



Material Safety Data Sheet
Cadmium nitrate tetrahydrate

MSDS# 03780

Section 1 - Chemical Product and Company Identification

MSDS Name: Cadmium nitrate tetrahydrate
Catalog Numbers: AC212340000, AC212342500, AC315060000, AC315061000, AC315065000, AC403750000
Numbers: AC403750000, AC403755000, C13-100, C13-500
Synonyms: Cadmium dinitrate tetrahydrate.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

Risk Phrases:

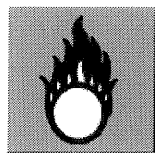
CAS#: 10022-68-1
Chemical Name: Cadmium nitrate tetrahydrate
%: 98+
EINECS#: unlisted

Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols:

T O N



Risk Phrases:

45 20/21/22 50/53 8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Strong oxidizer. Contact with other material may cause a fire. Hygroscopic (absorbs moisture from the air). Causes eye and skin irritation. Harmful if swallowed, inhaled, or absorbed through the skin. Cancer hazard. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Target Organs: Blood, skeletal structures, eyes, skin.

Potential Health Effects

Eye: Causes mild eye irritation.
Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: Harmful if inhaled. May cause respiratory tract irritation.
Chronic: Prolonged or repeated exposure may cause permanent bone structure abnormalities. May cause cancer in humans. Chronic inhalation may cause pulmonary emphysema.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing

Skin: contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Not available
Lower:

Explosion Limits: Not available
Upper:

NFPA Rating: ; instability: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.,) away from spilled material. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Do not store near combustible materials. Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cadmium nitrate tetrahydrate	0.01 mg/m3 TWA (as Cd); 0.002 mg/m3 TWA (respirable fraction, as Cd) (listed under Cadmium compounds).	9 mg/m3 IDLH (dust and fume, as Cd) (listed under Cadmium compounds).	2.5 µg/m3 Action Level (as Cd); 5 µg/m3 TWA (as Cd, Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease. See 29 CFR
Cadmium nitrate anhydrous	0.01 mg/m3 TWA (as Cd); 0.002 mg/m3 TWA (respirable fraction, as Cd) (listed under	9 mg/m3 IDLH (dust and fume, as Cd) (listed under Cadmium compounds).	2.5 µg/m3 Action Level (as Cd); 5 µg/m3 TWA (as Cd, Do not eat, drink or chew tobacco or gum or

	Cadmium compounds).		apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease. See 29 CFR
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OSHA Vacated PELs: Cadmium nitrate tetrahydrate: None listed Cadmium nitrate anhydrous: None listed
Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Color: white

Odor: odorless

pH: 3.9 (50g/L aq. sol.)

Vapor Pressure: Negligible.

Vapor Density: Not available

Evaporation Rate: Negligible.

Viscosity: Not available

Boiling Point: 132 deg C @ 760 mmHg (269.60°F)

Freezing/Melting Point: 59 deg C (138.20°F)

Decomposition Temperature: Not available

Solubility in water: 2150 g/L (20°C)

Specific Gravity/Density: 2.455 @ 17C

Molecular Formula: Cd(NO3)2.4H2O

Molecular Weight: 308.46

Section 10 - Stability and Reactivity

Chemical Stability: Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Incompatible materials, dust generation, combustible materials, exposure to moist air or water.

Incompatibilities with Other Materials: Reducing agents, copper, copper alloys, phosphorus, organic materials.

Hazardous Decomposition Products: Nitrogen oxides.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 10022-68-1: EV1850000

CAS# 10325-94-7: EV1750000

RTECS:

CAS# 10022-68-1: Draize test, rabbit, eye: 20 mg/24H Moderate;

Draize test, rabbit, skin: 500 mg/24H Severe;
Oral, rat: LD50 = 300 mg/kg;
LD50/LC50: .
RTECS:
CAS# 10325-94-7: Oral, mouse: LD50 = 47 mg/kg;
Oral, rat: LD50 = 300 mg/kg;
.

Carcinogenicity: Cadmium nitrate tetrahydrate - California: carcinogen, initial date 10/1/87 (Cadmium compounds). NTP: Known carcinogen (Cadmium compounds). IARC: Group 1 carcinogen (Cadmium compounds).
Cadmium nitrate anhydrous - California: carcinogen, initial date 10/1/87 (Cadmium compounds). NTP: Known carcinogen (Cadmium compounds). IARC: Group 1 carcinogen

Other: See actual entry in RTECS for complete information. The hazards associated with cadmium may be seen in this product.

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: 55ug/L; 48H
Fish: Fathead Minnow: 820ug/L; 48H

Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: NITRATES, INORGANIC, N.O.S.

Hazard Class: 5.1

UN Number: UN1477

Packing Group: II

Canada TDG

Shipping Name: NITRATES, INORGANIC NOS

Hazard Class: 5.1

UN Number: UN1477

Packing Group: II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T O N

Risk Phrases:

R 45 May cause cancer.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

S 17 Keep away from combustible material.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 10022-68-1: Not available

CAS# 10325-94-7: 3

Canada

CAS# 10325-94-7 is listed on Canada's DSL List

Canadian WHMIS Classifications: C, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 10022-68-1 is not listed on Canada's Ingredient Disclosure List.

CAS# 10325-94-7 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 10022-68-1 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form in on the Inventory (40CFR720.3(u)(2)).

CAS# 10325-94-7 is listed on the TSCA Inventory.

REVIEWED

Section 16 - Other Information

MSDS Creation Date: 3/24/1999

Revision #10 Date 7/20/2009

DATE: *June 11/2012*
Chatterford

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
