
3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	Gadolinium Oxide
CAS No.:	12064-62-9
Chemical Formula:	Gd ₂ O ₃
Molecular Weight:	362.50

4. FIRST AID MEASURES

<i>General Advice</i>	Consult a physician. Show this safety data sheet to the physician in attendance. Move patient out of dangerous area.
<i>Inhalation Exposure</i>	Move patient to fresh air. If not breathing, give artificial respiration. Consult a physician.
<i>Dermal Exposure</i>	Remove contaminated clothing, then flush with water for at least 15 minutes. Wash clothing thoroughly before reuse. Consult a physician.
<i>Eye Exposure</i>	Flush with water for at least 15 minutes occasionally lifting upper and lower eyelids. Consult a physician.
<i>Oral Exposure</i>	Do not induce vomiting. Get immediate medical help. If patient is conscious, give large quantity of water/milk. If irritation continues, seek medical attention immediately.

5. FIREFIGHTING MEASURES

<i>Flash Point</i>	N/A
<i>Lower Explosive Limit</i>	N/A
<i>Upper Explosive Limit</i>	N/A
<i>Suitable Extinguishing Media</i>	Appropriate to surrounding fire conditions
<i>Special Firefighting Procedures</i>	None. Wear NIOSH-approved scuba and full protective equipment.
<i>Unusual Fire and Explosion Hazards</i>	None

6. ACCIDENTAL RELEASE MEASURES

<i>Personal Precautions</i>	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. For personal protection, see section 8.
<i>Environmental Precautions</i>	Do not let product enter drains.
<i>Methods for Cleaning Up</i>	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal.

7. HANDLING AND STORAGE

<i>Handling</i>	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
<i>Storage</i>	Keep tightly sealed when not in use. Store in a cool, dry area. Hygroscopic. Store under inert gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<i>Exposure Guidelines</i>	Contains no substances with occupational exposure limit values
<i>Engineering Controls</i>	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal Protective Equipment

<i>Respiratory</i>	NIOSH-approved respirator
<i>Ventilation</i>	Chemical fume hood
<i>Hand</i>	Impervious gloves
<i>Eye</i>	ANSI-approved chemical workers' goggles
<i>Other Protective Equipment</i>	Emergency eyewash and deluge shower meeting ANSI design criteria. Lab coat
<i>General Hygiene Measures</i>	Wash carefully after use

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

<i>Form</i>	Hygroscopic powder
<i>Color</i>	White
<i>Odor</i>	Odorless

Safety Data

<i>Specific Gravity</i>	7.407 g/cc
<i>Molecular Weight (Naturally-Occurring)</i>	362.50
<i>Vapor Pressure</i>	Not found
<i>Vapor Density</i>	Not found
<i>Boiling Point</i>	Not found
<i>Melting Point</i>	2420 °C
<i>Percent Volatile</i>	Not found
<i>Evaporation Rate</i>	Not in sources searched
<i>Solubility</i>	Very slightly soluble in water; soluble in acid

10. STABILITY AND REACTIVITY

<i>Stability</i>	Stable
<i>Conditions to Avoid (Stability)</i>	Heat
<i>Materials to Avoid</i>	Air, halogens and strong acids
<i>Hazardous Decomposition Products</i>	Toxic fumes.
<i>Hazardous Polymerization</i>	No

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

<i>LD50 Oral</i>	> 5,000 mg/kg (Rat)
<i>Inhalation</i>	No data available
<i>Dermal</i>	No data available

Routes of Exposure

Inhalation
Skin
Ingestion

Health Hazards - Acute and Chronic

<i>Acute</i>	This solution may be harmful if inhaled, ingested or contacted with the skin or eyes. Irritation to the skin or eyes may occur. Respiratory tract irritation can occur upon inhalation. As a lanthanon, it may cause blood impairment.
<i>Chronic</i>	None specified by manufacturer

Carcinogenicity

<i>NTP</i>	No
<i>IARC</i>	No
<i>OSHA</i>	No

<i>Medical Conditions Aggravated by Exposure</i>	None specified by manufacturer
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12. ECOLOGICAL INFORMATION

<i>Toxicity</i>	No data available
<i>Persistence and Degradability</i>	No data available
<i>Bioaccumulative Potential</i>	No data available
<i>Mobility in Soil</i>	No data available
<i>Results of PBT and vPvB Assessment</i>	PBT/vPvB assessment not available, as chemical safety assessment not required/not conducted
<i>Other Adverse Effects</i>	Do not allow material to be released to the environment. No further relevant information available.

