



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 277

Review Date: July 1, 2019

1 Identification of substance and company

Product name: **Gadolinium Oxide**
Product code: 11701, 17445
Relevant use and restrictions on use: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:



Signal word(s): Warning

Hazard statements: H319 - Causes serious eye irritation

Precautionary statements: P264 - Wash skin thoroughly after handling
P280 - Wear eye protection/ face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice/ attention

GHS Classification: Eye irritation - 2A
Hazards not otherwise classified: None

HMIS ratings (scale 0-4):

Health hazard:	1
Flammability:	0
Physical hazard:	0

3 Composition/Information on ingredients

Chemical name: Gadolinium oxide
CAS number: 12064-62-9
EC number: 235-060-9
Formula: Gd₂O₃
Synonyms: Gadolinia, Gadolinium sesquioxide

4 First aid measures

After inhalation: Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact: Wash off with soap and plenty of water. Consult a physician.
After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
After ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Information for doctor: Show this safety data sheet to the doctor in attendance
Symptoms/effects; acute and delayed: No data available
Immediate medical attention and special treatment needed: No data available

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents: Use extinguishing media most suitable to surrounding fire conditions
Special hazards caused by the material, its

products of combustion or resulting gases:	Oxides of gadolinium
Special fire fighting procedures:	Wear self-contained breathing apparatus. Wear full protective equipment/clothing in fire situations.
Unusual fire and explosion hazard:	No data available

6 Accidental release measures

Person-related safety precautions:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation.
Measures for environmental protection:	Do not let product enter drains.
Measures for cleaning/collecting:	Sweep up and shovel. Keep in suitable closed containers for disposal.
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

7 Handling and storage

Information for safe handling:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Information about protection against explosions and fires:	No data available
Storage requirements to be met by storerooms and containers:	Store in tightly closed containers. Store in a cool, dry place Keep container closed
Incompatibility (avoid contact with):	Strong acids.
Further information about storage conditions:	Absorbs carbon dioxide from air. Hygroscopic. Store under inert gas. Keep in dry place.

8 Exposure controls/personal protection

Ventilation requirements:	Local exhaust. Chemical fume hood.
Components with exposure limits that require monitoring:	OSHA PEL: TWA (PNOC) 5 mg/m3 (respirable); 15 mg/m3 (total)
Additional information:	None
General protective and hygienic measures:	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Personal protective equipment:	
Respiratory protection:	Filter-dust, fume, mist
(Use only NIOSH or CEN approved Equipment)	
Hand protection:	Handle with gloves. Natural rubber / Neoprene / Impervious Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with product.
Eye protection:	Safety glasses with side-shields
Skin protection:	Protective work clothing sufficient to prevent contact.
Additional protective equipment:	Emergency eyewash and safety shower
Precautionary labeling:	Wash thoroughly after handling Do not get in eyes, on skin or on clothing. Do not breathe dust, vapor, mist or gas

9 Physical and chemical properties

Physical state:	Powder
Color:	White to beige
Odor:	No data available
Odor threshold:	No data available
Molecular Weight (Calculated):	362.5
pH	No data available
Melting point/freezing point/range:	2330 C
Boiling point/range:	No data available
Sublimation temperature/start:	No data available
Decomposition temperature:	No data available
Flammability (solid, gas):	Non-flammable
Flash point:	No data available
Autoignition temperature:	No data available
Danger of explosion:	No data available
Flammable limits:	
Lower:	No data available
Upper:	No data available
Evaporation Rate:	No data available

Vapor pressure (mm Hg):	No data available
Vapor density:	No data available
Specific gravity:	7.407 g/cm ³ @ 20 C
Bulk density:	No data available
Solubility in/Miscibility with water:	Slightly soluble
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available
Other information:	No data available

10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions:	No data available
Conditions to be avoided:	Exposure to air See section 7 for information on proper handling and storage
Materials to be avoided:	Strong acids
Dangerous reactions:	No data available
Hazardous decomposition products: (thermal and other)	Oxides of gadolinium

11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rat LD ₅₀ : >5 g/kg intraperitoneal-rat LD ₅₀ : 1,000 mg/kg
Irritation or corrosion of skin:	No data available
Irritation or corrosion of eyes:	No data available
Primary irritant or corrosive effect: on the skin:	Mild
on the eye:	Mild
Sensitization:	No data available
Potential health effects:	
Inhalation:	Irritating to mucous membranes and upper respiratory tract
Ingestion:	No data available
Skin:	No data available
Eyes:	No data available
Signs and symptoms of exposure:	May be harmful by ingestion, inhalation or skin absorption. Moderately toxic by intraperitoneal route.
Carcinogenicity:	IARC: No component of this product is identified as probable, possible or confirmed human carcinogen by IARC ACGIH: No component of this product is identified as a carcinogen or potential carcinogen by ACGIH NTP: No component of this product is identified as a known or anticipated carcinogen by NTP OSHA: No component of this product is identified as a carcinogen or potential carcinogen by OSHA
Additional information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	No data available
Toxicity to daphnia and other aquatic invertebrates:	No data available
Toxicity to algae:	No data available
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	No data available
Mobility in soil:	No data available
Other adverse effects:	No data available

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT	
Proper shipping name:	Chemicals Non-Hazardous
Technical name:	Gadolinium oxide

Air transport ICAO-TI and IATA-DGR:

Proper shipping name: Chemicals Non-Hazardous
Technical name: Gadolinium oxide

UPS Ground / FedEx Ground

Proper shipping name: Chemicals Non-Hazardous
Technical name: Gadolinium oxide

UPS Air

Proper shipping name: Chemicals Non-Hazardous
Technical name: Gadolinium oxide

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA Section 311 / 312 hazards:

Acute Health Hazard

SARA Section 313 components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

California Proposition 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:

Product is listed on the TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.