



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Yttrium (III) Fluoride**

PRODUCT NUMBER: 3850

CAS NUMBER: 13709-49-4

SYNONYMS: Yttrium trifluoride

MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Warning

Hazard Statements

H302+H312+H332	Harmful if swallowed or if in contact with skin, or if inhaled.
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.
P264	Wash skin thoroughly after handling.
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/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.
P362	Take off contaminated clothing and wash before reuse.

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

HMIS CLASSIFICATION:

Health: 2 Fire: 0 Reactivity Hazard: 0

NFPA RATING:

Health: 2 Flammability: 0 Reactivity Hazard: 0

EYE CONTACT: Causes irritation of the eyes.

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

INHALATION: Irritating to the 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.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: YF₃

Molecular Weight: 145.90

CHEMICAL NAME	CAS#	%
Yttrium (III) Fluoride	13709-49-4	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 water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.

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: Not available

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: Hydrogen Fluoride and Yttrium Oxides Hydrogen fluoride.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust. Keep unprotected persons away.

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

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Small spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate and swept up.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid formation of dust. Handle under a dry atmosphere of air and nitrogen.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Hygroscopic. Store in tightly sealed container.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS

Component	Exposure Limits	Basis	Entity
Yttrium	2.5 mg/m ³	TLV	ACGIH
	2.5 mg/m ³	PEL	OSHA
Fluoride	1 mg/m ³	REL	NIOSH
	1 mg/m ³	TLV	ACGIH
	1 mg/m ³	PEL	OSHA
	3mg/g*	BEI-U	ACGIH
	10mg/g**	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.

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
yttrium trifluoride	13709-49-4	TWA	2.5 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	1 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		TWA	2.5 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Remarks	Not classifiable as a human carcinogen	
		TWA	1 mg/m ³	USA. NIOSH Recommended Exposure Limits
		PEL	1 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	2.5 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
yttrium trifluoride	13709-49-4	Fluoride	2 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		Remarks	Prior to shift (16 hours after exposure ceases)		
		Fluoride	3 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

STEL: 7.5 mg/m³ 15 min TWA: 2.5 mg/m³ 8 hr

EYE PROTECTION: Wear chemical safety glasses or goggles.

SKIN PROTECTION: Wear nitrile or rubber gloves, apron, or lab coat.

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: White to off white.

ODOR: None

MOLECULAR WEIGHT: 145.90

BOILING POINT: 2230° C

MELTING POINT: 1387°C

SPECIFIC GRAVITY: 4.01

VAPOR DENSITY: No data available

SOLUBILITY IN WATER: Insoluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: Moisture
INCOMPATIBILITY: Strong acids
DECOMPOSITION PRODUCTS: Hydrogen fluoride and Yttrium oxides.

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: Intraperitoneal (mammal-species unspecified); LD50: 10 mg/kg. Oral (Rat); TDLo: 44 gm/kg/31 D-I.
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: ZG3417500

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

Not a dangerous good

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory
SARA 302/304: Not Listed
SARA (TITLE 313): Not Listed
CALIFORNIA PROP. 65: 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.

DATE REVISED: 07/26

REVISION SUMMARY: Fax number removed. Updates to the following Sections #2 Hazard Statement added H302+H312+H332 & Precautionary Phrases removed P330. Section #5 – Updated Hazardous Combustion Statement. Section #9 – Updated Color & Form Statement. All other details in the document about the product remain unchanged. – Revised by EHS 7/26

Reviewed/Approved 6/26

SDS DEPT.