



# Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300  
Poison Center: (800) 562-8236  
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## SAFETY DATA SHEET

Identity: Silver

Formula: Ag

### SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 107.86

CAS #	OSHA PEL	ACGIH TLV	%
7440-22-4	.01mg/m <sup>3</sup>	.1mg/m <sup>3</sup>	0.0-100.0%

### SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 2210.00°C

Specific Gravity (H<sub>2</sub>O=1): 10.5 at 20.0°C

Melting Point: 961.8°C

Vapor Pressure (vs. air or mmHg): 0

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

*Appearance and odor:* White-metallic powder, no odor

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Method Used:* N/A

*Explosive Limits:* LEL: N/A UEL: N/A

*Extinguishing Media:* Use class D or other metal extinguishing agents DO NOT USE Water

#### *Special Fire Fighting Procedures:*

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

#### *Unusual Fire and Explosion Hazards:*

Flammable in the form of dust when exposed to flame or by chemical reaction with C<sub>2</sub>H<sub>2</sub>, NH<sub>3</sub>, bromazide, ClF<sub>3</sub>, ethyleneimine, H<sub>2</sub>O<sub>2</sub>, oxalic acid, H<sub>2</sub>SO<sub>4</sub>, and tartaric acid



SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (instability):* None

*Incompatibility:* Acetylene and its compounds, hydrogen peroxide, ammonia, aziridine, bromine azide, bromopropane, carboxylic acids, copper + ethylene glycol, electrolytes + zinc, ethanol + nitric acid, ethylene oxide, ethyl hydroperoxide, ethyleneimine, iodoform, nitric acid, ozonides, permonosulfuric acid, peroformic acid, C<sub>2</sub>H<sub>2</sub>, Bromoazide, ClF<sub>3</sub>, H<sub>2</sub>O<sub>2</sub>, oxalic acid, H<sub>2</sub>SO<sub>4</sub>, and tartaric acid

*Hazardous Decomposition or Byproducts:* Silver oxide

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? No      Eyes? No      Ingestion? Yes      Other? No

The absorption of silver compounds into the circulation and the subsequent deposition to the reduced silver in various tissues of the body may result in the production of a generalized greyish pigmentation of the skin and mucous membranes, a condition known as argyria. The introduction of fine particles of silver through breaks in the skin produces a local pigmentation at the site of the injury. 1 mg/m<sup>3</sup> of silver dust causes skin effects. The condition develops slowly, usually after 2-25 years of exposure. (Sax, Dangerous Properties of Industrial Materials, eighth edition).

*Signs and Symptoms of Overexposure:*

*Inhalation:* May cause a red, dry throat, and coughing and bluish-gray skin

*Ingestion:* May cause abdominal distress, nausea and vomiting

*Skin:* May cause redness, itching, burning and bluish-grey skin

*Eye:* May cause redness, burning, itching, and watering

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: May cause irritation to the upper respiratory system, pulmonary edema, pulmonary fibrosis and lung damage

Chronic: May cause bronchitis, headache, fatigue, sinusitis, weight loss and kidney injury

*Ingestion:*

Acute: May cause gastrointestinal disturbances

Chronic: May cause kidney damage

*Skin:*

Acute: May cause irritation

Chronic: May cause argyrosis and dermatitis

*Eye:*

Acute: May cause irritation

Chronic: May cause skin argyrosis

*Target Organs:* Skin, eyes, respiratory system and kidneys



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Carcinogenicity: NTP? No

IARC Monographs? No

OSHA Regulated? No

Medical Conditions Aggravated by Exposure: None

### Emergency and First Aid Procedures:

- Inhalation:** Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention
- Ingestion:** Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person
- Skin:** Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist
- Eye:** Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

### *Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

### *Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

### *Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

## SECTION VIII - CONTROL MEASURES

### *Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious rubber gloves, safety glasses, clothes to prevent contact.

### *Ventilation:*

If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### *Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established