



LTS Research Laboratories, Inc.  
Material Safety Data Sheet  
Cadmium Selenide

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1. Product and Company Identification

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Trade Name: Cadmium selenide  
Chemical Formula: CdSe  
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 inhaled  
H312: Harmful in contact with skin  
H350: May cause cancer  
H373: May cause damage to organs through repeated or prolonged exposure  
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P260: Do not breathe dust/fume/gas/mist/vapours/spray  
P264: Wash 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  
P281: Use personal protective equipment as required  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P403+P233: Store in a well ventilated place. Keep container tightly closed  
P405: Store locked up  
P501: Dispose of contents and container in accordance with applicable regulations

HMIS Health Ratings (0-4):

Health: 2  
Flammability: 0  
Physical: 1

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### 3. Composition

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Chemical Family:	Ceramic
Additional Names:	N/A
Cadmium selenide (CdSe):	
Percentage:	100 wt.%
CAS #:	1306-24-7
EC #:	215-148-3

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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.
Ingestion:	Do not induce vomiting. Immediately contact poison center or doctor.
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

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### 5. Fire and Explosion Hazards Data

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Flammability:	Non-flammable
Flash Point:	N/A
Autoignition Temperature:	N/A
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.

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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.
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:	None
Respiratory Protection:	Dust Respirator, NIOSH approved
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	Brown-Red, Black
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	>1350 °C
Density:	5.81 g/cc
Molecular weight:	191.371 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts with:	N/A
Incompatible Conditions/Materials:	Oxidizing agents, acids
Hazardous Decomposition Products:	Toxic metal oxide fume, hydrogen selenide, cadmium oxide, selenium oxide

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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 kidneys, the liver, the reproductive system, the digestive system and the blood tissue through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	>5000 mg/kg for rat by mouth
Carcinogen:	IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity. EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies. Carcinogen as defined by OSHA. ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans. NTP-K: Known to be carcinogenic: sufficient evidence from human studies.

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## 12. Ecological Information

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Aquatic Toxicity: N/A  
Persistent Bioaccumulation Toxicity: N/A  
Very Persistent, Very Bioaccumulative: N/A  
Notes: Very toxic for aquatic organisms, with long-lasting harmful effects.  
Danger to drinking water even in small quantities.  
Avoid exposure to 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: 6.1 Poisonous Material  
Packing Group: III  
UN Number: UN3283  
Proper Shipping Name: Selenium compound, solid, n.o.s (Cadmium 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.

Document Last Revised: 08/08/2019