13. DISPOSAL CONSIDERATION

<i>Product</i>	Contact local hazardous or chemical waste disposal agency for regulations. Dispose of in accordance with local, state and federal regulations.
<i>Contaminated Packaging</i>	Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT / ADR / IATA / IMDG:	Not regulated
UN No.:	N/A
UN Proper Shipping Name:	N/A
Transport Hazard Class:	N/A
Packing Group:	N/A
Marine Pollutant:	No
Special Precautions:	N/A

15. REGULATORY INFORMATION

REACH Number	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (<i>De Minimis</i>) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	Acute Health Hazard
Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right to Know Components	Digadolinium trioxide / CAS No. 12064-62-9
New Jersey Right to Know Components	Digadolinium trioxide / CAS No. 12064-62-9
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.
TSCA Listed	All components are listed.
Regulation (EC) No. 1272/2008	N/A
Canada WHMIS Classification	N/A
Chemical Safety Assessment	A chemical safety assessment has not been carried out.

16. OTHER INFORMATION

<i>Prepared By</i>	ISOFLEX USA PO Box 29475 San Francisco CA 94129 United States
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<i>Revision Date</i>	August 1, 2021
<i>Revision Number</i>	2
<i>Revision Note</i>	Required review and update

ISOFLEX USA's Commonly Used Abbreviations and Acronyms*

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
ALARA	As Low As Is Reasonably Achievable
AMU	Atomic Mass Unit
ANSI	American National Standards Institute
BLS	Basic Life Support
CAM	Continuous Air Monitor
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CEN	European Committee for Standardization
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CLP	Classification, Labelling and Packaging (European Union)
CPR	Controlled Products Regulations (Canada)
CWA	Clean Water Act (USA)
DAC	Derived Air Concentration (USA)
DOE	United States Department of Energy (USA)
DOT	United States Department of Transportation (USA)
DSL	Domestic Substances List (Canada)
EC50	Half Maximal Effective Concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
EHS	Environmentally Hazardous Substance
ELINCS	European List of Notified Chemical Substances
EMS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA	Environmental Protection Agency (USA)
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System (USA)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Containers
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life or Health
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
LOEC	Lowest-Observed-Effective Concentration
MARPOL	International Convention for the Prevention of Pollution from Ships
MSHA	Mine Safety and Health Administration (USA)
NCRP	National Council on Radiation Protection & Measurements (USA)
NDSL	Non-Domestic Substances List (Canada)
NFPA	National Fire Protection Association (USA)
NIOSH	National Institute for Occupational Safety and Health (USA)
NOEC	No Observed Effect Concentration
N.O.S.	Not Otherwise Specified
NRC	Nuclear Regulatory Commission (USA)
NTP	National Toxicology Program (USA)
OSHA	Occupational Safety and Health Administration (USA)
PBT	Persistent Bioaccumulative and Toxic Chemical
PEL	Permissible Exposure Limit
PIH	Poisonous by Inhalation Hazard
RCRA	Resource Conservation and Recovery Act (USA)
RCT	Radiation Control Technician
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act (USA)
TDG	Transportation of Dangerous Goods (Canada)
TIH	Toxic by Inhalation Hazard

TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN	United Nations (Number)
VOC	Volatile Organic Compound
vPvB	Very Persistent Very Bioaccumulative Chemical
WGK	Wassergefährdungsklassen (Germany: Water Hazard Classes)
WHMIS	Workplace Hazardous Materials Information System

*One or more of the above-listed items may not appear in this document.

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