ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Cadmium chloride

Revision Date:2026-04-25 Revision Number:1

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

Product identifier

Product name	: Cadmium chloride
CBnumber	: CB9687792
CAS	: 10108-64-2
EINECS Number	: 233-296-7
Synonyms	: CdCl2,cadmium chloride

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
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

Precautionary statements

P273 Avoid release to the environment.

P264 Wash skin thouroughly after handling.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P202 Do not handle until all safety precautions have been read and understood.

P201 Obtain special instructions before use.

Hazard statements

H410 Very toxic to aquatic life with long lasting effects

H372 Causes damage to organs through prolonged or repeated exposure

H360 May damage fertility or the unborn child

H350 May cause cancer

H340 May cause genetic defects

H330 Fatal if inhaled

H301 Toxic if swalloed

SECTION 3: Composition/information on ingredients

Substance

Product name	: Cadmium chloride
Synonyms	: CdCl2,cadmium chloride
CAS	: 10108-64-2
EC number	: 233-296-7
MF	: CdCl2
MW	: 183.32

SECTION 4: First aid measures

General advice

First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Protection of first-aiders

For personal protection see section 8.

Notes to physician

No data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting

Not combustible. Ambient fire may liberate hazardous vapours.

Hazardous combustion products

Hydrogen chloride gas Cadmium/cadmium oxides

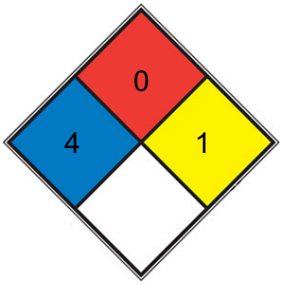
Specific extinguishing methods

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

NFPA 704



■	HEALTH	4	Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, hydrofluoric acid)
■	FIRE	0	Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)
■	REACT	1	Normally stable, but can become unstable at elevated temperatures and pressures (e.g. propene)
□	SPEC. HAZ.		

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precau-

Do not let product enter drains. tions

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7: Handling and storage

Handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Avoidance of contact

Oxidizing agents Bromine trifluoride

Storage

Further information on storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class

6.1B, Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Recommended storage temperature

Recommended storage temperature see product label.

Further information on storage stability

hygroscopic Air sensitive. Store under inert gas.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

TWA 0.01 mg/m3 ACGIH (cadmium)

Biological occupational exposure limits

Engineering measures

No data available

Personal protective equipment

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type

Filter type P3

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

Skin and body protection

protective clothing

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

solid

Color

white

Odor

odourless

Odor Threshold

No data available

pH

No data available

pH

> 3.76 - < 3.8

Method: OECD Test Guideline 105

Melting point/ range

568 °C

Method: lit.

Boiling point/boiling range

960 °C (1,013 hPa)

Flash point

960°C

Evaporation rate

No data available

Flammability (solid, gas)

The product is not flammable.

Flammability (liquids)

No data available

Burning rate

No data available

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

13 hPa (656 °C)

Relative vapor density

6.3 (vs air)

Relative density

1.01 g/mL at 20 °C

Density

4.050 g/cm3

Water solubility

457 g/l soluble (20 °C)

Partition coefficient: n-octanol/water

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Flow time

No data available

Explosive properties

No data available

Oxidizing properties

No data available

Molecular weight

183.32 g/mol

Particle characteristics Particle size

No data available

Solubility

H_2O: soluble

Physical state

beads

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

No data available

Conditions to avoid

Air Avoid moisture. no information available

Incompatible materials

Oxidizing agents Bromine trifluoride

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 107 mg/kg

LC50 Inhalation - Rat - male - 2 h - > 4.5 mg/m3 - aerosol

Dermal: No data available

Skin corrosion/irritation

Classified based on available data. For more details, see section 2

Serious eye damage/eye irritation

Classified based on available data. For more details, see section 2

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

May alter genetic material.

In vivo tests showed mutagenic effects

Test Type: in vitro assay

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Carcinogenicity

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Chronic exposure to cadmi- um may cause lung and prostate cancer.

Possible human carcinogen

Reproductive toxicity

May cause congenital malformation in the fetus.

Presumed human reproductive toxicant

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - 0.2 mg/kg - Lowest observed adverse effect level - 0.5 mg/kg

Acute inhalation exposure to cadmium fumes may cause "metal fume fever" with flu-like symptoms of weakness, fever, headache, chills, nausea, vomiting, dizzi- ness, sweating, muscular pain, cough and difficulty breathing. Acute pulmonary edema may develop within 24 hours and reaches a maximum by three days.The first chronic effect of exposure to cadmium is generally kidney damage, manifested by excretion of excessive protein in the urine, followed by anemia, teeth discolora- tion and loss of smell. Cadmium also is believed to cause pulmonary emphysema and bone disease.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

Ecotoxicity

Components:

Cadmium chloride:

Toxicity to fish

LC50 (Carassius auratus (goldfish)): 0.748 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.036 mg/l End point: mortality Exposure time: 48 h Test Type: static test Analytical monitoring: yes

Toxicity to algae/aquatic plants

ErC50 (Pseudokirchneriella subcapitata (algae)): 0.070 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes Remarks: (referred to the cation)

