



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Samarium Sulfide

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1. Product and Company Identification

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Trade Name: Samarium sulfide  
Chemical Formula: SmS  
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.  
Street: 37 Ramland Road  
City: Orangeburg  
State: New York  
Zip Code: 10962  
Country: USA  
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)  
+1-703-527-3887 (International)

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2. Hazards Identification

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Signal Word: Danger



Hazard Statements: H228 Flammable solid  
H261 In contact with water, releases flammable gas  
H315 Causes skin irritation  
H319 Causes serious eye irritation

Precautionary Statements: P210 Keep away from heat/sparks/flame. No smoking.  
P231+P232 Handle under inert gas  
P261 Avoid breathing dust/fume/vapor  
P305+P351 If in eyes: Rinse cautiously with water for several minutes.

HMIS Health Ratings (0-4):

	Powder	Target
Health:	1	1
Flammability:	2	1
Physical:	1	1

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3. Composition

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Chemical Family: Salt  
Additional Names: Samarium monosulfide

Samarium sulfide (SmS):  
Percentage: 100 wt%  
CAS #: 51312-38-0  
EC #: N/A

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#### 4. First Aid Procedures

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General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

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#### 5. Firefighting Measures

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Flammability:	Flammable as powder Reacts violently with water as powder and small pieces
Extinguishing Media:	Do not use water – use CO <sub>2</sub> , sand, extinguishing powder.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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#### 6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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#### 7. Handling and Storage

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Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

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#### 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	None
Threshold Limit Value:	None
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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### 9. Physical and Chemical Characteristics

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Color	N/A; Red-brown as $\text{Sm}_2\text{S}_3$
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Rotten eggs
Water Solubility:	Reacts
Boiling Point:	N/A
Melting Point:	N/A; 1720 °C as $\text{Sm}_2\text{S}_3$
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A; 5.87 as $\text{Sm}_2\text{S}_3$
Molecular weight:	184.04 g/mol

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### 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Water, Acids, Oxidizing agents
Incompatible Conditions:	Moisture
Hazardous Decomposition Products:	Hydrogen sulfide, Metal oxide fume, Sulfur oxide

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### 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause serious irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	N/A

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### 12. Ecological Information

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Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	N/A

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### 13. Disposal Considerations

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Dispose of in accordance with local, state, national, and international regulations.

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#### 14. Transportation Data

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Hazardous: Hazardous for transportation as powder and small pieces (not target, ingot)



Hazard Class: 4.3 Substances which in contact with water release flammable gases  
Subclass: 4.1 Flammable solids  
Packing Group: II  
UN Number: UN3132  
Proper Shipping Name: Water-reactive solid, flammable, n.o.s. (Lithium sulfide)

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#### 15. Regulatory Information

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Sec 302 Extremely Hazardous: No  
Sec 304 Reportable Quantities: N/A  
Sec 313 Toxic Chemicals: No

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#### 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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