

Chemical Safety Data Sheet MSDS / SDS

Cadmium chloride SDS

Revision Date:2024-04-25 Revision Number:1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name: Cadmium chloride
CAS: 10108-64-2

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.
Uses advised against: none

Company Identification

Company: Chemicalbook.in
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090
Telephone: +91 9550333722

SECTION 2: Hazards identification**Classification of the substance or mixture**

Acute toxicity - Category 3, Oral
Acute toxicity - Category 2, Inhalation

Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Specific target organ toxicity - repeated exposure, Category 1
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1
Reproductive toxicity, Category 1B

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

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

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P284 [In case of inadequate ventilation] wear respiratory protection.
P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.
P320 Specific treatment is urgent (see ... on this label).
P318 IF exposed or concerned, get medical advice.
P319 Get medical help if you feel unwell.
P391 Collect spillage.

Storage

P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Cadmium chloride
Common names and synonyms:	Cadmium chloride
CAS number:	10108-64-2
EC number:	233-296-7
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Ingestion causes gastroenteric distress, pain, and prostration. Sensory disturbances, liver injury, and convulsions have been observed in severe intoxications. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

Exptl Therapy: Quinamic acid, bis-(3-carboxy-5-N-dicarboxymethyl-aminomethyl-6,7-dihydroxy-1,2,3,4- tetrahydroisoquinoliny-8)-5,8-dimethyl-6,7-dihydroxyl-1,2,3,4- -tetrahydroisoquinoline-3-carboxylic acid, is a new chelating agent. Quinamic acid iv 500 mg/kg markedly reduced the mortality of acute ip poisoning of zinc sulfate, nickel chloride, cadmium chloride and uranyl nitrate in mice (p < 0.01). ... Within two weeks, treated rats showed less toxic reactions and renal /damage/ than the control rats. The activity of urinary catalase in treated rats was significantly lower than in controls.

SECTION 5: Firefighting measures**Suitable extinguishing media**

If material is involved in a fire: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty).

Specific hazards arising from the chemical

Literature sources indicate that this chemical is nonflammable. (NTP, 1992)

Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Environmental considerations: Land Spill: Dig a pit, pond, lagoon, or holding area to contain liquid or solid material. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner. / Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water.

SECTION 7: Handling and storage

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Store in an area without drain or sewer access. Separated from strong oxidants and food and feedstuffs. Dry. Well closed.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: (respirable fraction): 0.002 mg/m³, as TWA; A2 (suspected human carcinogen); BEI issued.MAK: (as Cd, inhalable fraction): skin absorption (H); carcinogen category: 1; germ cell mutagen group: 3A

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)**Eye/face protection**

Wear safety goggles or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use closed system or ventilation.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state: Cadmium chloride is a white crystalline solid. It is soluble in water. It is noncombustible. The primary hazard of this material is that it poses a threat to the environment. Immediate steps should be taken to limit its spread to the environment. Cadmium chloride is used in photography, in fabric printing, in chemical analysis, and in many other uses.

Colour: Rhombohedral crystals

Odour: Odorless

Melting point/freezing point: 568°C

Boiling point or initial boiling point and boiling range:	967°C
Flammability:	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	no data available
Auto-ignition temperature:	Not flammable (USCG, 1999)
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	greater than or equal to 100 mg/mL at 68° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 0.21
Vapour pressure:	33900mmHg at 25°C
Density and/or relative density:	4.047
Relative vapour density:	6.3 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating. This produces very toxic fumes of cadmium and chlorine. Reacts with strong oxidants. This produces toxic

fumes of chlorine.

Chemical stability

Stable during transport.

Possibility of hazardous reactions

Cadmium chloride/ is non combustible. Bromine trifluoride rapidly attacks cadmium chloride [Mellor 2 Supp. 1:164, 165 1956].

Conditions to avoid

no data available

Incompatible materials

Bromide trifluoride rapidly attacks ... cadmium chloride ...

Hazardous decomposition products

When heated to decomposition it emits very toxic fumes of /cadmium and hydrogen chloride/.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 88 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Evaluation: There is sufficient evidence in humans for the carcinogenicity of cadmium and cadmium compounds. There is sufficient evidence in experimental animals for the carcinogenicity of cadmium compounds. There is limited evidence in experimental animals for the carcinogenicity of cadmium metal. In making the overall evaluation, the Working Group took into consideration the evidence that ionic cadmium causes genotoxic effects in a variety of types of eukaryotic cells, including human cells. Overall evaluation: Cadmium and cadmium compounds are carcinogenic to humans (Group 1).

Reproductive toxicity

no data available

STOT-single exposure

The substance is severely irritating to the eyes, skin and respiratory tract. The substance is severely irritating to the gastrointestinal tract. Inhalation of the aerosol may cause lung oedema. See Notes. Exposure far above the OEL could cause death. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

The substance may have effects on the kidneys and lungs. This may result in kidney impairment and tissue lesions. This substance is carcinogenic to humans.

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: Danio rerio (Zebra danio) blastula; Conditions: freshwater, renewal, 25 deg C, pH 7.2, hardness 200 mg/L CaCO₃, dissolved oxygen 8.3 mg/L; Concentration: 100 ug/L for 12 days (95% confidence interval: 7-150 ug/L)

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water Flea); Conditions: freshwater, renewal, 25 deg C, pH >7; Concentration: 1900 ug/L for 24 hr; Effect: behavior, equilibrium

Toxicity to algae: EC50; Species: Chlorella vulgaris (Green Algae) exponential growth phase; Conditions: freshwater, static, 21 deg C, hardness 25 mg/L CaCO₃; Concentration: 5100 ug/L for 48 hr; Effect: growth, general

Toxicity to microorganisms: no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN3287 (For reference only, please check.)

IMDG: UN3287 (For reference only, please check.)

IATA: UN3287 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: TOXIC LIQUID, INORGANIC, N.O.S. (For reference only, please check.)

IMDG: TOXIC LIQUID, INORGANIC, N.O.S. (For reference only, please check.)

IATA: TOXIC LIQUID, INORGANIC, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any