

## NIOBIUM(V) FLUORIDE 7783-68-8 MSDS

### Section 1: Product Identification

Chemical Name: Niobium (V) fluoride, 99.5%  
CAS Registry Number: 7783-68-8  
Formula: NbF<sub>5</sub>  
EINECS Number: 232-020-2  
Chemical Family: metal halide  
Synonym: Niobium pentafluoride, Columbium pentafluoride

### Section 2: Composition and Information on Ingredients

Ingredient	CAS Number	Percent	ACGIH (TWA)	OSHA (PEL)
Title Compound	7783-68-8	100%	2.5mg/m <sup>3</sup> (as F)	2.5mg/m <sup>3</sup> (as F)

### Section 3: Hazards Identification

Hydrofluoric acid may form upon contact with moisture, causing delayed, deep, slow healing, painful burns. If

Emergency Overview:

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.

Burns to eyes and skin. Dust: Fluoride poisoning may cause nausea, vomiting, diarrhea, weakness, coma,

Acute Health Affects:

respiratory failure and cardiovascular collapse.

Chronic Health Affects: Prolonged exposure to hydrolysable fluorine compounds can cause deterioration of bone and tooth structure.

NTP: No

IARC: No

OSHA: No

### SECTION 4: First Aid Measures

Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need

Eye Exposure:

assistance in keeping their eye lids open. Get immediate medical attention.

Wash the affected area with water. Remove contaminated clothes if necessary. Apply calcium gluconate jelly

Skin Exposure:

or water soluble calcium salts as antidote. Seek medical assistance.

Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty

Inhalation:

in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.

Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce

Ingestion:

vomiting only if directed by medical personnel.

## **SECTION 5: Fire Fighting Measures**

Flash Point: not applicable

Autoignition Temperature: none

Explosion Limits: none

Extinguishing Medium: None. Material is non-flammable.

If this product is involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure

Special Fire Fighting Procedures:

self-contained breathing apparatus and full protective clothing.

Hazardous Combustion and If involved in a fire this material may emit corrosive fumes of hydrofluoric acid.

Decomposition Products:

Unusual Fire or Explosion Hazards: No unusual fire or explosion hazards.

## **SECTION 6: Accidental Release Measures**

Small spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate and swept up. Avoid

Spill and Leak Procedures: 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**

Store solid in a tightly sealed container away from moisture. Handle in a fume hood under a dry atmosphere of

Handling and Storage:

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 when handling a chemical substance in the laboratory.

Skin Protection: Wear protective clothing and gloves. Consult with glove manufacturer to determine the proper type of glove.

Ventilation: The solid may form corrosive vapors. It should be handled in an efficient fume hood.

If in form of fine dust and ventilation is not available a respirator should be worn. The use of

respirators

Respirator:

requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Ventilation: The solid may form corrosive vapors. It should be handled in an efficient fume hood.

Additional Protection: No additional protection required.

## **SECTION 9: Physical and Chemical Properties**

Color and Form: white powdr.

Molecular Weight: 187.91

Melting Point: 72°

Boiling Point: ~220°C

Vapor Pressure: no data

Specific Gravity: 3.92

Odor: pungent odor

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.

Carcinogenic Effects: no data

Mutagenic Effects: no data

Tetratogenic Effects: no data

## **SECTION 12: Ecological Information**

Ecological Information: No information available

## **SECTION 13: Disposal Considerations**

Disposal: Dispose of according to local, state and federal regulations.

## **SECTION 14: Transportation**

Shipping Name (CFR): Corrosive solids, N.O.S.

Hazard Class (CFR): 8

Additional Hazard Class (CFR): NA

Packaging Group (CFR): I

UN ID Number (CFR): UN# 1759

Shipping Name (IATA): Corrosive solid, N.O.S.

Hazard Class (IATA): 8

Additional Hazard Class (IATA): NA

Packaging Group (IATA): I

UN ID Number (IATA): UN# 1759

### **SECTION 15: Regulatory Information**

TSCA: Listed in the TSCA inventory.

SARA (Title 313): Title compound not listed.

Second Ingredient: none

### **SECTION 16 - ADDITIONAL INFORMATION**

N/A