

Material Safety Data Sheet

Identity: Hafnium carbide

Formula: HfC

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM 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	0.5	100

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States:

Boiling Point: NE

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

Melting Point: 3890 °C

Density: at 20 °C 12.2 g/cm³

Evaporation Rate: (Butyl Acetate=1): 0

Flash Point: N/A

Solubility in water: insoluble

Change in Condition: 3890 °C

Appearance and odor:

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Method Used:**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:

SECTION V - REACTIVITY DATA

Stability:

Conditions to Avoid (stability): Thermal decomposition, excessive heating, sparks and sources of ignition

Incompatibility: oxidizers

Hazardous Decomposition or Byproducts Co, Co₂, HfO₂

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): Materials in the form of fine powder may be spontaneously flammable in air.

SECTION VI - HEALTH HAZARD DATA

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

Signs and Symptoms of Overexposure:

Inhalation: May cause irritation

Ingestion: None known

Skin: None known

Eye: May cause irritation.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation

Chronic: No known

Emergency procedure: No specific information available. Seek medical attention immediately

Ingestion:

Acute: May cause irritation

Chronic: No known

Emergency procedure: No specific information available. Seek medical attention immediately

Skin:

Acute: May cause irritation

Chronic: No known

Emergency procedure: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water. Seek medical attention immediately

Eye:

Acute: May cause irritation

Chronic: No known

Emergency procedure: Flush eyes and under eyelids, with lukewarm water for at least 15 minutes and seek medical attention immediately.

Target Organs:

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

Medical Conditions Aggravated by Exposure:

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: To maintain concentration at 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