

MSDS# 03745

Section 1 - Chemical Product and Company Identification

MSDS Name: Cadmium chloride hemipentahydrate

Catalog Numbers: AC197020000, AC197020250, AC197022500, AC423500000, AC423501000, AC423505000

Synonyms: Cadmium dichloride, hydrate (2:5).

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

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Risk Phrases:

CAS#: 7790-78-5  
Chemical Name: Cadmium chloride hemipentahydrate  
%: 100  
EINECS#: unlisted  
Hazard Symbols:

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Text for R-phrases: see Section 16

Hazard Symbols:



Risk Phrases:

T+ N



45 46 60 61 25 26 48/23/25 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Hygroscopic (absorbs moisture from the air). Cancer hazard. May be fatal if inhaled. Toxic if swallowed. Danger of serious damage to health by prolonged exposure through inhalation and if swallowed. May cause harm to the unborn child. May impair fertility. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause heritable genetic damage. Target Organs: Blood, kidneys, liver, respiratory system, skeletal structures, prostate, reproductive system.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Toxic if swallowed.

Inhalation: May be fatal if inhaled. Causes respiratory tract irritation. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema.

Chronic: May cause respiratory tract cancer. May cause liver and kidney damage. Chronic inhalation may cause nasal septum ulceration and perforation. May cause cancer in humans.

Section 4 - First Aid Measures

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower

Eyes: eyelids. Get medical aid.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

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.

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: Not available

Explosion Limits: Not available

Upper: Not available

NFPA Rating: health: 4; flammability: 1; instability: 1;

### 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. Remove all sources of ignition.

### Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Keep under a nitrogen blanket. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cadmium chloride hexahydrate	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 chloride anhydrous	0.01 mg/m3 TWA (as Cd); 0.002 mg/m3 TWA (respirable fraction, as Cd)	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 to

	(listed under		ibacco or gum or
	Cadmium		apply cosmetics
	compounds).		in regulated
			areas.
			Carcinogen -
			dust can cause
			lung and kidney
			disease. See
			29 CFR

OSHA Vacated PELs: Cadmium chloride hemipentahydrate: None listed Cadmium chloride 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 impervious gloves.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

**Respirators:** 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: Not available

Vapor Pressure: 10 mm Hg @ 656 deg C

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 960 deg C @ 760 mmHg ( 1,760.00°F)

Freezing/Melting Point: 568 deg C ( 1,054.40°F)

Decomposition Temperature: Not available

Solubility in water: Freely Soluble

Specific Gravity/Density: 3.33 g/cm<sup>3</sup> @ 25°C

Molecular Formula: CdCl<sub>2</sub>·2.5H<sub>2</sub>O

Molecular Weight: 228.34

#### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

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

**Incompatibilities with Other Materials** Oxidizing agents, active metals, aluminum, bromine trifluoride, zinc, potassium.

**Hazardous Decomposition Products** Cadmium fumes, chloride fumes.

**Hazardous Polymerization** Will not occur.

#### Section 11 - Toxicological Information

**RTECS#:** CAS# 7790-78-5: EV0178000

CAS# 10108-64-2: EV0175000

**RTECS:**

**CAS# 7790-78-5:** Oral, mouse: LD50 = 194 mg/kg;

Oral, rat: LD50 = 665 mg/kg;

LD50/LC50: RTECS:  
CAS# 10108-64-2: Oral, mouse: LD50 = 60 mg/kg;  
Oral, mouse: LD50 = 3.3 mg/kg;  
Oral, rat: LD50 = 88 mg/kg;

Other: Skin, guinea pig: LDLo = 233 mg/kg.; Inhalation, dog: LC90 = 420 mg/m<sup>3</sup>/30M.

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

#### Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: 1.94ppm; 96H

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: CADMIUM COMPOUNDS

Hazard Class: 6.1

UN Number: UN2570

Packing Group: III

Canada TDG

Shipping Name: CADMIUM COMPOUNDS

Hazard Class: 6.1

UN Number: UN2570

Packing Group: I

USA RQ: CAS# 10108-64-2: 10 lb final RQ; 4.54 kg final RQ

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+ N

Risk Phrases:

R 45 May cause cancer.

R 46 May cause heritable genetic damage.

R 61 May cause harm to the unborn child.

R 25 Toxic if swallowed.

R 26 Very toxic by inhalation.

R 48/23/25 Toxic : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

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

R 60 May impair fertility.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

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# 7790-78-5: Not available

CAS# 10108-64-2: Not available

#### Canada

CAS# 10108-64-2 is listed on Canada's DSL List

Canadian WHMIS Classifications: D1A, 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# 7790-78-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 10108-64-2 is listed on Canada's Ingredient Disclosure List

#### US Federal

##### TSCA

CAS# 7790-78-5 is not listed on the TSCA Inventory. It is for research and development use only.

CAS# 10108-64-2 is listed on the TSCA Inventory.

#### Section 16 - Other Information

MSDS Creation Date: 9/02/1997

Revision #9 Date 7/20/2009

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.

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