

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 22-Feb-2024  
 Revision Number 4.07

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

|                     |                                     |
|---------------------|-------------------------------------|
| <b>Product Name</b> | Cadmium Chloride 2.5-Hydrate, 99.9% |
| <b>Product Code</b> | 039-12342                           |

**Supplier** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741  
 Fax: +81-6-6203-2029

**Emergency telephone number** +81-6-6203-3741 / +81-3-3270-8571

**Recommended uses** For research use only

**Restrictions on use** Seek expert judgment when using for purposes other than those recommended.

## Section 2: HAZARDS IDENTIFICATION

**GHS classification****Classification of the substance or mixture****Acute toxicity - Oral**

Category 3

**Germ cell mutagenicity**

Category 1B

**Carcinogenicity**

Category 1A

**Reproductive Toxicity**

Category 1B

**Specific target organ toxicity (repeated exposure)**

Category 1

Category 1 kidneys

**Pictograms****Signal word**

Danger

**Hazard statements**

H301 - Toxic if swallowed

H340 - May cause genetic defects

H350 - May cause cancer

H360 - May damage fertility or the unborn child

H372 - Causes damage to the following organs through prolonged or repeated exposure: kidneys

**Precautionary statements-(Prevention)**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product

**Precautionary statements-(Response)**

- IF exposed or concerned: Get medical advice/attention
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Rinse mouth

**Precautionary statements-(Storage)**

- Store locked up

**Precautionary statements-(Disposal)**

- Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Substance

**Formula** CdCl<sub>2</sub>·2.5H<sub>2</sub>O

| Chemical Name                   | Weight-%                          | Molecular weight | ENCS  | ISHL No. | CAS RN    |
|---------------------------------|-----------------------------------|------------------|-------|----------|-----------|
| Cadmium Chloride<br>2.5-Hydrate | 99.9<br>( subtracting<br>method ) | 228.36           | 1-199 | *        | 7790-78-5 |

**Note on ISHL No.:** \* in the table means announced chemical substances.

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

### Section 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

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Special extinguishing method**

No information available

**Special protective actions for fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin,

or inhaling the gas. Work from windward, and retract the people downwind.

#### Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

#### Methods and materials for contaminant and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect it in an empty airtight container.

#### Recovery, neutralization

No information available

#### Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

### Handling

#### Technical measures

Avoids contact with acids. Use with local exhaust ventilation.

#### Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

#### Safety handling precautions

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

### Storage

#### Safe storage conditions

##### Storage conditions

Store away from sunlight in well-ventilated place at room temperature (preferably cool).  
Keep container tightly closed. Store locked up.

##### Safe packaging material

Glass

#### Incompatible substances

Strong acids

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

### Exposure limits

| Chemical Name                             | JSOH (Japan)  | ISHL (Japan)                     | ACGIH  |
|---|---|----------------------------------|--|
| Cadmium Chloride 2.5-Hydrate<br>7790-78-5 | TWA: 0.05 mg/m <sup>3</sup> OEL<br>ISHL/ACL: 0.05 mg/m <sup>3</sup> | ISHL/ACL: 0.05 mg/m <sup>3</sup> | TWA: 0.01 mg/m <sup>3</sup> Cd<br>TWA: 0.002 mg/m <sup>3</sup> Cd<br>respirable particulate matter |

### Personal protective equipment

#### Respiratory protection

Dust mask ( JIS T 8151 )

#### Hand protection

chemical protective gloves ( JIS T 8116 )

#### Eye protection

protective eyeglasses or chemical safety goggles (JIS T 8147)

#### Skin and body protection

Long-sleeved work clothes

### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

If this product is classified as "Chemical Substances Hazardous to Skin, etc.", use appropriate protective equipment to them.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Form

#### Color

white

|   |  |
|---|--|
| <b>Appearance</b>   | crystals   |
| <b>Odor</b>   | no data available                                    |
| <b>Melting point/freezing point</b>                           | 568 °C   |
| <b>Boiling point, initial boiling point and boiling range</b> | 967 °C   |
| <b>Flammability</b>   | no data available                                    |
| <b>Evaporation rate:</b>                                      | no data available                                    |
| <b>Flammability (solid, gas):</b>                             | no data available                                    |
| <b>Upper/lower flammability or explosive limits</b>           |  |
| <b>Upper:</b>   | no data available                                    |
| <b>Lower:</b>   | no data available                                    |
| <b>Flash point</b>  | no data available                                    |
| <b>Auto-ignition temperature:</b>                             | no data available                                    |
| <b>Decomposition temperature:</b>                             | no data available                                    |
| <b>pH</b>   | 4.0 - 7.0 ( 50g/L, 25°C )                            |
| <b>Viscosity (coefficient of viscosity)</b>                   | no data available                                    |
| <b>Dynamic viscosity</b>                                      | no data available                                    |
| <b>Solubilities</b>   | water : free soluble . Ethanol : sparingly soluble . |
| <b>n-Octanol/water partition coefficient:(log Pow)</b>        | no data available                                    |
| <b>Vapour pressure</b>  | no data available                                    |
| <b>Specific Gravity / Relative density</b>                    | 4.047  |
| <b>Vapour density</b>   | no data available                                    |
| <b>Particle characteristics</b>                               | no data available                                    |

## Section 10: STABILITY AND REACTIVITY

### Stability

|   |   |
|---|---|
| <b>Reactivity</b>                       | no data available                                     |
| <b>Chemical stability</b>               | Stable under recommended storage conditions.          |
| <b>Hazardous reactions</b>              | None under normal processing                          |
| <b>Conditions to avoid</b>              | Extremes of temperature and direct sunlight, Moisture |
| <b>Incompatible materials</b>           | Strong acids  |
| <b>Hazardous decomposition products</b> | Halides, Metal oxides                                 |

