



LTS Research Laboratories, Inc.
Safety Data Sheet
Lithium Nickel Phosphate

1. Product and Company Identification

Trade Name: Lithium nickel phosphate
Chemical Formula: LiNiPO_4
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 Toxic if swallowed
H317 May cause allergic skin reaction
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms if inhaled
H350 May cause cancer
H372 Causes damage to lung, kidneys, and liver through prolonged or repeated inhalative exposure

Precautionary Statements: P260 Do not dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P280: Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338 IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P501 Dispose of contents/container in accordance with local/regional/national/international regulations

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

3. Composition

Chemical Family:	Ceramic
Additional Names:	None
Lithium nickel phosphate (LiNiPO ₄):	
Percentage:	100 wt%
CAS #:	13977-83-8 (unconfirmed)
EC #:	N/A

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
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. 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:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. 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

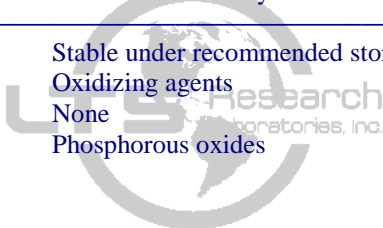
Permissible Exposure Limits:	1 mg/m ³ as Ni, long-term value
Threshold Limit Value:	0.1 mg/m ³ as Ni, soluble compounds, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Grey to green
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Low
Boiling Point:	N/A
Melting Point:	N/A (~600 °C)
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	160.61 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Phosphorous oxides



11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye damage
Skin:	Irritant to skin and mucous membranes; may cause allergic reaction
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	Inorganic phosphorous compounds may cause irritation and hemorrhages in the stomach as well as the liver and kidney damage. Bone structure may be attacked, especially the teeth and jaw. Large amounts of lithium compounds may cause vomiting, diarrhea, ataxia, intestinal irritation, kidney injury, central nervous system depression and drop in blood pressure. Central nervous system effects may include, slurred speech, blurred vision, dizziness, sensory loss, convulsions and stupor. Chronic intake may cause neuromuscular effects such as tremor, ataxia, weakness, clonus and hyperactive reflexes. Lithium can cause kidney damage, gastrointestinal disturbances, fatigue, dehydration, weight loss, dermatological effects and thyroid damage. Lithium ion has shown teratogenic effects in rats and mice. Nickel and nickel compounds may cause a form of dermatitis known as nickel itch. They may also cause intestinal disorders, convulsions and asphyxia. Airborne nickel contaminated dusts are regarded as carcinogenic to the respiratory tract.

Signs & Symptoms:

N/A

Aggravated Medical Conditions:

N/A

Median Lethal Dose:

N/A

Carcinogen:

May cause cancer
IARC-1, ACGIH-A1

12. Ecological Information

Aquatic Toxicity:	Moderate
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	N/A

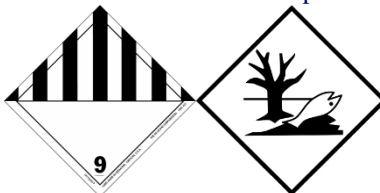
13. Disposal Considerations

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

14. Transportation Data

Hazardous:

Not hazardous for transportation.



Hazard Class:
Packing Group:
UN Number:
Proper Shipping Name:

9 Miscellaneous hazardous substances
III
UN3077
Environmentally hazardous substances, solid, n.o.s. (Lithium Nickel Phosphate)

15. Regulatory Information

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

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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