

MATERIAL SAFETY DATA SHEET

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

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SECTION 1 Product Identification

CHEMICAL NAME: Niobium (V) fluoride
CAS #: 7783-68-8
FORMULA: NbF₅
SYNONYM: Niobium pentafluoride, Columbium pentafluoride

SECTION 2 Composition and Information on Ingredients

INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	7783-68-8	100	2.5mg/m ³ (as f)	2.5mg/m ³ (as F)

SECTION 3 Hazards Identification

EMERGENCY OVERVIEW: : Hydrofluoric acid may form upon contact with moisture, causing delayed, deep, slow healing, painful burns. If inhaled or swallowed, this compound may cause fluoride poisoning.

PRIMARY ROUTES OF EXPOSURE: contact with skin and eyes. Inhalation of dust.

EYE CONTACT: Causes burns to the eyes. May cause blindness.

SKIN CONTACT: Prolonged contact with skin causes delayed deep slow healing painful burns.

INHALATION: (As dust) Causes chemical burns to the respiratory tract.

INGESTION: If ingested, severe burns to the gastrointestinal tract may occur.

CHRONIC HEALTH EFFECTS: Prolonged exposure to hydrolysable fluorine compounds can cause deterioration of bone and tooth structure.

ACUTE HEALTH EFFECTS: Burns to eyes and skin. Dust: Fluoride poisoning may cause nausea, vomiting, diarrhea, weakness, coma, respiratory failure and cardiovascular collapse.

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: not applicable

AUTO IGNITION TEMPERATURE: none

EXPLOSION LIMITS: none

EXTINGUISHING MEDIUM: None. 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 this material may emit corrosive fumes of hydrofluoric acid.

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

SECTION 6 Accidental Release Measures

SPILL AND LEAD PROCEDURES: Small spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate and swept up. Avoid raising dust. Spillage in areas not adequately ventilated may require an evacuation of area. Emergency response teams will require self-contained breathing apparatus.

SECTION 7 Handling and Storage

HANDLING AND STORAGE: Store material in a tightly sealed container away from moisture. handle in a fume hood under a dry atmosphere of air or nitrogen. Prolonged exposure to the atmosphere may degrade the product.

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: white powder

MOLECULAR WEIGHT: 187.91

MELTING POINT (DEG. C.): none

BOILING POINT: ~ 220°

VAPOR PRESSURE: no data

SPECIFIC GRAVITY: 3.92

SOLUBILITY IN WATER: reacts with water

SECTION 10 Stability and Reactivity

STABILITY: moisture sensitive

HAZARDOUS POLYMERIZATION: no hazardous polymerization
CONDITIONS TO AVOID: contact with moisture
INCOMPATIBILITY: active metals and strong mineral acids
DECOMPOSITION PRODUCTS: Hydrofluoric acid, metal fluorides and metal oxyfluorides

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

Corrosive solids, n.o.s., Class 8, UN 1759, PG I

SECTION 15 Regulatory Information

TSCA: Listed in the TSCA inventory
SARA (TITLE 313): Title compound not listed

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.

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