

Process Materials, Inc.

5625 Brisa Street, Suite B, Livermore, CA 94550

Phone (925) 245-9626 Fax (925) 245-9629

Material Safety Data Sheet

Emergency #: 911 Chemtrec: 800-424-9300

1. Chemical Information & Company Identification

Product Name: Gadolinium Oxide

Process Materials, Inc.
5625 Brisa Street, Suite B
Livermore, CA 94550

Phone:..... (925) 245-9626

Fax: (925) 245-9629

Atomic Symbol: Gd203

Synonym: Gadolinium Metal Ingot or Chopstock

2. Composition/Information on Ingredient

CAS # 7440-54-2

3. Hazards Information

A. Emergency Overview

Physical Appearance and Odor: Lustrous gray, silvery metal, odorless

Warning statement: Not flammable in ingot form. However, under extreme fire conditions, may react with water to produce flammable, explosive hydrogen gas. Fine dust in high concentrations are ignitable and may cause skin, eye or respiratory tract irritation.

Note: For purposes of this MSDS, occupational exposure to metal or alloys is taken to mean dusts, fumes, or solutions containing metals that become airborne or can spill on the skin or in the eyes. Occupational exposure to metals or alloys does not include solid products (i.e., ingots or castings), provided no industrial situations, the significant routes of exposure would include inhalation, or skin and eye contact.

B. Potential Health Effects

Acute Eye: Non-irritating. My cause foreign body irritation only

Acute Skin: Skin absorption not likely. Essentially non-irritating

Acute Inhalation: Low acute inhalation toxicity. May cause upper respiratory tract infection.

Acute Ingestion: Low acute oral toxicity

Chronic Effects: This product does not contain any ingredient designated by IARC, NTP< ACGIH or OSHA as probable or suspected human carcinogens.

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This form may be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

4. First Aid Measures

Eye Contact: Rinse particulate matter from eye. Seek medical attention if irritation develops or persists or if visual change occur.

Skin Contact: In case of contact, wash skin with plenty of soap and water. Seek medical attention if irritation develops or persists.

Inhalation: If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

Ingestion: If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek medical attention. Do not leave victim unattended.

Medical Conditions possibly aggravated by exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote is available.

5. Fire Fighting Measures

Fire Hazard Data:

Flash Point: Not applicable

Extinguishing Media: Recommended: Dry chemical, Class D extinguisher. Not recommended: Water

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self contained breathing apparatus and full protective clothing.

Unusual fire explosion hazards: Product will burn under fire conditions. May react with water liberating

6. Accidental Release Measures

Evacuation procedures: Wear appropriate protective gear for the situation. See personal protection information in section 8.

Containment of spill: Follow procedure described below under clean-up and disposal of spill.

Cleanup and disposal of spill: Sweep up and place in an appropriate closed container (see section 7: Handling and storage). Clean up residual material by washing area with water.

Environmental and regulatory reporting: Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. Handling and Storage

Minimum/Maximum Storage temperature: Not available

Handling: Avoid breathing dusts or vapors. Avoid direct or prolonged contact with skin and eyes.

Storage: Store in tight closed containers. Store in an area that is dry.

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8. Exposure Control/Personal Protection

Introductory remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with section 13: Disposal Considerations.

Exposure Guidelines: No exposure limits were found for this product or any of its ingredients.

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: General are dilution/exhaust ventilation.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and / or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standards: Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against dust, mists and fumes.

Eye/Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

Skin Protection: Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e., shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Work Practice controls: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

1. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
2. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
3. Wash exposed skin promptly to remove accidental splashes of contact with this material.

9. Physical and Chemical Properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in section 1 for its exact specifications.

Melting Point: 1313 C (2395 F)

Boiling Point: 5911 C (10672 F) at 760mm Hg

Vapor Pressure: Not available

Vapor Density (air=1): Not available

Solubility in Water: Insoluble

Appearance: Silvery ingot, solid

Odor: Odorless

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10. Stability and Reactivity

Chemical Stability: This material is stable under normal handling and storage conditions described in Section 7.

Conditions to be avoided: Dusting conditions, electric arcs, open flame, spark

Materials/Chemicals to be avoided: Moisture, strong acids, strong oxidizing agents, acid chlorides, halogens

The following Hazardous Decomposition Products might be Expected:

Decomposition Type: Hydrolysis

Product: Hydrogen

Hazardous Polymerization will not occur.

11. Toxicological Information

Acute Eye Irritation: No test data found for product

Acute skin Irritation: No test data found for product

Acute Dermal Irritation: No test data found for product

Acute Respiratory Irritation: No test data found for product

Acute Inhalation Toxicity: No test data found for product

Acute Oral Toxicity: No test data found for product

Chronic Toxicity: This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be probable or suspected human carcinogens.

No additional test data found for product.

12. Ecological Information

Ecotoxicological Information: No data found for product.

Chemical Fate Information: No data found for product.

13. Disposal Considerations

Waste Disposal Method: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Container Handling and Disposal: Any containers or equipment used should be decontaminated immediately after use.

EPA Hazardous Waste – NO

14. Transport Information

Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification

The listed Transportation Classification does not address regulatory variations due to changes in packing size, mode of shipment or other regulatory descriptors.

US Department of Transportation Classification: Not Regulated

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15. Regulatory Information

Inventory Status:

United States (TSCA)	Y
Canada (DSL)	N
Europe (EINECS/ELINCS)	Y
Australia (AICS)	N
Japan (MITI)	E
South Korea (KECL)	Y

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

Federal Regulations:

TSCA Inventory Status: All functional components of this product are listed on the TSCA Inventory

SARA Title III Hazard Classes

Fire Hazard	Yes
Reactive Hazard	Yes
Release of Pressure	No
Acute Health Hazard	No
Chronic Health Hazard	No

State Regulations: This product does not contain any components that are regulated under California Proposition 65.

16. Other Information

National Fire Protection Association (NFPA) Hazard Ratings:

1. Health Hazard Rating – slight
1. Flammability Rating – slight
2. Instability Rating – Moderate

National Paint & Coating Hazardous Materials Identification:

1. Health Hazard Rating – slight
1. Flammability Rating – slight
2. Reactivity Rating - Moderate

SPECIAL NOTE: *Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. Process Materials shall not be held liable for any damage resulting from handling or from contact with the product listed in this MSDS. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other products or process, is the responsibility of the user.*

Abbreviations used: NA = Not Applicable NE = Not Established

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