



Super Conductor Materials, Inc.

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

SAFETY DATA SHEET

Identity: Tungsten carbide

Formula: WC

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: 195.86

CAS #	OSHA PEL	ACGIH TLV	%
12070-12-1	10 mg/m3	5mg/m3	0.0-100.0%

SECTION III - PHYSICAL CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 60000°C	Specific Gravity (H ₂ O=1): 15.63 gm/cc
Melting Point: 2870.0°C to 2940.0°C	Vapor Pressure: N/A
Evaporation Rate: N/A	Vapor Density: N/A
Solubility in water: Insoluble	Flash Point: N/A

Appearance and odor: Black powder and pieces, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown *Explosive Limits:* LEL: NA UEL: NA
Extinguishing Method: Use suitable extinguishing media for surrounding materials 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 fires are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards:

- Tungsten carbide may emit toxic fumes if involved in fire.
- Oxidizes on heating in air.
- Burns in fluorine at room temperature.



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–Ignites at 600°C in nitrogen oxide atmospheres and may have violent reaction with F₂, ClF₃, NO_x, IF₅, FbO₂, No₂ and N₂O.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): Chlorine, fluorine, nitrogen dioxide, nitrous oxide, iodine pent fluoride and lead oxide.

Hazardous Decomposition Byproducts: None recorded

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

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

Tungsten compounds: Industrially this element does not constitute an important health hazard. Exposure is related chiefly to the dust arising from the crushing and milling of the two chief ores of tungsten, namely, scheelite and wolframite. Heavy exposure to the dust or the large amounts of the soluble compounds produces changes in body weight, behavior, blood cells, choline esterase activity and sperm in experimental animals. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Sign and Symptoms of Overexposure:

Inhalation: May cause a red, dry throat, coughing, sneezing, soreness in the chest, weight loss and difficulty breathing.

Ingestion: May cause diarrhea, nausea, vomiting and stomach cramps.

Skin: May cause redness, itching and burning.

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

Health Hazards (Acute and Chronic):

Inhalation:

Acute: Toxic by inhalation. May cause irritation to the mucous membranes, coughing, dyspnea, soreness in the chest, weight loss, hemoptysis, bronchitis, asthma, pulmonary fibrosis and radiological changes in the lungs.

Chronic: May cause damage to the lungs.

Ingestion:

Acute: May cause irritation to the gastrointestinal tract and diarrhea.

Chronic: No chronic health effects recorded.

Skin:

Acute: May cause irritation.

Chronic: May cause dermatitis, sensitization and eczema.

Eye:

Acute: May cause irritation.

Chronic: May cause conjunctivitis.



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Target Organs: May affect the respiratory system.

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

Medical Condition generally Aggravated by Exposure: Pre-existing respiratory and skin 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 – SPECIAL PRECAUTIONS

Precautions to be taken in Handling and Storage: Store in tightly closed containers in a cool, dry place. Wash hands thoroughly.

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

Wearing full protective clothing, isolate area and insure proper ventilation. Vacuum up spill and place in a container for proper disposal.

Waste disposal method:

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

SECTION VIII – PROTECTIVE EQUIPMENT

Protective Equipment:

NIOSH approved respirator, impervious gloves, safety glasses, and clothing to prevent contamination.

Ventilation:

Local Exhaust: To maintain concentration below the TLV.

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