



LTS Research Laboratories, Inc.
Safety Data Sheet
Samarium Cobalt Alloy

1. Product and Company Identification

Trade Name: Samarium Cobalt Alloy
Chemical Formula: $\text{Sm}_2\text{Co}_{17}$
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)

2. Hazards Identification

Signal Word: Danger



Hazard Statements:

- H228: Flammable solid
- H250: Catches fire spontaneously if exposed to air
- H302+H312+H332: Harmful if swallowed, in contact with skin or if inhaled
- H317: May cause an allergic skin reaction
- H319: Causes serious eye irritation
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335: May cause respiratory irritation
- H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

- P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
- P222: Do not allow contact with air
- P240: Ground/bond container and receiving equipment
- P241: Use explosion-proof electrical/ventilating/lighting/equipment
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray
- P264: Wash face, hands and any exposed skin thoroughly after handling
- P270: Do not eat, drink or smoke when using this product
- P271: Use only outdoors or in a well-ventilated area
- P272: Contaminated work clothing should not be allowed out of the workplace
- P273: Avoid release to the environment
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P285: In case of inadequate ventilation wear respiratory protection
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P302+P352: IF ON SKIN: Wash with soap and water
 P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
 P333+P313: If skin irritation or a rash occurs: Get medical advice/attention
 P335+P334: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
 P337+P313: If eye irritation persists get medical advice/attention
 P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 P363: Wash contaminated clothing before reuse
 P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
 P391: Collect spillage
 P403+P233: Store in a well-ventilated place. Keep container tightly closed
 P405: Store locked up
 P422: Store contents under inert gas
 P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	3
Flammability:	2
Physical:	0

3. Composition

Chemical Family:	Alloy
Additional Names:	Samarium Cobalt Alloy 30

Samarium Cobalt Alloy (Sm₂Co₁₇)

Percentage:	100 wt%
CAS #:	N/A
EC #:	N/A

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	N/A

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
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Ingestion:	Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention.
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Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
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Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
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5. Firefighting Measures

Flammability:	Flammable solid
Extinguishing Media:	Do not use water for metal fires. Use dry powder, dry sand
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.

6. Accidental Release Measures

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.

7. Handling and Storage

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.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.1 mg/m ³ as Co, for metal dust and fume, long-term value
Threshold Limit Value:	0.02 mg/m ³ as Co, long term-value
Special Equipment:	None
Respiratory Protection:	Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Nitrile or rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Silver-Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1250°C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	8.3 g/cc at 20°C
Molecular weight:	1302.58 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Water, Oxidizing agents, Acids, Acid chlorides, Oxygen, Hydrogen Fluoride, Acetylene. Material readily reacts with acids generating flammable and/or explosive hydrogen gas. Halogens, Phosphorous, Mineral acids, Hydrazinium nitrate
Incompatible Conditions:	Reacts violently with water. Heat, flames and sparks
Hazardous Decomposition Products:	Cobalt/Cobalt oxides, Samarium oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious damage
Skin:	Harmful in contact with skin
Ingestion:	Harmful if swallowed
Inhalation:	Harmful if inhaled
Chronic:	N/A
Signs & Symptoms:	Allergic skin reaction, Asthma symptoms and breathing difficulties, Stomach irregularities
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	6171 mg/kg for rat by mouth for Co
Carcinogen:	IARC 2B: Possibly carcinogenic to humans (Cobalt) 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 on OSHA's list of regulated carcinogens.

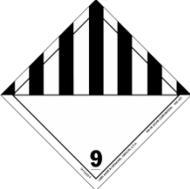
12. Ecological Information

Aquatic Toxicity:	Very toxic with long lasting effects
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	Not readily biodegradable
Notes:	N/A

13. Disposal Considerations

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

14. Transportation Data

Hazardous:	Hazardous as powder only
	
Hazard Class:	9 Miscellaneous hazardous materials
Packing Group:	III
UN Number:	UN3077
Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s. (Samarium, Cobalt)

15. Regulatory Information

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

16. Other Information

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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