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

| Chemical Name                | Oral LD50         | Dermal LD50 | Inhalation LC50 |
|------------------------------|-------------------|-------------|-----------------|
| Cadmium Chloride 2.5-Hydrate | 194 mg/kg (Mouse) | N/A         | N/A             |

| Chemical Name                | Acute toxicity -oral- source information      | Acute toxicity -dermal- source information    | Acute toxicity -inhalation gas-source information |
|------------------------------|---|---|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. | Based on the NITE GHS classification results. | Based on the NITE GHS classification results.     |

| Chemical Name                | Acute toxicity -inhalation vapor- source information | Acute toxicity -inhalation dust-source information | Acute toxicity -inhalation mist-source information |
|------------------------------|--|--|--|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results.        | Based on the NITE GHS classification results.      | Based on the NITE GHS classification results.      |

### Skin irritation/corrosion

| Chemical Name                | Skin corrosion/irritation source information  |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

### Serious eye damage/ irritation

| Chemical Name | Serious eye damage/irritation source information |
|---------------|--|
|---------------|--|

|                              |   |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |
|------------------------------|---|

**Respiratory or skin sensitization**

| Chemical Name                | Respiratory or Skin sensitization source information |
|------------------------------|--|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results.        |

**Reproductive cell mutagenicity**

| Chemical Name                | germ cell mutagenicity source information     |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

**Carcinogenicity**

| Chemical Name                | Carcinogenicity source information            |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

| Chemical Name                             | NTP   | IARC    | ACGIH | JSOH (Japan) |
|---|-------|---------|-------|--------------|
| Cadmium Chloride 2.5-Hydrate<br>7790-78-5 | Known | Group 1 | A2    | Group 1      |

**Reproductive toxicity**

| Chemical Name                | Reproductive toxicity source information      |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

**STOT-single exposure**

| Chemical Name                | STOT -single exposure- source information     |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

**STOT-repeated exposure**

| Chemical Name                | STOT -repeated exposure- source information   |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

**Aspiration hazard**

| Chemical Name                | Aspiration Hazard source information          |
|------------------------------|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results. |

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity** No information available

**Other data**

| Chemical Name                | Short-term (acute) hazardous to the aquatic environment source information | Long-term (chronic) hazardous to the aquatic environment source information |
|------------------------------|--|---|
| Cadmium Chloride 2.5-Hydrate | Based on the NITE GHS classification results.                              | Based on the NITE GHS classification results.                               |

**Persistence and degradability** No information available

**Bioaccumulative potential** No information available

**Mobility in soil** No information available

**Hazard to the ozone layer** No information available

## Section 13: DISPOSAL CONSIDERATIONS

**Waste from residues**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated container and contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

**ADR/RID**

**UN number** UN2570  
**Proper shipping name:** Cadmium compound  
**UN classification** 6.1

Subsidiary hazard class  
 Packing group III  
 Marine pollutant Not applicable

**IMDG**

UN number UN2570  
 Proper shipping name: Cadmium compound  
 UN classification 6.1  
 Subsidiary hazard class  
 Packing group III  
 Marine pollutant (Sea) Not applicable  
 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

**IATA**

UN number UN2570  
 Proper shipping name: Cadmium compound  
 UN classification 6.1  
 Subsidiary hazard class  
 Packing group III  
 Environmentally Hazardous Substance Not applicable

## Section 15: REGULATORY INFORMATION

**Japanese regulations**

**Fire Service Act** Not applicable  
**Poisonous and Deleterious Substances Control Law** Deleterious Substances 3rd. Grade  
**Industrial Safety and Health Act** Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)  
 Notifiable Substances (Law Art.57-2)  
 Group 2 Specified Chemical Substance  
 Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)  
 Substances designated by the Minister of Health, Labor and Welfare as carcinogenic(Ordinance on Industrial Safety and Health Art.577, Para.2)  
**Industrial Safety and Health Act (2024-)** 【2024.4.1~】 Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)  
**Regulations for the carriage and storage of dangerous goods in ship** Toxic Substances - Poison (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)  
**Civil Aeronautics Law** Toxic and Infectious Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)  
**Marine Pollution Prevention Law** Marine pollutants (P and PP substances)  
**Pollutant Release and Transfer Register Law (2023.4.1-)** Specified Class 1 No.  
**Specified Class 1-No.** 75  
**Water Pollution Control Act** Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)  
**Export Trade Control Order** Not applicable  
**Soil Contamination Control Law** Designated Hazardous Substances

| Chemical Name  | Poisonous and Deleterious Substances Control Law | Industrial Safety and Health Act Substances (Law Art.57-2) | Pollutant Release and Transfer Register Law (2023.4.1-) |
|--|--|--|---|
| Cadmium Chloride 2.5-Hydrate<br>7790-78-5 ( 99.9<br>( subtracting method ) ) | Applicable                                       | Applicable   | Applicable  |

**Section 16: OTHER INFORMATION****Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
IATA dangerous Goods Regulations  
RTECS:Registry of Toxic Effects of Chemical Substances  
Japan Industrial Safety and Health Association GHS Model SDS  
Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
etc

**Record of SDS revisions**

The following contents were revised. Regulatory information.

**Disclaimer**

This SDS is according to JIS Z 7253: 2019. 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, 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.

GHS Classification is according to JIS Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**