Super Conductor Materials, Inc.
391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · www.scm-inc.com
Chemtrec: (800) 424-9300
Poison Center: (800) 562-8236
Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Osmium Formula: Os

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: 190.20

CAS #	OSHA PEL	ACGIH TLV	%
7440-04-2	NE	NE	0.0-100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 5027°C
Melting Point: 3045°C
Evaporation Rate: N/A
Solubility in water: Insoluble

Vapor Pressure (vs. air or mmHg): N/A
Specific Gravity (Water=1): 22.61gm/cc
Flash Point: N/A

Appearance and odor: Bluish-white metal, strong odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown *Explosive Limits*: LEL: N/A UEL: N/A
Extinguishing Media: 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: May emit toxic fumes upon decomposition.

SECTION V - REACTIVITY DATA

Stability: Stable
Conditions to Avoid (instability): Extreme heat
Incompatibility (Materials to avoid): ClF3, OF2, halogens, phosphorus, oxygen, oxidizers, acids, organic solvents, NH4.

Hazardous Decomposition or Byproducts: Oxides of osmium. Osmium dust reacts violently with ClF3 and OF2. On heating in air it gives off poisonous fumes of osmium tetroxide.
Hazardous Polymerization: Will not occur
Conditions to avoid (hazardous polymerization): No data

SECTION VI - HEALTH HAZARD DATA

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

To the best of our knowledge the chemical, physical and toxicological properties of osmium have not been thoroughly investigated and recorded.

Osmium is considered poisonous and should be handled with caution. Effects include ocular disturbances, respiratory difficulties and heavy metal poisoning. Oxidation of osmium compounds may form the volatile and highly irritating osmium tetroxide. Exposure may cause bronchitis and dermatitis.

Signs and Symptoms of Overexposure:
Inhalation: Irritation to muscus msmebranes and upper respiratory tract.
Ingestion: May cause gastro-intestinal irritation
Skin: May cause irritation, dermatitis, ulcerations of the skin.
Eye: May cause severe eye irritation and ocular disturbance and blindness.

Health Hazards (Acute and Chronic):
Inhalation:
Acute: Irritating to mucous membranes and upper respiratory tract. May cause asthmatic condition, bronchitis.
Chronic: Bronchitis

Ingestion:
Acute: May cause gastrointestinal irritation. No other effects known.
Chronic: None known

Skin:
Acute: Causes irritation, dermatitis, ulceration of the skin.
Chronic: Dermatitis

Eye:
Acute: Causes severe eye irritation, ocular disturbances, conjunctivitis. May cause blindness.
Chronic: May cause blindness.

Target Organs: May cause kidney damage, route of overexposure not known.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: None known

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.

Precustions: Store away from halogens and oxidizing agents.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

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

Ventilation:

Local Exhaust: To maintain concentration at or below the PEL, TLV
Mechanical (General): Not 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