



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Titanium Selenide

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1. Product and Company Identification

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Trade Name: Titanium Selenide  
Chemical Formula:  $TiSe_2$   
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)

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2. Hazards Identification

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Signal Word: Danger



Hazard Statements: H301+ H331: Toxic if swallowed or if inhaled  
H373: May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure.  
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements: P260: Do not breath dust/fume/gas/mist/vapors/spray.  
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P304+P340: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351: If in eyes: Rinse cautiously with water for several minutes.  
P314: Get Medical advice/attention if you feel unwell.  
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:	Chalcogenides, Transition metal compounds
Additional Names: (TiSe <sub>2</sub> ):	Titanium diselenide
Percentage:	100 wt%
CAS #:	12067-45-7
EC #:	235-077-1

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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. Call a poison center/doctor.
Ingestion:	Give one to two glasses of water. Never induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention
Skin:	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.
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. 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:	0.1 mg/m <sup>3</sup> as Se, 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.

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## 9. Physical and Chemical Characteristics

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Color	Dark gray to Red
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:	5.24 g/cc
Molecular weight:	205.79 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Strong acids
Incompatible Conditions:	Strong acids
Hazardous Decomposition Products:	Hydrogen Selenide, Toxic metal oxide fume

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	Toxic if swallowed
Inhalation:	Toxic if inhaled
Chronic:	May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	N/A

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## 12. Ecological Information

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Aquatic Toxicity:	Very toxic for aquatic life
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach ground water or sewage system even in small quantities. Toxic for fish and plankton in water bodies. May cause long lasting harmful effects to aquatic life.

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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: 6.1  
Packing Group: III  
UN Number: UN 3283  
Proper Shipping Name: SELENIUM COMPOUND, SOLID, N.O.S.( Titanium Selenide)

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### 15. Regulatory Information

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Sec 302 Extremely Hazardous: N/A  
Sec 304 Reportable Quantities: N/A  
Sec 313 Toxic Chemicals: N/A

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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.

Document Last Revised: 03/19/2020