
1. Product and Company Identification

Trade Name: Gadolinium
Chemical Formula: Gd
Recommended Use: Scientific research and development

Manufacturer/Supplier: Heeger Materials Inc.

Street: 230 Steele St Denver
CO 80206
United States

Tel #: +1 925-385-8104

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable solid
H260: In contact with water releases flammable gases which may ignite spontaneously

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P231+P232: Handle under inert gas. Protect from moisture
P240: Ground/bond container and receiving equipment
P241: Use explosion-proof electrical/ventilating/light/equipment P280: Wear protective gloves/protective clothing/eye protection/face protection
P370+P378: In case of fire: Use special powder for metal fires for extinction
P402+404: Store in a dry place. Store in a closed container
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):	Powder	Pieces	Bulk
Health:	1	1	1
Flammability:	3	2	1
Physical:	2	1	1

3. Composition

Chemical Family: Rare earth metal
Additional Names: None

Gadolinium (Gd):
Percentage: 100 wt%
CAS #: 7440-54-2
EC #: 231-162-2

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion: Seek medical attention.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability: Flammable
Extinguishing Media: Do not use water for metal fires – use special extinguishing powder.
Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions: Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions: Handle under dry protective gas. Wash thoroughly after handling.
Storage Conditions: Store in a cool dry place in a tightly sealed container. Store under dry inert gas. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	None
Threshold Limit Value:	None
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles, full face protection
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Silver-colored
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	3273 °C
Melting Point:	1312 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	7.9 g/cc
Molecular weight:	157.25 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Water, Oxygen, Acids, Acid chlorides, Halogens, Oxidizing agents
Incompatible Conditions:	Air, Water/moisture
Hazardous Decomposition Products:	Metal oxide fume

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	N/A

12. Ecological Information

Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	N/A

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:

Hazardous as powder:



Hazard Class:

4.1 Flammable solids, self-reactive substances and solid desensitized explosives

Packing Group:

II

UN Number:

UN3089

Proper Shipping Name:

Metal powders, flammable, n.o.s. (Gadolinium powder)

Hazardous:

Hazardous as pieces:



Hazard Class:

4.1 Flammable solids, self-reactive substances and solid desensitized explosives

Packing Group:

II

UN Number:

UN3178

Proper Shipping Name:

Flammable solid, inorganic, n.o.s. (Gadolinium)

15. Regulatory Information

Sec 302 Extremely Hazardous:

No

Sec 304 Reportable Quantities:

N/A

Sec 313 Toxic Chemicals:

No

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised:

08/16/2023