

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

Chemical Name: Chromium Fluoride **Formula:** CrF₃·4H₂O
Chemical Family: Metal halide **CAS #:** 123333-98-2
Synonyms: Chromic fluoride tetrahydrate, chromium trifluoride tetrahydrate, Chromium (III) Fluoride.

II HAZARDOUS INGREDIENTS

<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
100	0.5 mg/m ³ as Cr, 2.5 mg F/m ³	0.5 mg/m ³ as Cr, 2.5 mg F/m ³

III PHYSICAL DATA

Boiling Point:	No data	% Volatiles:	0
Solubility in H₂O:	Slightly soluble	Specific Gravity:	No data
Freezing/Melting Point:	No data	Evaporation Rate:	0
Vapor Density:	N/A	Vapor Pressure:	Essentially 0
Appearance and Odor:	Green crystalline solid, odorless.		

IV FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A **Autoignition Temperature:** No data
Flammable Limits in Air: Lower: N/A **Upper:** N/A

Extinguishing Media: Use water, carbon dioxide, dry chemical extinguishing agents, dry sand or dry ground dolomite.
Special Firefighting Procedures: No special firefighting procedures needed. Use normal procedures which include wearing NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant clothing; hats, boots and gloves. If without risk, remove material from fire area. Cool container with water from maximum distance.

Unusual Fire and Explosion Hazards: None known.

V HEALTH HAZARD INFORMATION

Effects of Exposure: Acute:

Inhalation: May cause coughing, headache, dyspnea, and fever. May also cause tracheobronchial irritation and pulmonary edema.

Ingestion: Large oral doses may cause dizziness, intense thirst, oliguria or anuria, abdominal pain, vomiting and shock. Death may occur from renal failure.

Skin: Corrosive. Causes skin ulcerations. May cause allergic skin reaction.

Eye: Corrosive. Causes eye damage.

Medical Conditions, if any, Aggravated by the Chemical: Pre-existing kidney or skin disorders.

Other Health Hazards: Chromium compounds in the 3+ state have a lower toxicity than those in the 6+ state.

Most Likely Routes of Entry: Ingestion.

Chronic Effects:

Inhalation: May cause bleeding, ulceration and perforation of the nasal septum, lacrimation, and acute hepatitis with jaundice.

Ingestion: None known.

Skin: May cause dermatitis.

Eye: May cause conjunctivitis.

Other: Chronic fluorine poisoning can cause severe bone changes, loss of weight, anorexia, anemia and dental defects.

Carcinogenicity: Chromium (III) compounds are listed by IARC and ACGIH as: Not classifiable as to carcinogenicity in humans.

NTP: No **IARC:** No **OSHA:** No **EPA:** No

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician

INGESTION: No data available but one should obtain immediate medical attention.

SKIN: Remove contaminated clothing, flood skin with large amounts of water. If irritation persists seek medical attention.

EYE: Immediately flush eyes, including under eyelids, with large amounts of water for at least 15 minutes. Call a physician.

VI REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Thermal decomposition, incompatibles.

Incompatibility (Materials to Avoid): Acids

Hazardous Decomposition Products: HF, chromium oxides.

Hazardous Polymerization: Will not occur.

VII SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material is Released or Spilled: Wearing full protective equipment, cover spill with dry sand or vermiculite. Mix well and carefully transfer to a container.

Waste Disposal Method: Dispose of in accordance with State, Federal and Local regulations.

VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: High efficiency particle respirator.

Ventilation: Laboratory fume hood.

Protective Gloves: Rubber

Eye/Face Protection: ANSI approved safety goggles.

IX SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use.

Other Precautions: Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

RCRA Code: D002, D007.

TSCA Registered: Yes, as anhydrous salt (CAS# 7788-97-8)

Hexavalent (6+) chromium compounds are listed by NTP and IARC as cancer risks. Chromium (III) fluoride is not listed. This product contains a chromium compound which is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and 40CFR 372.

Warning: Corrosive, burns skin and eyes.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this MSDS, or in combination with any other product or process, is the responsibility of the user.

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