



LTS Research Laboratories, Inc.
Safety Data Sheet
Cadmium Metal

1. Product and Company Identification

Trade Name: Cadmium
Chemical Formula: Cd
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 2001 Oaks Pkwy
City: Belmont
State: North Carolina
Zip Code: 28012
Country: USA
Tel #: +1 (704) 899 2840

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
H330: Fatal if inhaled
H341: Suspected of causing genetic defects.
H350: May cause cancer
H361: Suspected of damaging fertility or the unborn child
H372: Causes damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P201: Obtain special instructions before use.
P210: Keep away from heat/ sparks/ open flames/ hot surfaces.
P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P281: Use personal protective equipment as required.
P284: Wear respiratory protection.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313: IF exposed or concerned: Get medical advice/ attention.
P310: Immediately call a POISON CENTER or doctor/ physician.
P370 + P378: In case of fire: Use fire-fighting equipment on basis class D for extinction.
P391: Collect spillage
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/ container in accordance with local/ regional/ national/ international regulations.

HMIS Health Ratings (0-4):

	Powder	Granules	Bulk
Health:	3	3	1
Flammability:	3	0	0
Physical:	1	1	0

3. Composition

Chemical Family:	Metal
Additional Names:	None
Cadmium (Cd):	
Percentage:	0-100 wt%
CAS #:	7440-43-9
EC #:	231-152-8

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	Treat symptomatically.
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Remove breathing apparatus only after contaminated clothing has been completely removed. Do not use mouth-to-mouth method if victim ingested or inhaled the substance. Give artificial respiration with aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Seek immediate medical attention.
Ingestion:	Give one to two glasses of water and do not induce vomiting. Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

5. Firefighting Measures

Flammability:	Flammable (in powder form)
Extinguishing Media:	Do not use water for metal fires – use water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Prevent fire extinguishing water from contaminating surface water or the ground water system. 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:	Wear personal protective equipment/ face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed, then seek medical assistance.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Product is air sensitive. 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. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.005 mg/m ³ as Cd, long-term value, Fumes
Threshold Limit Value:	0.01 mg/m ³ as Cd, long-term value 0.02 mg/m ³ as Cd, respirable fraction, long-term value
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. Filter type P3
Protective Gloves:	Nitrile rubber gloves, 0.11 mm thick
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	colorless to pale green as powder, Silvery-white otherwise.
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	765 °C
Melting Point:	321 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	8.65 g/cc at 20 °C
Molecular weight:	112.40 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Air, ammonia, nitrile halides, hexafluorobenzene, hydrazoic acid, ammonium nitrate, zinc, alkali metals, chlorates, strong oxidizing agents, selenium, tellurium.
Incompatible Conditions:	Excess heat and sensitive to air.
Hazardous Decomposition Products:	Cadmium oxide.

11. Toxicological Information

Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	Suspected of damaging the unborn child Suspected of damaging fertility

Signs & Symptoms: Damage to lungs, kidney injury may occur. Prolonged or repeated exposure can cause vomiting, diarrhea, lung irritation. Can cause stomach irregularities.

Aggravated Medical Conditions: N/A

Median Lethal Dose: N/A

Carcinogen: IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.
EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies.
ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by routes of administration, at sites, of histologic types, or by mechanisms considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to confirm increased risk of cancer in exposed humans.
NTP-K: Known to be carcinogenic: sufficient evidence from human studies.
OSHA: OSHA specifically regulated carcinogen.

12. Ecological Information

Aquatic Toxicity:	High
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Very toxic to aquatic organisms. May cause long lasting harmful effect on aquatic life. Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach any water sources. Danger to drinking water if even extremely small quantities leak into the ground.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14. Transportation Data

Hazardous: Hazardous for transportation as powder.



Hazard Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives
Packing Group: II
UN Number: UN3179
Proper Shipping Name: Flammable solid, toxic, inorganic, n.o.s. (Cadmium powder)

Hazardous: Hazardous for transportation as granules



Hazard Class: 6.1 Toxic substances
Packing Group: II
UN Number: UN2570
Proper Shipping Name: Cadmium compounds (Cadmium granules)

15. Regulatory Information

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

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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