



SAFETY DATA SHEET

ProChemOnline.com



SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Hafnium, powder**

PRODUCT NUMBER: 1948

CAS NUMBER: 7440-58-6

MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Danger

Hazard Statements

H228	Flammable solid.
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Precautionary Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

HMIS CLASSIFICATION:

Health: 0 Fire: 3 Reactivity Hazard: 3

NFPA RATING:

Health: 0 Flammability: 3 Reactivity Hazard: 3

EYE CONTACT: May cause slight to mild irritation of the eyes.

SKIN CONTACT: May cause slight to mild irritation of the skin.

INHALATION: May be irritating to the nasal cavity and respiratory tract.

INGESTION: Ingestion may lead to gastrointestinal effects, vomiting, and nausea.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: Hf

Molecular Weight: 178.49

CHEMICAL NAME	CAS#	%
Hafnium	7440-58-6	100

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

SKIN EXPOSURE: Wash affected area with plenty of water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases, seek immediate medical assistance.

INGESTION: Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not available

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Not available

EXTINGUISHING MEDIUM: Special powder for metal fires. Do not use water.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Hafnium oxide

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid the formation of dust. Avoid breathing vapors, mist, gas, or dust. Remove all sources of ignition.

ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Cover spill with dry sodium carbonate or dolomite to reduce formation of dust. Sweep up and place in suitable container for proper disposal.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Avoid contact with skin and eyes. Use with adequate ventilation. Avoid formation of dusts and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Keep away from sources of ignition – No smoking. Take measure to prevent the build up of electrostatic charge. Handle under dry protective gas.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Store under inert gas.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:

Component	Exposure Limits	Basis	Entity
Hafnium	0.5 mg/m ³	TLV	ACGIH
	0.5 mg/m ³	PEL	OSHA
	0.5 mg/m ³	REL	NIOSH

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION (Cont.)

EYE PROTECTION: Wear chemical safety glasses or goggles and face shield.

SKIN PROTECTION: Wear nitrile or rubber gloves, and a complete suit protecting against chemicals.

VENTILATION: Provide local exhaust, preferably mechanical.

RESPIRATOR: Use an approved respirator.

ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Gray solid

ODOR: None

MOLECULAR WEIGHT: 178.49

BOILING POINT: 4602°C

MELTING POINT: 2222°C

SPECIFIC GRAVITY: 13.3 gm/ml

VAPOR DENSITY: No data available

SOLUBILITY: Insoluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Pyrophoric solid - catches fire spontaneously if exposed to air.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Contact with moisture, heat, and ignition sources including open flame and electrostatic discharge.

INCOMPATIBILITY: Halogens, nitric acid, halocarbons, Mixtures with oxidizing agents such as chromates, nitrate, copper oxide, sulfur compounds, phosphorus.

DECOMPOSITION PRODUCTS: Metal oxide fumes

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: Not available

CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.

MUTAGENIC EFFECTS: Not available

TETRAOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Hafnium and hafnium compounds may be irritating to the skin and eyes. There are reports of liver damage from hafnium exposure. Inhalation of Zirconium and Zirconium compounds may cause pulmonary granulomas.

RTECS: No data

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local, state, and federal regulations.

SECTION 14 TRANSPORTATION DATA

UN2545

Hafnium powder, dry

CLASS 4.2

PG II

Marine Pollutant: No

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory

SARA 302/304: Not Listed

SARA 311/312: Fire Hazard

SARA (TITLE 313): Not Listed

CALIFORNIA PROP. 65: Not Listed

MASSACHUSETTS RIGHT TO KNOW COMPONENTS: Hafnium

NEW JERSEY RIGHT TO KNOW COMPONENTS: Hafnium

PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Hafnium

SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Prochem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

DATE PREPARED: 01/15

SDS DEPT.