



1. Product and Company Identification

Trade Name: Nickel Niobium Tantalum Alloy
Chemical Formula: NiNbTa
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:

- H228: Flammable solid
- H317: May cause an allergic skin reaction
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation
- H351: Suspected of causing cancer
- H372: Causes damage to organs through prolonged or repeated exposure
- H412: Harmful to aquatic life with long lasting effects

Precautionary Statements:

- P202: Do not handle until all safety precautions have been read and understood
- P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
- P240: Ground/bond container and receiving equipment
- P241: Use explosion-proof electrical/ventilating/lighting/equipment
- P260: Do not breathe dust/fume/gas/mist/vapors/spray
- P264: Wash face, hands and any exposed 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
- P273: Avoid release to the environment
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P281: Use personal protective equipment as required
- P302+P352: IF ON SKIN: Wash with soap and water

P304+P340+P312: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P308+P313: IF exposed or concerned: Get medical advice/attention
P333+P313: If skin irritation or a rash occurs: Get medical advice/attention
P337+P313: If eye irritation persists get medical advice/attention
P363: Wash contaminated clothing before reuse
P370+P378: In case of fire: Use CO₂, dry sand, dry chemical or foam for extinction
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	2
Flammability:	2
Physical:	0

3. Composition

Chemical Family:	Alloy
Additional Names:	None

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

Niobium (Nb)	
Percentage:	0-100 wt%
CAS #:	7440-03-1
EC #:	231-113-5

Tantalum (Ta)	
Percentage:	100 wt%
CAS #:	7440-25-7
EC #:	231-135-5

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	N/A

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
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Ingestion:	Rinse mouth with water. Do not induce vomiting. Seek medical attention.
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Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
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Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
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5. Firefighting Measures

Flammability:	Flammable as powder
Extinguishing Media:	Do not use water for metal fires. Use alcohol-resistant foam, dry chemical or carbon dioxide.
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 5 mg/m ³ as Ta, long term-value
Threshold Limit Value:	1.5 mg/m ³ as Ni, long term-value
Special Equipment:	None
Respiratory Protection:	Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards.
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:	N/A
Water Solubility:	N/A
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:	Acids, Strong oxidizing agents, Sulphur compounds, Hydrogen gas, Oxygen, Methanol, Organic solvents, Aluminum, Fluorine, Ammonia, Halogens
Incompatible Conditions:	Heat, flames and sparks
Hazardous Decomposition Products:	Nickel/Nickel oxides, Niobium oxides, Tantalum oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye irritation
Skin:	May cause an allergic skin reaction
Ingestion:	May cause irritation
Inhalation:	May cause respiratory irritation
Chronic:	Causes damage to organs through prolonged or repeated exposure
Signs & Symptoms:	Rash, Itching, Swelling, Trouble breathing, tingling of hands and feet, Dizziness, Lightheadedness, Chest pain, Muscle pain or flushing
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	LD50 Oral - Rat - male and female - > 9,000 mg/kg for Ni LD50 Oral - Rat - female - > 2,000 mg/kg for Nb
Carcinogen:	IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals. NTP-R: Reasonably anticipated to be a carcinogen, limited evidence of carcinogenicity from epidemiologic studies.

12. Ecological Information

Aquatic Toxicity:	Harmful with long lasting effects LC50 – Oncorhynchus mykiss – 15.3 ml/g – 96 h for Ni
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	Insoluble in water, may persist
Notes:	N/A

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
Packing Group: II
UN Number: UN3089
Proper Shipping Name: Metal powders, flammable, n.o.s. (Nickel Niobium Titanium Alloy)

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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