1. Product and Company Identification

Trade Name:	Nickel (II) fluoride
Chemical Formula:	NiF_2
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	37 Ramland Road
City:	Orangeburg
State:	New York
Zip Code:	10962
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger

Hazard Statements:

H301+H331: Toxic if swallowed or if inhaled
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
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 the lung, the kidneys and the liver through prolonged or repeated exposure if inhaled.

Precautionary Statements:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe 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.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285 In case of inadequate ventilation wear respiratory protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	1

3. Composition

Chemical Family:	Nonmetal
Additional Names:	Nickel difluoride
Nickel (II) fluoride (NiF_2):	
Percentage:	100 wt%
CAS #:	10028-18-9
EC #:	233-071-3

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep patient warm. Seek immediate medical attention.
Ingestion:	Seek immediate medical attention.
Skin:	Immediately wash affected area with mild soap and water. Remove any contaminated clothing. Rub in calcium gluconate gel immediately. Seek immediate medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Keep unprotected persons away. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Handle under dry protective gas. Avoid contact with skin and eyes. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store away from water/moisture, oxidizing agents. Store under dry inert gas. This product is hygroscopic. Protect from humidity and water. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	1 mg/m^3 as Ni, long-term value
Threshold Limit Value:	0.1 mg/m^3 as Ni, long-term value
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves with minimum thickness of 0.11 mm
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	N/A
Form:	Powder
Odor:	Odorless
Water Solubility:	40 g/l – Soluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	4.72 g/cc
Molecular weight:	96.69 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions. Reacts dangerously with glass.
Reacts With:	Strong oxidizing agents, peroxidesglass, strong mineral acids
Incompatible Conditions:	Water/moisture
Hazardous Decomposition Products:	Metal oxide fume, Hydrogen fluoride, Nickel/nickel oxides

11. Toxicological Information

Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause an allergic skin reaction.
Ingestion:	Toxic if swallowed.
Inhalation:	Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Chronic:	Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia. Material reacts with moisture on the skin, eyes, and mucous membranes to generate hydrogen fluoride. Hydrogen fluoride is extremely destructive and may cause deep progressive burns that induce subcutaneous tissues to become blanched and bloodless resulting in lesions of dead tissue that are slow to heal.

Signs & Symptoms:	Salivation, Nausea, Vomiting, Fever, Dermatitis, Gastrointestinal disturbance
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	178 mg/kg for rat by mouth
Carcinogen:	IARC: 1 - Group 1: Carcinogenic to humans (Nickel difluoride) 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Nickel difluoride) NTP: Known to be human carcinogen (Nickel difluoride)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow undiluted product or large quantities to reach ground water, water course or sewage system Do not allow material to be released to the environment without proper governmental permits. Danger to drinking if even small quantities leak into the ground Also poisonous for fish and plankton in water bodies Very toxic for aquatic organisms Avoid transfer into the environment May cause long lasting harmful effects in water bodies.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Hazardous for transportation

Hazard Class:	6.1 Toxic substances
Packing Group:	III
UN Number:	UN3288
Proper Shipping Name:	Toxic solid, inorganic, n.o.s. (Nickel(II) fluoride)

15. Regulatory Information

Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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