



449 N. Hope Ave, Santa Barbara, CA 93110  
Phone: (805) 687-3747 Fax: (866) 708-0375  
info@cospheric.com http://www.cospheric.com

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## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** PHYGPMS

**SYNONYMS:** phosphorescent polyethylene microspheres, phosphorescent polymer microspheres, beads, balls, microparticles

**MANUFACTURER:** Cospheric LLC, 449 N. Hope Ave, Santa Barbara, CA 93110  
info@cospheric.com

**EMERGENCY PHONE:** (734) 368-3809 Hours of operation M-F 9am to 5pm PST

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

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INGREDIENT:	CAS NO.	% WT
Polyethylene	9002-88-4	70-99%
Proprietary Ingredient(s)	Proprietary Ingredient(s)	1-30%

This product is not hazardous under the U. S. OSHA Hazard Communication Standard (29 CFR § 1910.1200). This product is not a controlled product under the Canadian Hazardous Products Act or Regulations. This product is not classified under the European Dangerous Substance Directive 67/548 and the European Dangerous Preparations Directive 88/379.

### SECTION 3: HAZARDS IDENTIFICATION

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**POTENTIAL HEALTH EFFECTS:** Product dust may be irritating to eyes, skin and respiratory system. Maybe harmful if swallowed. Avoid dust formation. Avoid breathing dust. Slipping hazard can be present when spilled on floor.

**PRIMARY ROUTES OF EXPOSURE:** Respiratory, skin and eye contact.

### SECTION 4: FIRST AID MEASURES

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**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 water for at least 15 minutes, while removing contaminated clothing and shoes. If irritation develops and persists, 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, rinse mouth with water (only if the person is conscious). Never give fluids or induce vomiting if the victim is unconscious. Do not induce vomiting without medical advice. If symptoms persist, seek medical attention.

### SECTION 5: FIRE-FIGHTING MEASURES

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**FLAMMABILITY:** Not regulated as flammable or combustible.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Heating or fire can release toxic gas. Do not allow run off from fire fighting to enter drains or water courses.

**CONDITIONS TO AVOID:** Prevent the accumulation of air borne dust/dust cloud, open flames, sparks, static, heat.

**EXTINGUISHING MEDIA:** In case of fire, use foam or CO2 fire extinguishers.

**SPECIAL FIRE FIGHTING PROCEDURES:** Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and public waterways.

**FIRE HAZARD REMARKS:** As with most solid particulate organic materials, high concentrations of dusts from this product suspended in air are an explosion hazard in the presence of sparks, flames, and heat. Do not allow dust to accumulate on equipment and surfaces where this product is used. In the National Fire Protection Association (NFPA) Code 499, a "combustible dust" is any finely divided solid material 420 microns or less in diameter that presents a fire or explosion hazard when dispersed in air. Polyethylene is a Group G combustible dust and has a Layer or Cloud Ignition Temperature of 380°C (716°F) [NFPA Code 499]. When there is the potential of a dust explosion in a use location, the proper electrical equipment and installation should be used.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**PERSONAL PRECAUTIONS:** Put on appropriate NIOHS/MSHA approved respirator. Wear chemical gloves, goggles, and lab coat.

**SPILL RESPONSE:** Evacuate surrounding areas, if necessary. Vacuum or carefully scoop up spilled materials and place in an appropriate container for disposal. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Do not allow material to contaminate ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Local authorities should be advised if significant spillages cannot be contained.

**ACCIDENTAL RELEASE REMARKS:** Spilled material can produce a slipping hazard.

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## SECTION 7: HANDLING AND STORAGE

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**HANDLING:** Avoid dust formation. Do not breathe dust. Use with adequate ventilation.

Take precautionary measures against static discharges. Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Avoid contact with skin, eyes and clothing. Wash thoroughly after handling and before mealtimes. When using, do not eat or drink.

**STORAGE:** Store containers tightly closed in a dry, cool and well-ventilated location, away from sources of heat and ignition.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### EXPOSURE LEVELS:

Component:	OSHA PEL	ACGIH TLV	Unit
Nuisance dust (>5 micron)	10	10	mg/m <sup>3</sup>

### ENGINEERING CONTROLS:

Ventilation: Provide adequate general mechanical exhaust.

### PERSONAL PROTECTION:

Handle in accordance with good industrial hygiene and safety practices.

Eye Protection: Safety glasses with side shields or goggles.

Skin Protection: Rubber gloves, wash at meals and end of shifts.

Respiratory Protection: Avoid dust formation. Use with adequate exhaust ventilation. Use NIOSH/MSHA approved respirator as needed to control exposure.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Microspheres appear to be off-white in color, tasteless and odorless.

**PHYSICAL STATE:** Dry powder  
**MELTING POINT:** 108.9 to 116.7°C (228 to 242.1°F)  
**SPECIFIC GRAVITY:** ~ 0.98-1.2g/cc @16°C (60°F)  
**SOLUBILITY IN WATER:** Insoluble  
**FLASH POINTS:** Open cup: >175°C (347°F) (Cleveland.).

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#### **SECTION 10: STABILITY AND REACTIVITY**

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**STABILITY:** Stable under normal conditions. Hazardous polymerization does not occur.  
**CONDITIONS TO AVOID:** Open flames and sparks, extreme heat.  
**INCOMPATIBILITY (MATERIALS TO AVOID):** Strong oxidizing agents, strong acidic materials.  
**HAZARDOUS DECOMPOSITION BY-PRODUCTS:** Fumes may contain oxides of sulfur, carbon or nitrogen, or other toxic fumes.  
**THERMAL DECOMPOSITION:** No decomposition if used as directed.

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#### **SECTION 11: TOXICOLOGICAL INFORMATION**

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##### **CHRONIC TOXICITY DATA:**

Polyethylene in its solid form is not expected to have any significant toxicological effect, except intestinal blockage if swallowed. Rats after inhaling polyethylene dust developed mild inflammatory changes in the lungs (Kochetkova et al, 1971). Prolonged inhalation of thermal degradation products from polyethylene caused neurological effects in rats (Zitting & Savolainen, 1979)

##### **POSSIBLE ROUTES OF EXPOSURE:**

Inhalation is not likely for materials >5micron in diameter.  
Ingestion is not likely, but possible if good hygiene practices are not followed.  
Eye irritation.  
Skin contact may result in contact dermatitis.

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#### **SECTION 12: ECOLOGICAL INFORMATION**

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Do not flush into surface water or sanitary sewer system.

**REMARKS:** Recommendation to keep away from surface water and sewer system is due to a minor component of the product. Ecotoxicological data on polymeric materials analogous to polyethylene demonstrates low aquatic toxicity to fish, algae, and daphnia.

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#### **SECTION 13: DISPOSAL CONSIDERATIONS**

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**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.

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#### **SECTION 14: TRANSPORT INFORMATION**

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Not regulated

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#### **SECTION 15: REGULATORY INFORMATION**

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**STATE REGULATIONS:** This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

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#### **SECTION 16: OTHER INFORMATION**

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**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 01/18/2010