



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Nickel (II) selenide

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1. Product and Company Identification

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Trade Name: Nickel (II) selenide  
Chemical Formula: NiSe  
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)

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2. Hazards Identification

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Signal Word: Danger



Hazard Statements: H317: May cause an allergic skin reaction  
H350: May cause cancer by inhalation  
H372: Causes damage to organs through prolonged or repeated exposure

Precautionary Statements: P260: Do not breathe dust/fume/gas/mist/vapors/spray  
P270: Do not eat, drink or smoke when using this product  
P272: Contaminated work clothing should not be allowed out of the workplace  
P281: Use personal protective equipment as required  
P302+P350: IF ON SKIN: Gently wash with plenty of soap and water  
P333+P313: If skin irritation or a rash occurs: Get medical advice/attention  
P363: Wash contaminated clothing before reuse  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):  
Health: 3  
Flammability: 0  
Physical: 0

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### 3. Composition

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Chemical Family: Ceramic  
Additional Names: Nickel selenide

Nickel (II) selenide ( $X_2Z_3$ ):  
Percentage: 0-100 wt%  
CAS #: 1314-05-2  
EC #: 215-216-2

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### 4. First Aid Procedures

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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. 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.

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### 5. Firefighting Measures

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Flammability: Non-flammable, except as powder  
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.

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### 6. Accidental Release Measures

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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.

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### 7. Handling and Storage

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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.

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## 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.2 mg/m <sup>3</sup> as Se, long-term value
Threshold Limit Value:	0.2 mg/m <sup>3</sup> as Se, 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:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## 9. Physical and Chemical Characteristics

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Color	Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	8.46 g/cc
Molecular weight:	137.65 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause allergic skin reaction
Ingestion:	May cause irritation
Inhalation:	May cause cancer by inhalation
Chronic:	Delayed and immediate effects as well as chronic effects from short and long-term exposure
Signs & Symptoms:	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	IARC: Group 1 - Carcinogenic to Humans NTP: Known Carcinogen ACGIH: A1 - Known Human Carcinogen

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## 12. Ecological Information

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Aquatic Toxicity:	Very toxic to aquatic life with long lasting effects
Persistent Bioaccumulation Toxicity:	N/A

Very Persistent, Very Bioaccumulative: N/A  
Notes: Very toxic to aquatic organisms.  
May cause long-term adverse effects in the aquatic environment.

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### 13. Disposal Considerations

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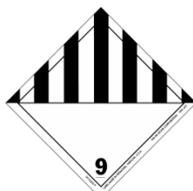
Dispose of in accordance with local, state, national, and international regulations.

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### 14. Transportation Data

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Hazardous: Hazardous for transportation.



Hazard Class: 9 Miscellaneous hazardous materials and articles  
Packing Group: III  
UN Number: UN3077  
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Nickel (II) Selenide)

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### 15. Regulatory Information

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

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### 16. Other Information

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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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