



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: Hafnium carbide

Formula: HfC

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: 190.54

CAS #	OSHA PEL	ACGIH TLV	%
12069-85-1	0.5 mg (Hf)/m ³	0.5mg (Hf)/m ³	0.0-100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Vapor Pressure (vs. air or mmHg): (air=1) N/A

Melting Point: 3890.00°C

Density: 12.20 gm/cc at 20°C

Evaporation Rate: (Butyl Acetate=1): 0

Flash Point: N/A

Solubility in water: insoluble

Appearance and odor: Black powder and pieces, no 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:

Hafnium carbide may generate toxic fumes if involved in a fire.

Contact with acids can generate flammable hydrogen gas.



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Material may form flammable methane gas on contact with water or moisture.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility (materials to avoid): Acids, water, and moisture

Hazardous Decomposition or Byproducts: Hydrogen gas or methane gas

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

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

Hafnium is a poison by unspecified route. It is poorly soluble in water and thus is not absorbed efficiently by ingestion. Many hafnium compounds are poisons. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause a red, dry throat and coughing

Ingestion: May cause some discomfort

Skin: May cause redness and itching

Eye: May cause redness, itching and watering

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation to the nose, throat and mucous membrane

Chronic: None chronic health effects known

Ingestion:

Acute: Considered to be non-toxic due to poor absorption in the alimentary tract of mammals.

Chronic: May cause damage to the liver.

Skin:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Eye:

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

Target Organs: May affect the liver

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

Medical Conditions Aggravated by Exposure: None recorded



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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.
-Hafnium carbide may react with water or moisture. Handle and store in a controlled environment and in an inert gas such as argon.

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
- Special: Handle in a controlled, enclosed environment
- Mechanical (General): Recommended
- Other: Handle in an inert gas such as argon

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