

## Material Safety Data Sheet

### Gadolinium (III) Sulfate Octahydrate

#### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Gadolinium (III) Sulfate Octahydrate

**CAS No:** 13450-87-8

**Synonyms:** None.

**Company Identification:**

Heeger Materials Inc.

230 Steele St Denver

CO 80206

United States

Tel: 925-385-8104

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

#### Section 2 - Composition, Information on Ingredients

| CAS#       | Chemical Name                        | Percent | EINECS/ELINCS |
|------------|--------------------------------------|---------|---------------|
| 13450-87-8 | Gadolinium (III) Sulfate Octahydrate | 99.9%   | unlisted      |

#### Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

Appearance: white crystalline powder crystals.

**Caution!** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Hygroscopic (absorbs moisture from the air). The toxicological properties of this material have not been fully investigated.

**Target Organs:** None known.

#### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause skin irritation.

**Ingestion:** May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.

**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance

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have not been fully investigated.

**Chronic:** No information found.

## Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:** Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use extinguishing media appropriate to the surrounding fire. Substance is noncombustible.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

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**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

| Chemical Name                        | ACGIH       | NIOSH       | OSHA - Final PELs |
|--------------------------------------|-------------|-------------|-------------------|
| Gadolinium (III) Sulfate Octahydrate | none listed | none listed | none listed       |

**OSHA Vacated PELs:** Gadolinium (III) Sulfate Octahydrate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Crystals

**Appearance:** white crystalline powder

**Odor:** Not available.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** Not available.

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**Decomposition Temperature:** Not available.

**Solubility:** soluble in water

**Specific Gravity/Density:** 3.010

**Molecular Formula:**  $Gd_2(SO_4)_3 \cdot 8H_2O$

**Molecular Weight:** 746.81

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, exposure to moist air or water.

**Incompatibilities with Other Materials:** Moisture, strong oxidizing agents.

**Hazardous Decomposition Products:** Sulfur dioxide, sulfur dioxide.

**Hazardous Polymerization:** Has not been reported

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 13450-87-8 unlisted.

**LD50/LC50:**

Not available.

**Carcinogenicity:**

CAS# 13450-87-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

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Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

|                       | US DOT                                | Canada TDG                |
|-----------------------|---------------------------------------|---------------------------|
| <b>Shipping Name:</b> | Not regulated as a hazardous material | No information available. |
| <b>Hazard Class:</b>  |                                       |                           |
| <b>UN Number:</b>     |                                       |                           |
| <b>Packing Group:</b> |                                       |                           |

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 13450-87-8 is not listed on the TSCA inventory. It is for research and development use only.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

**Section 313** No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

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None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

## **OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

## **STATE**

CAS# 13450-87-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

## **California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

## **European/International Regulations**

### **European Labeling in Accordance with EC Directives**

#### **Hazard Symbols:**

Not available.

#### **Risk Phrases:**

#### **Safety Phrases:**

S 24/25 Avoid contact with skin and eyes.

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 28A After contact with skin, wash immediately with plenty of water

#### **WGK (Water Danger/Protection)**

CAS# 13450-87-8: No information available.

#### **Canada - DSL/NDSL**

None of the chemicals in this product are listed on the DSL or NDSL list.

#### **Canada - WHMIS**

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

#### **Canadian Ingredient Disclosure List**

## Section 16 - Additional Information

**MSDS Creation Date:** 6/14/1999

**Revision #4 Date:** 11/20/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their

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