

MATERIAL SAFETY DATA SHEET

24 HR. EMERGENCY PHONE # CHEM-TREC 1-800-424-9300

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SECTION 1 Product Identification

CHEMICAL NAME: Hafnium (IV) oxide
CAS #: 12055-23-1
FORMULA: HfO₂
SYNONYM: Hafnium dioxide

SECTION 2 Composition and Information on Ingredients

INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	12055-23-1	100	0.5mg/m ³ (as Hf)	0.5mg/m ³ (as Hf)

SECTION 3 Hazards Identification

EMERGENCY OVERVIEW: No particular hazard associated with this material.
PRIMARY ROUTES OF EXPOSURE: Ingestion, inhalation
EYE CONTACT: May cause slight to mild irritation of the eyes
SKIN CONTACT: May cause slight to mild irritation of the skin.
INHALATION: Do not breath dust. May be irritating to the nose, mucous membranes and respiratory tract.
INGESTION: No information available on the effects of ingestion.
CHRONIC HEALTH EFFECTS: No information available on long-term chronic effects.
ACUTE HEALTH EFFECTS: Irritating to skin, eyes and respiratory tract. Do not breath dust.

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 water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.
INHALATION: Remove the victim to fresh air. 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: none

AUTO IGNITION TEMPERATURE: none

EXPLOSION LIMITS: none

EXTINGUISHING MEDIUM: material is non flammable

SPECIAL FIREFIGHTING PROCEDURES: If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: If involved in a fire the material may emit irritating fumes of hafnium oxide.

UNUSUAL FIRE OR EXPLOSION HAZARDS: No unusual fire or explosion hazards.

SECTION 6 Accidental Release Measures

SPILL AND LEAK PROCEDURES: Small spills can be mixed with vermiculite or sodium carbonate and swept up.

SECTION 7 Handling and Storage

HANDLING AND STORAGE: Store material in a tightly sealed container.

SECTION 8 Exposure Controls and Personal Protection

EYE PROTECTION: Always wear approved safety glasses w/side shields, or safety goggles, face shield when handling a chemicals substance in the laboratory.

SKIN PROTECTION: Chemical-resistant.

VENTILATION: If possible, handle the material in an efficient fume hood.

RESPIRATOR: If in form of fine dust and ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 19-10.134.

SECTION 9 Physical and Chemical Properties

COLOR AND FORM: off white powder

MOLECULAR WEIGHT: 210.49

MELTING POINT (DEG. C.): none

BOILING POINT: no data

VAPOR PRESSURE: no data

SPECIFIC GRAVITY: 9.68

SOLUBILITY IN WATER: insoluble

SECTION 10 Stability and Reactivity

STABILITY: air and moisture stable solid

HAZARDOUS POLYMERIZATION: none

CONDITIONS TO AVOID: none

INCOMPATIBILITY: none
DECOMPOSITION PRODUCTS: no decomposition products

SECTION 11 Toxicological Information

RTECS DATA: No information available in the RTECS files.
MUTAGENIC EFFECTS: no data
TETRATOGENIC EFFECTS: no data
CARCINOGENIC EFFECTS: no data
To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 Ecological Information

ECOLOGICAL INFORMATION: No information available

SECTION 13 Disposal Considerations

DISPOSAL: Dispose of in according to local state and federal regulations.

SECTION 14 Transportation Information

Non-hazardous

Non-hazardous

SECTION 15 Regulatory Information

TSCA: Listed in the TSCA inventory
SARA (TITLE 313): Not reported under SARA Title (313)

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: 3/06