

SAFETY DATA SHEET

Creation Date 09-Dec-2010

Revision Date 23-Jan-2018

Revision Number 4

1. Identification

Product Name Cadmium chloride hemipentahydrate

Cat No. : AC423500000; AC423500025; AC423501000; AC423505000

CAS-No 7790-78-5
Synonyms No information available

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 2
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 1B
Specific target organ toxicity - (repeated exposure)	Category 1
Target Organs - Kidney, Liver, Blood, skeletal system, Prostate, Reproductive System.	

Label Elements

Signal Word

Danger

Hazard Statements

Toxic if swallowed
Fatal if inhaled
May cause genetic defects
May cause cancer
May damage fertility. May damage the unborn child
Causes damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/protective clothing/eye protection/face protection
 In case of inadequate ventilation wear respiratory protection
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth

Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

Other hazards

hygroscopic. May cause eye, skin, and respiratory tract irritation.

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Cadmium chloride, hydrate (2:5)	7790-78-5	>95
Cadmium chloride	10108-64-2	-

4. First-aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation

Move to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.

Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms and effects	No information available.
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Non-combustible. Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products

Fumes Highly toxic fumes

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
4	1	1	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Avoid dust formation.
Environmental Precautions	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.
Methods for Containment and Clean Up	Avoid dust formation. Wear self-contained breathing apparatus and protective suit. Remove all sources of ignition. Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. Handling and storage

Handling	Use only under a chemical fume hood. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mists. Do not ingest. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Minimize dust generation and accumulation.
Storage	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Keep away from direct sunlight. Keep under nitrogen.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Cadmium chloride, hydrate (2:5)	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³		IDLH: 9 mg/m ³	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³
Cadmium chloride	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³		IDLH: 9 mg/m ³	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment**Eye/face Protection**

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 and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

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.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Solid
Appearance	White
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	34 °C / 93.2 °F
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	10 mmHg @ 656 °C
Vapor Density	Not applicable
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	Cd Cl ₂ · 2.5 H ₂ O
Molecular Weight	228.34

10. Stability and reactivity

Reactive Hazard

None known, based on information available

Stability	Hygroscopic.
Conditions to Avoid	Avoid dust formation. Incompatible products. Exposure to moist air or water.
Incompatible Materials	Metals, Powdered metals
Hazardous Decomposition Products	Fumes, Highly toxic fumes
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cadmium chloride, hydrate (2:5)	LD50 = 665 mg/kg (Rat)	Not listed	Not listed
Cadmium chloride	LD50 = 88 mg/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation May cause eye, skin, and respiratory tract irritation

Sensitization No information available

Carcinogenicity Possible cancer hazard. May cause cancer based on animal data. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Cadmium chloride, hydrate (2:5)	7790-78-5	Not listed	Known	A2	Not listed	Not listed
Cadmium chloride	10108-64-2	Group 1	Known	A2	X	Not listed

Mutagenic Effects Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects No information available.

Teratogenicity Teratogenic effects have occurred in experimental animals.

STOT - single exposure None known

STOT - repeated exposure Kidney Liver Blood skeletal system Prostate Reproductive System

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Cadmium chloride, hydrate (2:5)	Not listed	Not listed	EC50 = 17 mg/L 15 min EC50 = 5.4 mg/L 30 min EC50 = 98 mg/L 5 min	Not listed
Cadmium chloride	3.7 mg/L EC50 = 96 h	0.0409 mg/L LC50 96 h	= 17 mg/L EC50 Photobacterium phosphoreum 15 min as Cd++ = 5.4 mg/L EC50 Photobacterium phosphoreum 30 min as Cd++ = 98 mg/L EC50 Photobacterium phosphoreum 5 min as Cd++	0.012 - 0.054 mg/L EC50 48 h

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Cadmium chloride	5

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2570
 Proper Shipping Name CADMIUM COMPOUND
 Hazard Class 6.1
 Packing Group III

TDG

UN-No UN2570
 Proper Shipping Name CADMIUM COMPOUND
 Hazard Class 6.1
 Packing Group III

IATA

UN-No 2570
 Proper Shipping Name CADMIUM COMPOUND
 Hazard Class 6.1
 Packing Group III

IMDG/IMO

UN-No 2570
 Proper Shipping Name CADMIUM COMPOUND
 Hazard Class 6.1
 Packing Group III

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Cadmium chloride, hydrate	-	-	-	-	-		X	-	X	-	-

(2:5)											
Cadmium chloride	X	X	-	233-296-7	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations**TSCA 12(b)**

Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Cadmium chloride, hydrate (2:5)	7790-78-5	>95	0.1
Cadmium chloride	10108-64-2	-	0.1

SARA 311/312 Hazard Categories See section 2 for more information**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Cadmium chloride, hydrate (2:5)	-	-	X	-
Cadmium chloride	X	10 lb	X	-

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Cadmium chloride, hydrate (2:5)	X		-
Cadmium chloride	X		-

OSHA Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Cadmium chloride, hydrate (2:5)	5 µg/m ³ TWA 2.5 µg/m ³ Action Level	-
Cadmium chloride	5 µg/m ³ TWA 2.5 µg/m ³ Action Level	-

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Cadmium chloride	10 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Cadmium chloride, hydrate (2:5)	7790-78-5	Carcinogen	-	Carcinogen
Cadmium chloride	10108-64-2	Carcinogen	-	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Cadmium chloride, hydrate (2:5)	-	X	X	X	X
Cadmium chloride	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS