

# MATERIAL SAFETY DATA SHEET

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

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## SECTION 1 Product Identification

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**CHEMICAL NAME:** Nickel (II) fluoride tetrahydrate

**CAS #:** 13940-83-5

**FORMULA:** NiF<sub>2</sub>·4H<sub>2</sub>O

**SYNONYM:** Nickel difluoride hydrate, Nickelous fluoride hydrate

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## SECTION 2 Composition and Information on Ingredients

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INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	13940-83-5	100	0.1mg/m <sup>3</sup> (as Ni) 2.5mg/m <sup>3</sup> (as F)	1mg/m <sup>3</sup> (as Ni) 2.5mg/m <sup>3</sup> (as F)

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## SECTION 3 Hazards Identification

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**EMERGENCY OVERVIEW:** Irritating to skin, eyes and respiratory tract. May cause sensitization by inhalation and skin contact. May cause fluoride poisoning. May cause cancer.

**PRIMARY ROUTES OF EXPOSURE:** Ingestion, inhalation, skin, eyes.

**EYE CONTACT:** Causes irritation and serious eye damage. Effects may not immediately appear.

**SKIN CONTACT:** Causes irritation, with delayed redness and pain. Soluble fluoride may be corrosive. Nickel salts may lead to dermatitis.

**INHALATION:** May cause sensitization by inhalation. Inhalation causes severe irritation to the respiratory tract.

**INGESTION:** May cause salivation, nausea, vomiting, diarrhea, and abdominal pain.

**CHRONIC HEALTH EFFECTS:** Prolonged exposure to hydrolysable fluorine compounds can cause deterioration of bone and tooth structure. Prolonged exposure to nickel and nickel compounds may lead to skin irritation and dermatitis.

**ACUTE HEALTH EFFECTS:** Fluoride poisoning may cause nausea, vomiting, diarrhea, weakness, coma, and cardiovascular collapse. Nickel salts may cause convulsions, asphyxia, and sensitization dermatitis.

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## SECTION 4 First Aid Measures

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**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.

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## **SECTION 5                      Firefighting Measures**

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**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.

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## **SECTION 6                      Accidental Release Measures**

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**SPILL AND LEAK PROCEDURES:** Small spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate and swept up.

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## **SECTION 7                      Handling and Storage**

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**HANDLING AND STORAGE:** Store material in a tightly sealed container.

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## **SECTION 8                      Exposure Controls and Personal Protection**

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**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.

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

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**COLOR AND FORM:** green powder

**MOLECULAR WEIGHT:** 96.71

**MELTING POINT (DEG. C.):** none

**BOILING POINT:** no data

**VAPOR PRESSURE:** no data

**SPECIFIC GRAVITY:** no data

**SOLUBILITY IN WATER:** 4g/100cc (25°C)

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## **SECTION 10                    Stability and Reactivity**

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**STABILITY:** air and moisture stable

**HAZARDOUS POLYMERIZATION:** no hazardous polymerization  
**CONDITIONS TO AVOID:** none  
**INCOMPATIBILITY:** none  
**DECOMPOSITION PRODUCTS:** metal fluorides and water

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## **SECTION 11 Toxicological Information**

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**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.

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## **SECTION 12 Ecological Information**

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**ECOLOGICAL INFORMATION:** No information available

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## **SECTION 13 Disposal Considerations**

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**DISPOSAL:** Dispose of in according to local state and federal regulations.

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## **SECTION 14 Transportation Information**

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Non-hazardous

Non-hazardous

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## **SECTION 15 Regulatory Information**

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**TSCA:** Listed in the TSCA inventory  
**SARA (TITLE 313):** Title compound : See category N495 for reporting.

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## **SECTION 16 Other Information**

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