

Section 1 Chemical Product and Company Information

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CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product CADMIUM NITRATE, TETRAHYDRATE

Synonyms Nitric Acid, Cadmium Salt, Tetrahydrate

Section 2 Hazards Identification

Signal word: DANGER

Pictograms: GHS06 / GHS08 / GHS09

Target organs: Liver, Kidneys, Lungs

**GHS Classification:**

Acute toxicity, oral (Category 3)
Acute toxicity, inhalation (Category 2)
Mutagenicity (Category 1B)
Carcinogenicity (Category 1B)
Reproductive toxicity (Category 1B)
STOT-RE (Category 1)
Aquatic toxicity acute (Category 1)
Aquatic toxicity chronic (Category 1)

GHS Label information: Hazard statement:

H301: Toxic if swallowed.
H330: Fatal if inhaled.
H340: May cause genetic defects.
H350: May cause cancer.
H360FD: May damage fertility. May damage the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: Wear respiratory protection.
P391: Collect spillage.
P308+P313: IF exposed or concerned: Get medical attention.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P330: Rinse mouth.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER or doctor.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product contains a chemical known to the State of California to cause cancer or reproductive toxicity. (Cadmium and cadmium compounds)

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Cadmium nitrate	10022-68-1	100%	233-710-6 (anhydrous)

Section 4 First Aid Measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: FATAL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use water. Do not use dry chemicals or foams. CO₂ or Halon® may provide limited control.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is a strong oxidizer which releases oxygen on heating. The oxygen will intensify any fire in the immediate surrounding. Contact with easily oxidizable, combustible substance or powdered metals may cause fire or explosion upon ignition from any source. Strong oxidizers may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts or fumes. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Hygroscopic. Keep dry.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Cadmium compounds, as Cd	TWA: 0.01 mg/m ³ (A2)	TWA: 0.005 mg/m ³	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. White crystals	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: No odor	Flammability (solid/gas): Data not available	Auto-ignition temperature: Data not available
Odor threshold: Data not available	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available
pH: Data not available	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available
Melting / Freezing point: 59.5°C (139°F)	Vapor density (Air = 1): Data not available	Molecular formula: Cd(NO ₃) ₂ •4H ₂ O
Boiling point: 132°C (269°F)	Relative density (Specific gravity): 2.455 g/cm ³ @ 17°C	Molecular weight: 308.47
Flash point: Non-flammable	Solubility(ies): 2150 g/L in cold water	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures and other sources of ignition.

Incompatible materials: Reducing agents, phosphorous, copper alloys and organic materials.

Hazardous decomposition products: Cadmium oxides and nitrogen oxides.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 300 mg/kg
Skin corrosion/irritation: Skin-rabbit: 500 mg/24 hour - severe
Serious eye damage/irritation: Eye-rabbit: 20 mg/24 hour - moderate
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
 NTP: Known to be a human carcinogen. [Cadmium compounds]
 IARC classified: Group 1: Carcinogenic to humans. [Cadmium compounds]
 OSHA: Carcinogen defined with no further categorization. [Cadmium compounds]
 Ca Prop 65: This product contains a chemical known to the State of California to cause cancer or reproductive toxicity. (Cadmium and cadmium compounds)
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: Inhalation may cause cough and labored breathing. Symptoms may be delayed.
 Ingestion: Ingestion causes abdominal pain, burning sensation, diarrhea, nausea, vomiting.
 Skin: Contact with skin causes irritation with redness.
 Eyes: Contact with eyes may cause irritation with redness and pain.
Signs and symptoms of exposure: Exposure far above the OEL could cause death. The effects may be delayed. Medical observation is indicated. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: EV1850000

Section 12 Ecological Information

Toxicity to fish: Oncorhynchus mykiss (rainbow trout), EC50 = 50 ug/L/24 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (water flea) EC50 = 120 ug/L/24 hours [intoxication, immobilization]
Toxicity to algae: Chlorella vulgaris (Algae), EC50 = 1400 ug/L/5 days [biochemistry, chlorophyll]
Persistence and degradability: No data available **Bioaccumulative potential:** No data available
Mobility in soil: No data available **PBT and vPvB assessment:** No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations


These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: UN3087 **Shipping name:** Oxidizing solid, toxic, n.o.s., (Cadmium nitrate)
Hazard class: 5.1, (6.1) **Packing group:** II **Reportable Quantity:** Not listed **Marine pollutant:** Yes
Exceptions: Limited quantity equal to or less than 0.5 Kg **2012 ERG Guide #** 141

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Cadmium nitrate	Listed	Not listed	Not listed	Listed	Not listed	C ; D1A ; D2A 

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.