

1. PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Gadolinium Sulfide

Chemical Formula: Gd₂S₃

Manufacturer Item Number: GA-1960

Manufacturer: Lorad Chemical Corporation
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2. HAZARD IDENTIFICATION

Signal Word: Danger

Pictograms:



Hazard Statements: H228 Flammable solid.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary Statements: P210 Keep away from heat / sparks / open flames / hot surfaces. No smoking.
P240 Ground / bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / lighting / equipment.
P261 Avoid breathing dust / fumes / gas / mist / vapors / spray.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P301+312 IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+313 If skin irritation occurs: Get medical advice / attention.

HMIS Health Ratings (0-4)

- Health: 2
- Flammability: 2
- Physical: 1

3. COMPOSITION

Additional Names: Gadolinium Sulphide

Percentage:	100 wt%
CAS #:	12134-77-9
EC #:	235-217-1

4. FIRST AID PROCEDURES

General Treatment	Consult a physician. Show this SDS to the doctor in attendance. Move out of dangerous area.
Special Treatment:	No Data Available.
Important Symptoms:	No Data Available.
Inhalation:	If breathing, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Skin:	Wash skin off with plenty of soap and water. If irritation persists, seek medical attention.
Eyes:	Flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Consult a physician.

5. FIREFIGHTING MEASURES

Flammability:	Flammable.
Special Hazards from Substance:	Gadolinium oxide or Sulphur oxide fumes
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

If Material is Released / Spilled:	Use personal protective equipment including disposal coveralls. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe area. Remove from ignition sources if safe to do so. Sweep up or vacuum up spillage and collect in suitable closed container for disposal. Dispose of waste in accordance with applicable federal, state, local, and provincial environmental regulations.
Environmental Precautions:	Prevent further leakage or spills if safe to do so. Do not allow to enter drains, sewers, or watercourses. Discharge into the environment must be avoided.

7. HANDLING AND STORAGE

Handling Conditions:	Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away.
Storage Conditions:	Store in a tightly closed container in a dry, well ventilated place. Store between 15°C to 30°C.
Work / Hygienic Maintenance:	Do not eat, drink, or smoke when working with this product. Wear protective gloves and wash skin thoroughly after handling. Keep formation of airborne dusts to a minimum. Guard against dust accumulation. In case of insufficient ventilation, wear suitable respiratory equipment. Sensitive to moisture.
Ventilation:	Keep in well ventilated area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible Exposure Limits:	Authority	Basis	Limit	Remarks
	-	-	-	No Data Available.
Threshold Limit Value:	Authority	Basis	Limit	Remarks
	-	-	-	No Data Available.
Special Equipment:	Use product in well ventilated area or under a fume hood. Use proper lab equipment while handling this product. Keep way from incompatible materials for possible risk of hazardous reaction.			
Respiratory Protection:	For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher levels of protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).			
Protective Gloves:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.			
Eye Protection:	Safety glasses. Use equipment for eye protection tested and approved under government standards such as NIOSH (US) or EN 166 (EU).			
Body Protection:	Wear appropriate protective clothing.			

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

Color:	Yellow	Molecular Weight:	410.7 g/mol
Forms:	Powder	Density:	6.1 g/cm ³
Odor:	No Data Available.	pH:	No Data Available.
Water Solubility:	No Data Available.	Auto-Ignition Temperature:	No Data Available.
Boiling Point:	No Data Available.	Evaporation Rate:	No Data Available.
Melting Point / Freezing Point:	No Data Available.	Flammability or Explosive Limits:	No Data Available.
Vapor Pressure:	No Data Available.	Partition Coefficient: n-octanol/ water	No Data Available.
Vapor Density:	No Data Available.	Decomposition Temperature:	No Data Available.
Flash Point:	No Data Available.	Viscosity:	No Data Available.

10. REACTIVITY

Stability:	Stable under recommended storage conditions.
Reacts with:	Strong oxidizing agents
Incompatible Conditions:	Heat, flame, sparks, other ignition sources
Hazardous Decomposition Products:	Gadolinium oxides, Sulfur oxides

11. TOXICOLOGICAL INFORMATION

Potential Health Effects: Eyes: Causes serious eye irritation.
Skin: Harmful in contact with skin.
Ingestion: Harmful if swallowed.
Inhalation: Harmful if inhaled.
Chronic: No Data Available.

Signs and Symptoms: Lanthanons can cause delayed blood clotting leading to hemorrhages. Exposure may also lead to sensitivity to heat, itching, increased awareness of odor and taste, and liver damage.

Aggravate Medical Conditions: No Data Available.

Median Lethal Dose: No Data Available.

Carcinogen: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: No Data Available.

Persistence and degradability: No Data Available.

Bioaccumulative potential: No Data Available.

Notes: No Data Available.

13. DISPOSAL CONSIDERATIONS

Disposal: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Empty containers should be taken to an appropriate waste handling site for recycling or disposal. Dispose of in accordance with local, state, or national regulations.

14. TRANSPORTATION DATA

Hazardous: DoT: Hazardous for Transportation
IMDG: Hazardous for Transportation
IATA: Hazardous for Transportation

Pictogram:



Hazard Class: 4.1

Packing Group:	II
UN Number:	UN3178
Proper Shipping Name:	DoT: Flammable solid, inorganic, n.o.s. (Gadolinium Sulfide) Marine Pollutant: No
	IMDG: FLAMMABLE SOLID, INORGANIC, N.O.S. (Gadolinium Sulfide) EMS-No: F-A, S-I Marine Pollutant: No
	IATA: FLAMMABLE SOLID, INORGANIC, N.O.S. (Gadolinium Sulfide)

15. REGULATORY INFORMATION

SARA 302 Components	No chemical 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 (de minimus) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	No SARA hazard.
Massachusetts Right to Know Components	No components are subject to the Ma. Right to Know Act.
Pennsylvania Right to Know Components	Gadolinium Sulfide (CAS No. 12134-77-9)
New Jersey Right to Know Components	Gadolinium Sulfide (CAS No. 12134-77-9)
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.

16. OTHER INFORMATION

Copyright 2018 Lorad Chemical Corporation. 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 does not constitute a hazard assessment and should not be used in place of the user's own assessment of work place risks as required by other health and safety legislation. The information in this sheet does not represent a guarantee of the properties of the product. Lorad Chemical Corporation and its Affiliates make no warranty with respect to the accuracy of the information or the suitability of this product for any particular application, and shall not be held liable for any damage resulting from handling or from contact with the above product.

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