

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Cadmium chloride

### 1.2 Other means of identification

**Product number** -

**Other names** ;Cadmium Chloride;Cadmium chloride

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.

**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688

**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 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

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



|                                   |  |
|-----------------------------------|--|
| <b>Signal word</b>                | Danger   |
| <b>Hazard statement(s)</b>        | H301 Toxic if swallowed<br>H330 Fatal if inhaled<br>H340 May cause genetic defects<br>H350 May cause cancer<br>H372 Causes damage to organs through prolonged or repeated exposure<br>H410 Very toxic to aquatic life with long lasting effects  |
| <b>Precautionary statement(s)</b> |  |
| <b>Prevention</b>                 | P264 Wash ... thoroughly after handling.<br>P270 Do not eat, drink or smoke when using this product.<br>P260 Do not breathe dust/fume/gas/mist/vapours/spray.<br>P271 Use only outdoors or in a well-ventilated area.<br>P284 [In case of inadequate ventilation] wear respiratory protection.<br>P203 Obtain, read and follow all safety instructions before use.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  |
| <b>Response</b>                   | P273 Avoid release to the environment.<br>P301+P316 IF SWALLOWED: Get emergency medical help immediately.<br>P321 Specific treatment (see ... on this label).<br>P330 Rinse mouth.<br>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P316 Get emergency medical help immediately.<br>P320 Specific treatment is urgent (see ... on this label).<br>P318 IF exposed or concerned, get medical advice.<br>P319 Get medical help if you feel unwell.<br>P391 Collect spillage. |
| <b>Storage</b>                    | P405 Store locked up.<br>P403+P233 Store in a well-ventilated place. Keep container tightly closed.  |
| <b>Disposal</b>                   | 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.  |

## 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

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

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## SECTION 4: First-aid measures

### 4.1 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 .

## **4.2 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)

## **4.3 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-dihydroxy-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.

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## **SECTION 5: Fire-fighting measures**

### **5.1 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).

### **5.2 Specific hazards arising from the chemical**

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

### **5.3 Special protective actions for fire-fighters**

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

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## **SECTION 6: Accidental release measures**

### **6.1 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.

### **6.2 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.

### **6.3 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.

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## **SECTION 7: Handling and storage**

### **7.1 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.

### **7.2 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.

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## **SECTION 8: Exposure controls/personal protection**

## 8.1 Control parameters

### Occupational Exposure limit values

TLV: (respirable fraction): 0.002 mg/m<sup>3</sup>, 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

## 8.2 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.

## 8.3 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

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## SECTION 9: Physical and chemical properties and safety characteristics

|   |   |
|---|---|
| <b>Physical state</b>   | 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. |
| <b>Colour</b>   | Rhombohedral crystals   |
| <b>Odour</b>  | Odorless  |
| <b>Melting point/freezing point</b>                             | 568°C   |
| <b>Boiling point or initial boiling point and boiling range</b> | 967°C   |
| <b>Flammability</b>   | Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.  |
| <b>Lower and upper explosion limit/flammability limit</b>       | no data available   |
| <b>Flash point</b>  | no data available   |
| <b>Auto-ignition temperature</b>                                | Not flammable (USCG, 1999)  |
| <b>Decomposition temperature</b>                                | no data available   |
| <b>pH</b>   | no data available   |
| <b>Kinematic viscosity</b>                                      | no data available   |
| <b>Solubility</b>   | greater than or equal to 100 mg/mL at 68° F (NTP, 1992)   |
| <b>Partition coefficient n-octanol/water</b>                    | log Kow = 0.21  |
| <b>Vapour pressure</b>  | 33900mmHg at 25°C   |
| <b>Density and/or relative</b>                                  | 4.047   |

**density**  
**Relative vapour density** 6.3 (vs air)  
**Particle characteristics** no data available

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## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

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

### **10.2 Chemical stability**

Stable during transport.

### **10.3 Possibility of hazardous reactions**

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

### **10.4 Conditions to avoid**

no data available

### **10.5 Incompatible materials**

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

### **10.6 Hazardous decomposition products**

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

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## **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.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: LC50; Species: Danio rerio (Zebra danio) blastula; Conditions: freshwater, renewal, 25 deg C, pH 7.2, hardness 200 mg/L CaCO<sub>3</sub>, 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 CaCO<sub>3</sub>; Concentration: 5100 ug/L for 48 hr; Effect: growth, general
- Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

no data available

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

### **12.5 Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

### **13.1 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.

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## **SECTION 14: Transport information**

### **14.1 UN Number**

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

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

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

## 14.2 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.)

## 14.3 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.)

## 14.4 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.)

## 14.5 Environmental hazards

ADR/RID: Yes  
IMDG: Yes  
IATA: Yes

## 14.6 Special precautions for user

no data available

## 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

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

| Chemical name   | Common names and synonyms | CAS number | EC number |
|---|---------------------------|------------|-----------|
| Cadmium chloride  | Cadmium chloride          | 10108-64-2 | 233-296-7 |
| <b>European Inventory of Existing Commercial Chemical Substances (EINECS)</b>   |                           |            | Listed.   |
| <b>EC Inventory</b>   |                           |            | Listed.   |
| <b>United States Toxic Substances Control Act (TSCA) Inventory</b>              |                           |            | Listed.   |
| <b>China Catalog of Hazardous chemicals 2015</b>                                |                           |            | Listed.   |
| <b>New Zealand Inventory of Chemicals (NZIoC)</b>                               |                           |            | Listed.   |
| <b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>       |                           |            | Listed.   |
| <b>Vietnam National Chemical Inventory</b>                                      |                           |            | Listed.   |
| <b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b> |                           |            | Listed.   |
| <b>Korea Existing Chemicals List (KECL)</b>                                     |                           |            | Listed.   |

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## SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019

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### 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](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.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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