

Gadolinium



SAFETY DATA SHEET

1 PRODUCT AND SUPPLIER IDENTIFICATION

Product Name: Gadolinium - pieces, chips, ingot, rod, foil (≥0.005"), sheet, target

Formula: Gd

Supplier: ESPI Metals
1050 Benson Way
Ashland, OR 97520

Telephone: 800-638-2581

Fax: 541-488-8313

Email: sales@espimetals.com

Emergency: Infotrac 800-535-5053 (US) or 352-323-3500 (24 hour)

Recommended Uses: Scientific Research

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Not classified as hazardous

GHS Label Elements:

Signal Word: N/A

Hazard Statements: N/A

Precautionary Statements: N/A

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Gadolinium

CAS#: 7440-54-2

%: 100

EC#: 231-162-2

4 FIRST AID MEASURES

General Measures: No special requirements.

INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek medical attention.

INGESTION: Rinse mouth with water. Do not induce vomiting. Seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek medical attention if symptoms persist.

EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation. See section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment: No other relevant information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use Class D dry powder extinguishing agent.

Unsuitable Extinguishing Media: Do not use water.

Specific Hazards Arising from the Material: Flammable in the form of dust or very thin foil when exposed to heat, spark or flame. May react with water under fire conditions liberating flammable hydrogen gas. May emit fumes of gadolinium oxide under fire conditions.

Special Protective Equipment and Precautions for Firefighters: Full face, self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes. Eliminate all sources of ignition.

Methods and Materials for Containment and Cleaning Up: Avoid dust formation. Sweep or scoop spilled product and place in a closed container for further handling and disposal. Use only non-sparking tools and natural bristle brushes.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

7 HANDLING AND STORAGE

Precautions for Safe Handling: Handle in an enclosed, controlled process. Handle thin foils or small chips under dry protective gas such as argon. Use non-sparking tools. Protect from sources of ignition. Avoid creating dust. Avoid breathing dust or fumes. Provide adequate ventilation if dusts are created. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Conditions for Safe Storage, Including Any Incompatibilities: Store in tightly-sealed containers. Store thin foils or small chips under argon. Store in a cool, dry area. Protect from moisture and air. See section 10 for more information on incompatible materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:	Gadolinium
OSHA/PEL:	No exposure limit established
ACGIH/TLV:	No exposure limit established

Appropriate Engineering Controls: Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Individual Protection Measures, Such as Personal Protective Equipment:

- Respiratory Protection:** If permissible levels are exceeded, use NIOSH approved dust respirator.
- Eye Protection:** Safety glasses
- Skin Protection:** Wear impermeable gloves, protective work clothing as necessary.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Form:	Solid in various forms
Color:	Silver gray metallic
Odor:	Not determined
Odor Threshold:	Not determined
pH:	N/A
Melting Point:	1313 °C
Boiling Point:	3273 °C
Flash Point:	N/A
Evaporation Rate:	N/A
Flammability:	No data
Upper Flammable Limit:	No data
Lower Flammable Limit:	No data
Vapor Pressure:	No data
Vapor Density:	N/A
Relative Density (Specific Gravity):	7.901 g/cc
Solubility in H₂O:	Insoluble
Partition Coefficient (n-octanol/water):	Not determined
Autoignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity:	N/A

10 STABILITY AND REACTIVITY

Reactivity: No data

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Dusts are flammable. Contact with acids may evolve hydrogen gas. May react with water under fire conditions liberating flammable hydrogen gas.

Conditions to Avoid: Avoid creating or accumulating fines or dusts, especially near possible ignition sources such as sparks or flame.

Incompatible Materials: Acids, acid chlorides, oxidizing agents, halogens, water/moisture, air.

Hazardous Decomposition Products: Gadolinium oxide, gadolinium hydroxides, hydrogen.

11 TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin, eyes.

Symptoms of Exposure: May cause irritation.

Acute and Chronic Effects: No data

Acute Toxicity: No data

Carcinogenicity: **NTP:** Not identified as carcinogenic **IARC:** Not identified as carcinogenic

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and Degradability: No data

Bioaccumulative Potential: No data

Mobility in Soil: No data

Other Adverse Effects: Do not allow material to be released to the environment. No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

Shipping Regulations: Not regulated

UN Number: N/A

UN Proper Shipping Name: N/A

Transport Hazard Class: N/A

Packing Group: N/A

Marine Pollutant: No

15 REGULATORY INFORMATION

TSCA Listed: All components are listed.

Regulation (EC) No 1272/2008 (CLP): N/A

Canada WHMIS Classification (CPR, SOR/88-66): N/A

HMIS Ratings: Health: 1 Flammability: 1 Physical: 1

NFPA Ratings: Health: 1 Flammability: 1 Instability: 1

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The information contained in this document is based on the state of our knowledge at the time of publication and is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI Metals makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information. ESPI Metals shall not be held liable for any damages resulting from handling or from contact with the above product. Users should satisfy themselves that they have all current data relevant to their particular use.

Prepared by: ESPI Metals

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