



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Nickel (II) Fluoride Tetrahydrate**
PRODUCT NUMBER: 2687
CAS NUMBER: 13940-83-5
SYNONYMS: Nickel difluoride tetrahydrate, Nickelous fluoride tetrahydrate
MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Danger

Hazard Statements

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

Precautionary Phrases

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink, or smoke, when using this product.
P280	Wear protective gloves/protective clothing/face protection/eye protection.
P284	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P3411	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.

HMS CLASSIFICATION:

Health: 2 Chronic: * Fire: 0 Reactivity Hazard: 0

NFPA RATING:

Health: 0 Flammability: 0 Reactivity Hazard: 0

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

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.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $\text{NiF}_2 \cdot 4\text{H}_2\text{O}$

Molecular Weight: 168.75

CHEMICAL NAME	CAS#	%
Nickel (II) Fluoride Tetrahydrate	13940-83-5	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 soap and 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: Hydrogen fluoride and nickel oxides

SECTION 6 ACCIDENTAL RELEASE MEASURES

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

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

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Mix spills 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. Ensure adequate ventilation. Avoid contact with skin and eyes.

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

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:

Component	Exposure Limits	Basis	Entity
Nickel (II) Fluoride Tetrahydrate	2.500 mg/m ³	TLV	ACGIH
	2.500 mg/m ³	PEL	OSHA
	1.500 mg/m ³	TLV	ACGIH
	1.00 mg/m ³	PEL	OSHA

TLV: Threshold Limit Value over 8 hours of work.

PEL: Permissible Exposure Limit

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: Green powder

ODOR: None

MOLECULAR WEIGHT: 168.75

BOILING POINT: No data available

MELTING POINT: No data available

SPECIFIC GRAVITY: 4.6 gm/ml

VAPOR DENSITY: No data available

SOLUBILITY: Soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Avoid moisture

INCOMPATIBILITY: Peroxides

DECOMPOSITION PRODUCTS: Hydrogen fluoride and nickel oxides

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: No data available

CARCINOGENIC EFFECTS: Carcinogen to humans

MUTAGENIC EFFECTS: Not available

TETRATOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Not available

RTECS: QR6825000

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Very toxic for aquatic organisms.

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.

(Nickel (II) Fluoride Tetrahydrate)

CLASS 6.1

PG III

Marine Pollutant: No

SECTION 15 REGULATORY INFORMATION

SARA 302/304: Not Listed

SARA 311/312: Acute Health Hazard, Chronic Health Hazard

SARA (TITLE 313): Nickel (II) Fluoride Tetrahydrate

CALIFORNIA PROP. 65: Nickel (II) Fluoride Tetrahydrate

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

NEW JERSEY RIGHT TO KNOW COMPONENTS: Nickel (II) Fluoride Tetrahydrate

PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Nickel (II) Fluoride Tetrahydrate

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 PREPARED: 04/15

SDS DEPT.