



LTS Research Laboratories, Inc.
Safety Data Sheet
Nickel Zinc Iron

1. Product and Company Identification

Trade Name: Nickel zinc iron
Chemical Formula: NiZnFe₂
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:

- H260: In contact with water releases flammable gases which may ignite spontaneously
- H319 Causes serious eye irritation
- H317: May cause an allergic skin reaction
- H228: Flammable solid
- H351: Suspected of causing cancer
- H335: May cause respiratory irritation
- H372: Causes damage to organs through prolonged or repeated exposure
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements:

- P260: Do not breathe dust/fume/gas/mist/vapors/spray
- P280+P284: Wear protective gloves/protective clothing/eye protection/face protection/respiratory protection
- P231+P232: Handle under inert gas. Protect from moisture
- P210: Keep away from heat/sparks/flames – No smoking
- P370+P378: In case of fire: Use CO₂, sand, extinguishing powder for extinction
- P363: Wash contaminated clothing before reuse
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do
- P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):	Powder	Bulk
Health:	1	1
Flammability:	3	0
Physical:	2	0

3. Composition

Chemical Family: Metal alloy
Additional Names: None

Nickel (Ni):
Percentage: 0-100 wt%
CAS #: 7440-02-0
EC #: 231-111-4

Zinc (Zn):
Percentage: 0-100 wt%
CAS #: 7440-66-6
EC #: 231-175-3

Iron (Fe):
Percentage: 0-100 wt%
CAS #: 7439-89-6
EC #: 231-096-4

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.

Ingestion: Seek medical attention.

Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability: Non-flammable, except as powder

Extinguishing Media: Do not use water for metal fires – use CO₂, sand, extinguishing powder.
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. 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. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store under dry inert gas. 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:	1.5 mg/m ³ as Ni, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
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, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, Halogens, Acids, Bases
Incompatible Conditions:	Protect against electrostatic charges, Air, Water/moisture
Hazardous Decomposition Products:	Metal oxide fume, Nickel oxides, Iron oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	30000 mg/kg for rat by mouth
Carcinogen:	IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

NTP-R: Reasonably anticipated to be a carcinogen, limited evidence of carcinogenicity from epidemiologic studies.

EPA-I: Data are inadequate for an assessment of human carcinogenic potential.

12. Ecological Information

Aquatic Toxicity:	High
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Very toxic for aquatic organism. May cause long lasting harmful effect on aquatic life. Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach any water sources. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Avoid transfer into the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous:	Hazardous as powder only. 
Hazard Class:	4.1 Flammable solids, self-reactive substances and solid desensitized explosives
Packing Group:	II
UN Number:	UN3089
Proper Shipping Name:	Metal powders, flammable, n.o.s. (Nickel zinc iron)

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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