M-Factor (Acute aquatic toxicity)

10

Toxicity to fish (Chronic toxicity)

NOEC (Jordanella floridae): 0.0081 mg/l Exposure time: 100 d Test Type: Growth inhibition

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

LOEC (Daphnia magna (Water flea)): 0.002 mg/l Exposure time: 21 d Test Type: mortality

M-Factor (Chronic aquatic toxicity)

10

Toxicity to microorgan- isms

NOEC (Sludge Treatment): 0.2 mg/l Test Type: Respiration inhibition Method: OECD Test Guideline 209

Persistence and degradability

Components:

Cadmium chloride:

Biodegradability

Remarks: No data available

Bioaccumulative potential

Components:

Cadmium chloride:

Bioaccumulation

Species: Salvelinus fontinalis Bioconcentration factor (BCF): 882 Exposure time: 266 d Concentration: 3.4 µg/l

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

International Regulations

IATA-DGR

UN/ID No. : UN 2570

Proper shipping name : Cadmium compound (Cadmium chloride)

Class : 6.1

Packing group : II

Labels : Division 6.1 - Toxic substances

Packing instruction (cargo aircraft) : 676

Packing instruction (passenger aircraft) : 669

IMDG-Code

UN number : UN 2570

Proper shipping name : CADMIUM COMPOUND (Cadmium chloride)

Class : 6.1

Packing group : II

Labels : 6.1

EmS Code : F-A, S-A

Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

JT/T 617

UN number : UN 2570

Proper shipping name : CADMIUM COMPOUND (Cadmium chloride)

Class : 6.1

Packing group : II

Labels : 6.1

Environmentally hazardous : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code Chemical name / Category Threshold quantity

J5 Acute toxic 500 t

Hazardous Chemicals for Priority Management

Not listed under SAWS

Catalogue of Specially Controlled Hazardous

Not listed Chemicals

List of Explosive Precursors

Not listed

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals

Listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export

Not listed

Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals

Not listed

Regulations on the Administration of Controlled Chemicals

List of Controlled Chemicals

Not listed

Regulations of Ozone Depleting Substances Management

List of Controlled Ozone Depleting Substances

Not listed

List of Controlled Ozone Depleting Substances Import and Export

Not listed

Environmental Protection Law

List of Priority Controlled Chemicals

Listed

List of Key Controlled New Pollutants

Not listed

SECTION 16: Other information

Full text of other abbreviations

ACGIH

USA. ACGIH Threshold Limit Values (TLV)

ACGIH BEI

ACGIH - Biological Exposure Indices (BEI)

CN BEI

China. Biological Occupational Exposure Indices

GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA

8-hour, time-weighted average

GBZ 2.1-2007 / PC-TWA

Permissible concentration - time weighted average

GBZ 2.1-2007 / PC-STEL AIIC - Australian Invent Transport by Land of Bra bw - Body weight; CMR Standard of the German List (Canada); ECx - Conc associated with x%respo Chemical Substances (Jap response; ERG - Emerge GLP - Good Laboratory P cer; IATA - International Construction and Equipm Half maximal inhibitory c tion; IECSC - Inventory o tional Maritime Dangerou Industrial Safety and H Standardisation; KECI - K tration to 50 %of a test (Median Lethal Dose); MA lution from Ships; MERC of Dangerous Goods; n.o. - No Observed (Adverse) fect Level; NOELR - No Norm; NTP - National Toxi icals; OECD - Organisatio fice of Chemical Safety a and Toxic substance; PIC stances; (Q)SAR - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemica States); UN - United Nat Transport of Dangerous WHMIS - Workplace Hazar

Permissible concentration - short term exposure limit ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonised System

actice

IARC - International Agency for Research on Canir Transport Association

IBC - International Code for the nt of Ships carrying Dangerous Chemicals in Bulk

IC50 ncentration

ICAO - International Civil Aviation Organiza- Existing Chemical Substances in China

IMDG - Interna- Goods

IMO - International Maritime Organisation

ISHL alth Law (Japan)

ISO - International Organisation for rea Existing Chemicals Inventory

LC50 - Lethal Concenopulation

LD50 - Lethal Dose to 50% of a test population POL - International Convention for the Prevention of Pol- SUR - The Agreement for the

Facilitation of the Transport . - Not Otherwise Specified

Nch - Chilean Norm

NO(A)EC ffect Concentration

NO(A)EL - No Observed (Adverse) Efbservable Effect Loading Rate

NOM - Official Mexican ology Program

NZIoC - New Zealand Inventory of Chemfor Economic Co-operation and Development

OPPTS - Ofd Pollution Prevention

PBT - Persistent, Bioaccumulative S - Philippines Inventory of Chemicals and Chemical Subtative) Structure Activity Relationship

REACH - Regulation European Parliament and of the Council concerning the uthorisation and Restriction of Chemicals

SADT - Selfn Temperature

SDS - Safety Data Sheet

TCSI - Taiwan tory

TDG - Transportation of Dangerous Goods

TECI s Inventory

TSCA - Toxic Substances Control Act (United ons

UNRTDG - United Nations Recommendations on the oods

vPvB - Very Persistent and Very Bioaccumulative

ous Materials Information System

of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.