



Material Safety Data Sheet

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Version 1.60

Section 1 - Product and Company Information

Product Name	Gadolinium(III) oxide, nanopowder, <100nm (BET), 99.8% metals basis			
Product Number	637335			
Brand	Aldrich Chemical			
Company Street Address City, State, Zip, Country Technical Phone: Fax:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS, MO 63103 US 800-325-5832 800-325-5052	Emergency Phone:	314-776-6555	

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
GADOLINIUM OXIDE	12064-62-9	No	235-060-9	
Formula Synonyms	Gd ₂ O ₃ Digadolinium trioxide, Gadolinia, Gadolinium(III) oxide, Gadolinium(3+) oxide, Gadolinium sesquioxide, Gadolinium trioxide			

Section 3 - Hazards Identification

HMIS Rating Health: 0	Flammability: 0	Reactivity: 0
NFPA Rating Health: 0	Flammability: 0	Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed.

Special Requirements

Hygroscopic. Store under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand

Protective gloves.

Eye

Chemical safety goggles.

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General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State	Color	Form
	Solid	Very faintly beige	Powder
Molecular Weight	362.5 AMU		
pH	N/A		
BP/BP Range	N/A		
MP/MP Range	2,330 °C		
Freezing Point	N/A		
Vapor Pressure	N/A		
Vapor Density	N/A		
Saturated Vapor Conc.	N/A		
SG/Density	7.407 g/cm ³		20 °C
Bulk Density	N/A		
Odor Threshold	N/A		
Volatile%	N/A		
VOC Content	N/A		
Water Content	N/A		
Solvent Content	N/A		
Evaporation Rate	N/A		
Viscosity	N/A		
Partition Coefficient	N/A		
Decomposition Temp.	N/A		
Flash Point °F	N/A		
Flash Point °C	N/A		
Explosion Limits	N/A		
Flammability	N/A		
Autoignition Temp	N/A		
Solubility	N/A		

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable.
Conditions of Instability
A absorbs carbon dioxide from air.
Materials to Avoid
Strong acids.

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin.
Eye Contact
May cause eye irritation.
Inhalation
May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion
May be harmful if swallowed.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: LW4790000

Toxicity Data

Oral - Rat: > 5000 mg/kg (LD50)

Irritation Data

Eyes - Rabbit: 100 mg
Remarks: Mild irritation effect

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.

IATA

Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information

required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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