



Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · www.scm-inc.com

Chemtrec: (800) 424-9300
Poison Center: (800) 562-8236
Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Germanium oxide

formula: GeO₂

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: 104.59

CAS #	OSHA PEL	ACGIH TLV	%
1310-53-8	NE	NE	0.0 -100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: NE or NA

Vapor Pressure (vs. air or mmHg): NE

Melting Point: 1086°C

Density: 6.239 g/cm³

Evaporation Rate: NA

Flash Point: NE or NA

Solubility in water: Both insoluble and insoluble forms

Appearance and odor: White powder or pieces, no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Non-flammable

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media: Use: Not applicable. Use suitable extinguishing agent for surrounding material and type of fire

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: When heated to decomposition, germanium oxide may emit acrid smoke and irritating fume.



SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Strong oxidizing agents

Hazardous Decomposition or Byproducts: None recorded

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

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

Germanium compounds are considered to be of a low order of toxicity, but rare instances of poisoning have been reported in the literature. Experimental LD50 values are typically about 100-1000 mg/kg for parenteral route and 500-5000 mg/kg for ingestion. The animals suffer from hypothermia, diarrhea, and respiratory and cardiac failure. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause coughing, sneezing, difficulty breathing and pulmonary edema. Acute germanium toxicity may cause: hypothermia, listlessness, diarrhea, cyanosis, edema and hemorrhage of lungs, petechial hemorrhage in the walls of small intestines and a peritoneal effusion which is rich in protein. Edematous changes are also seen in heart muscle and in the parenchymal cells of the liver and kidneys. Chronic germanium toxicity may cause: growth and fatty degeneration of the liver.

Ingestion: No acute or chronic healthy effects recorded.

Skin: May cause redness and itching.

Eye: May cause redness, itching and watering.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: Inhaled dust is rapidly absorbed. May cause irritation to the respiratory tract and acute germanium toxicity.

Chronic: May cause chronic germanium toxicity.

Ingestion:

Acute: No acute health effects recorded.

Chronic: No chronic healthy effects recorded.

Skin:

Acute: Moderately toxic by subcutaneous route. May cause irritation.

Chronic: No chronic health effects recorded.

Eye:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Target Organs: No target organs recorded.



Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · www.scm-inc.com

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: Pre-existing respiratory disorders.

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 gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants to low exposure levels.

Mechanical (General): Recommended.

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