



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  
H373 May cause damage to organs through repeated or prolonged exposure  
H410 Very toxic to aquatic organisms with long-lasting effects

Precautionary Statements: P261 Avoid breathing dust/fume/vapor  
P273 Avoid releasing to the environment  
P301+P310 If swallowed: immediately call a poison center/doctor  
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:	Immediately contact poison center or doctor. Do not induce vomiting.
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	Red, brown, black
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1268 °C
Density:	5.82 g/cc
Molecular weight:	191.36 g/mol

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## 10. Reactivity

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

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## 11. Toxicological Information

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### Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May be fatal
Inhalation:	May be fatal
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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### Comments:

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.

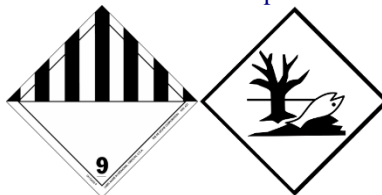
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#### 14. Transportation Data

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Hazardous:

Hazardous for transportation.



Hazard Class:

9 Miscellaneous dangerous substances and articles

Packing Group:

III

UN Number:

UN3077

Proper Shipping Name:

Environmentally hazardous substance, solid, n.o.s. (Cadmium selenide)

Special Markings:

Environmental hazard for ADR and IATA

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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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11/07/2014

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