

SAFETY DATA SHEET

Revision Date: Jun. 24, 2026

SECTION 1. IDENTIFICATION

Item	Information
Product Name	Hafnium Carbide Powder
Chemical Name	Hafnium carbide
Chemical Formula	HfC
CAS No.	12069-85-1
Recommended Use	Scientific research and development; advanced ceramic materials; powder metallurgy and industrial material applications.
Uses Advised Against	Food, drug, pesticide, biocidal product use, or other applications not specified by the supplier.

Supplier details:

Supplier	MetalsTek Engineering
Legal Name	Keyue Advanced Materials LLC
Address	32 N Gould St., Sheridan, WY 82801, USA
Tel.	+1 (213) 373-5225
Email	sales@metalstek.com
Website	www.metalstek.com
Emergency Telephone	For emergency assistance, contact local emergency services or a poison control center.

SECTION 2. HAZARDS IDENTIFICATION

This product is considered hazardous according to US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200).

Hazard Class	Category / Classification
Flammable solids	Category 2
Signal Word	Warning
Hazard Statement(s)	Flammable solid.

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Precautionary Statements:

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Ground and bond container and receiving equipment.
- Use explosion-proof electrical, ventilating and lighting equipment where dust may be present.
- Wear protective gloves, protective clothing, eye protection and face protection.
- In case of fire: use CO2, dry chemical, or foam to extinguish.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Weight %
Hafnium carbide (HfC)	12069-85-1	<=100

SECTION 4. FIRST-AID MEASURES

Item	Information
General Advice	If symptoms persist, call a physician. Show this safety data sheet to medical personnel.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Rinse mouth with water. Do not give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Notes to Physician	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Item	Information
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Suitable Extinguishing Media	Use extinguishing measures appropriate to local circumstances and the surrounding environment. For flammable carbide powders, CO ₂ , dry chemical, or foam may be used.
Specific Hazards	Keep product and empty container away from heat and sources of ignition. Hazardous combustion products: none known in the source SDS.
Protective Equipment	Wear self-contained breathing apparatus and full protective gear in case of fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Ensure adequate ventilation.
- Use personal protective equipment as required.
- Avoid dust formation and avoid breathing dust.
- Sweep up and shovel into suitable closed containers for disposal.
- Do not allow material to enter drains, surface water, sanitary sewer systems, or groundwater.

SECTION 7. HANDLING AND STORAGE

Item	Information
Handling	Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with eyes, skin, or clothing. Avoid ingestion and inhalation. Avoid dust formation.
Storage	Keep containers tightly closed in a dry, cool, and well-ventilated place.
Incompatible Materials	Strong oxidizing agents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Item	Information
Exposure Guidelines	ACGIH TLV TWA 0.5 mg/m ³ ; NIOSH REL TWA 0.5 mg/m ³ ; NIOSH IDLH 50 mg/m ³ ; Mexico OEL TWA 0.5 mg/m ³ , as listed in the source SDS.
Engineering Controls	Ensure adequate ventilation, especially in confined areas.
Eye / Face Protection	Wear appropriate protective eyeglasses or chemical safety goggles.

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Skin / Body Protection	Wear appropriate protective gloves and protective clothing to prevent skin exposure.
Respiratory Protection	Use an approved particulate respirator if exposure limits are exceeded or if irritation or other symptoms occur.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Item	Information
Physical state	Solid
Appearance / Color	Grey
Odor	Odorless
Molecular formula	HfC
Molecular weight	190.54 g/mol
Melting point/range	3890 °C / 7034 °F
Water solubility	Insoluble in water
Density / specific gravity	12.2 g/cm ³ @ 20 °C
Flammability information	Burning rate or burning time >2.2 mm/s or <45 sec

SECTION 10. STABILITY AND REACTIVITY

Item	Information
Reactivity	No reactive hazards known based on available information.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Incompatible products; heat and ignition sources where dust may be present.
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	See Section 5.
Hazardous Polymerization	Hazardous polymerization does not occur.

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SECTION 11. TOXICOLOGICAL INFORMATION

- Ingestion may be harmful if swallowed.
- Avoid contact with eyes and skin.
- The toxicological properties have not been fully investigated.
- Not listed as a carcinogen by IARC, NTP, ACGIH, OSHA, or Mexico in the source SDS.

SECTION 12. ECOLOGICAL INFORMATION

- Do not empty into drains.
- Insoluble in water.
- Mobility is not likely in the environment due to low water solubility.

SECTION 13. DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. Dispose of contents and container through an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

Regulation	Transport Information
DOT	UN3178; Flammable solid, inorganic, n.o.s.; technical name: Hafnium carbide; Class 4.1; Packing Group III
TDG	UN3178; Flammable solid, inorganic, n.o.s.; technical name: Hafnium carbide; Class 4.1; Packing Group III
IATA	UN3178; Flammable solid, inorganic, n.o.s.; technical name: Hafnium carbide; Class 4.1; Packing Group III
IMDG/IMO	UN3178; Flammable solid, inorganic, n.o.s.; technical name: Hafnium carbide; Class 4.1; Packing Group III

SECTION 15. REGULATORY INFORMATION

- TSCA: Listed; inventory status ACTIVE.
- SARA 313: Does not contain chemicals subject to reporting requirements according to the source SDS.

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- California Proposition 65: Does not contain Proposition 65 chemicals according to the source SDS.
- CERCLA/SARA hazardous substances: Not applicable according to the source SDS.

SECTION 16. OTHER INFORMATION

Item	Information
Prepared By	MetalsTek Engineering
Revision Date	Jun. 24, 2026
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of publication. It is intended only as guidance for safe handling, use, storage, transportation, disposal, and release. It is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.