



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

1. Product and Company Identification

Trade Name: Cobalt samarium copper
Chemical Formula: Co-Sm-Cu
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
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause an allergic skin reaction
H319: Causes serious eye irritation

Precautionary Statements: P261 Avoid breathing dust/fume/vapor
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P284: Wear respiratory protection
P280: Wear protective gloves/protective clothing/eye protection/face protection
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501: Dispose of contents/container in accordance with local/regional/national/international regulations
P231+P232: Handle under inert gas. Protect from moisture
P370+P378: In case of fire: Use special powder for extinction
P402+404: Store in a dry place. Store in a closed container
P363: Wash contaminated clothing before reuse
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P405: Store locked up

HMIS Health Ratings (0-4):

	Powder	Bulk
Health:	1	1
Flammability:	3	1
Physical:	2	1

3. Composition

Chemical Family: Metal alloy
Additional Names: None

Cobalt (Co):
Percentage: 0-100 wt%
CAS #: 7440-48-4
EC #: 231-158-0

Samarium (Sm):
Percentage: 0-100 wt%
CAS #: 7440-19-9
EC #: 231-128-7

Copper (Cu):
Percentage: 0-100 wt%
CAS #: 7440-50-8
EC #: 231-159-6

4. First Aid Procedures

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: Seek medical attention

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

5. Firefighting Measures

Flammability: Flammable as powder

Extinguishing Media: Do not use water for metal fires – use CO₂, 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.

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: Handle under dry protective gas. Wash thoroughly after handling.

Storage Conditions: Store in a cool dry place in a tightly sealed container. Store under dry inert gas. 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, 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:	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.

9. Physical and Chemical Characteristics

Color	Metallic grey
Form:	Sputtering target
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	422-1495 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Halogens, Acid chlorides, Oxidizing agents
Incompatible Conditions:	Protect against electrostatic charges, Air, Water/moisture
Hazardous Decomposition Products:	Metal oxide fume

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye damage
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:

6171 mg/kg for rat by mouth
>5000 mg/kg for mouse by mouth

Carcinogen:

IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals.
ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by routes of administration, at sites, of histologic types, or by mechanisms not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or level of exposure.
EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available. The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

12. Ecological Information

Aquatic Toxicity:

Medium

Persistent Bioaccumulation Toxicity:

No

Very Persistent, Very Bioaccumulative:

No

Notes:

May cause long lasting harmful effect on aquatic life.
Do not allow material to be released to the environment without proper governmental permits. Avoid transfer into the environment. Toxic to aquatic life. Also poisonous for fish and plankton in water bodies.

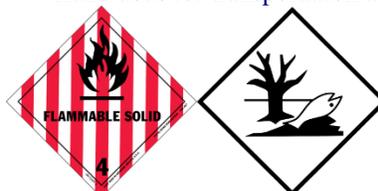
13. Disposal Considerations

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

14. Transportation Data

Hazardous:

Hazardous for transportation as powder only



Hazard Class:

4.1 Flammable solids, self-reactive substances and solid desensitized explosives

Packing Group:

II

UN Number:

UN3089

Proper Shipping Name:

Metal powders, flammable, n.o.s. (Cobalt samarium copper)

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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