounds (as Ni)	1 mg/m <sup>3</sup>
US NIOSH Recommended Exposure Limits (RELs)	Nickel metal and other compounds (as Ni)	0.015 mg/m <sup>3</sup>
US ACGIH Threshold Limit Values (TLV)	Nickel and inorganic compounds (Inhalable Particulate Matter)	1.5 g/m <sup>3</sup>

### 8.2 ENGINEERING CONTROLS

Avoid handling practices that cause dust formation. Use local exhaust ventilation to prevent or control exposure.  
Metal dusts must be collected at the source of generation as they are potentially explosive.  
Avoid ignition sources.  
Good housekeeping practices must be maintained.  
Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions.  
Do not use compressed air to remove settled materials from floors, beams or equipment.  
Vacuum cleaners, of flame-proof design, should be used to minimize dust accumulation.  
Use non-sparking handling equipment, tools and natural bristle brushes. Cover and reseal partially empty containers.  
Provide grounding and bonding where necessary to prevent accumulation of static charges during metal dust handling and transfer operations.  
Wet scrubbers are preferable to dry dust collectors.  
Bag or filter-type collectors should be sited outside the workrooms and be fitted with explosion relief doors.



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Cyclones should be protected against entry of moisture as reactive metal dusts are capable of spontaneous combustion in humid or partially wetted states.

Local exhaust systems must be designed to provide a minimum capture velocity at the fume source, away from the worker, of 0.5 meter/sec.

Local ventilation and vacuum systems must be designed to handle explosive dusts. Dry vacuum and electrostatic precipitators must not be used, unless specifically approved for use with flammable/ explosive dusts.

### 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 and level of exposure.

**Eye/face protection:** Safety glasses with side shields.  
Chemical goggles.  
Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

**Skin protection:** Wear suitable protective clothing and gloves.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey spherical particles between 1 and 100 microns in diameter
Relative density	Per product specification (<1g/cc)
Softening Temperature	Per product specification
Flammability	Not classified as flammable.
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



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Chemical stability	Stable under normal conditions of use
Conditions to avoid	Moisture
Materials to avoid	Acids, oxidizing agents, sulfur
Hazardous decomposition	Nickel oxides

### 11. TOXICOLOGICAL INFORMATION

Likely route(s) of exposure                      Dermal, inhalation

#### SIGNS AND SYMPTOMS OF EXPOSURE

Eye contact	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort and temporary mechanical irritation. Signs and symptoms may include pain, redness.
Skin contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Prolonged or repeated exposure may cause skin irritation.
Inhalation	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation above recommended exposure levels may cause respiratory irritation including cough.
Ingestion	The material has not been classified by EC Directives or other classification systems as "harmful by ingestion," due to lack of data. Signs and symptoms may include abdominal pain, vomiting and diarrhea.

#### TOXICOLOGICAL DATA (SPECIFIC TO NICKEL UNLESS NOTED OTHERWISE)

Acute toxicity	Oral (Rat) LD50; >9000 mg/kg Eye: no adverse effect observed (not irritating)
Skin corrosion/irritation	May cause allergic skin reactions
Serious eye damage/eye irritation	No information available/not sufficient for classification
Respiratory or skin sensitization	May cause allergic respiratory or skin reactions in sensitive individuals
Germ cell mutagenicity	No information available/not sufficient for classification
Carcinogenicity	Suspected of causing cancer with prolonged or repeated exposure
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



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Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.  
Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.  
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

### 13. DISPOSAL CONSIDERATIONS

Contact a licensed professional waste disposal service to dispose of this material. Dispose of any waste according to prescribed federal, state, local and competent authority guidelines.

### 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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