



# SAFETY DATA SHEET

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## SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Holmium (III) fluoride, anhydrous**

PRODUCT NUMBER: 1984

CAS NUMBER: 13760-78-6

SYNONYMS: Holmium trifluoride

### MANUFACTURER:

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## SECTION 2 HAZARDS IDENTIFICATION

### CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

**Danger**

### Hazard Statements

H302+H312	Harmful if swallowed or in contact with skin.
H331	Toxic if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

### Precautionary Phrases

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P361	Remove/take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

## SECTION 2 HAZARDS IDENTIFICATION (Cont.)

### HMIS CLASSIFICATION:

Health: 2 Fire: 0 Reactivity Hazard: 1

### NFPA RATING:

Health: 2 Flammability: 0 Reactivity Hazard: 1

**EYE CONTACT:** Causes irritation of the eyes.

**SKIN CONTACT:** Causes slight to mild irritation of the skin.

**INHALATION:** Irritating to skin, eyes, and respiratory tract.

**INGESTION:** Toxicity reduced to the extent that this compound is relatively insoluble. In large amounts may cause vomiting, abdominal pain, and diarrhea.

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

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula:  $\text{HoF}_3$

Molecular Weight: 221.93

CHEMICAL NAME	CAS#	%
Holmium (III) Fluoride, anhydrous	13760-78-6	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:** Product is not flammable

**AUTO IGNITION TEMPERATURE:** Not available

**EXPLOSION LIMITS:** Product does not present an explosion hazard.

**EXTINGUISHING MEDIUM:** Use fire fighting measures that suit the surrounding fire.

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

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** Holmium oxides and hydrogen fluoride

## 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.

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

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:** Spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate. 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.

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

## SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

### EXPOSURE CONTROLS:

Component	Exposure Limits	Basis	Entity
Copper (III) fluoride	2.5 mg/m <sup>3</sup>	TLV	ACGIH
	2.5 mg/m <sup>3</sup>	PEL	OSHA
	2.5 mg/m <sup>3</sup>	REL	NIOSH
(As fluoride)	3 mg/g (Before shift)	BEI-U	ACGIH
(As fluoride)	10mg/g (End of shift)	BEI-U	ACGIH
(As fluoride)	2mg/l (16hrs after exposure)	BEI-U	ACGIH
(As fluoride)	3mg/l (After exposure ceases)	BEI-U	ACGIH

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

BEI-U: Biological Exposure Indices in Urine

**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:** Yellow crystalline

**ODOR:** None

**MOLECULAR WEIGHT:** 221.93

**BOILING POINT:** 2200° C

**MELTING POINT:** 1143° C

**SPECIFIC GRAVITY:** 7.644 gm/ml

**VAPOR DENSITY:** No data available

**SOLUBILITY:** Insoluble

## SECTION 10 STABILITY AND REACTIVITY

**STABILITY:** Stable

**HAZARDOUS POLYMERIZATION:** Will not occur

**CONDITIONS TO AVOID:** Avoid moisture

**INCOMPATIBILITY:** Strong reducing agents and active metals

**DECOMPOSITION PRODUCTS:** Holmium oxides and hydrogen fluoride

## 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

**TETRATOGENIC EFFECTS:** Not available

**RTECS:** No data

Lanthanons can cause delayed blood clotting leading to hemorrhages. Exposure may also lead to sensitivity heat, itching, increased awareness of odor and taste, and liver damage. Fluorides may cause salivation, nausea, vomiting, diarrhea, and abdominal pain, followed by weakness, tremors, shallow respiration, convulsions, and coma. May cause brain and kidney damage. Chronic fluoride poisoning can cause severe bone changes, loss of weight, anorexia, anemia, and dental defects.

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

UN3288

Toxic solid, inorganic, n.o.s.

(holmium fluoride)

CLASS 6.1

PG III

Marine Pollutant: No

## SECTION 15 REGULATORY INFORMATION

**TSCA:** Listed in the TSCA inventory

**SARA 302/304:** Not Listed

**SARA 311/312:** Acute Health Hazard

**SARA (TITLE 313):** Not Listed

**CALIFORNIA PROP. 65:** Not Listed

**MASSACHUSETTS RIGHT TO KNOW COMPONENTS:** No components are subject to the Massachusetts Right to Know Act.

**NEW JERSEY RIGHT TO KNOW COMPONENTS:** Holmium trifluoride

**PENNSYLVANIA RIGHT TO KNOW COMPONENTS:** Holmium trifluoride

## SECTION 16 OTHER INFORMATION

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DATE PREPARED: 01/15

SDS DEPT.