

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Cadmium, standard solution 1000mg/L

Product code(SDS NO): 23225jis_J_E1-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-Cho, Koshigaya, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity Inhalation: Category 4

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Respiratory sensitization: Category 1

Germ cell mutagenicity: Category 1B

Carcinogenicity: Category 1A

Specific target organ toxicity – single exposure: Category 2(respiratory system)

Specific target organ toxicity – repeated exposure: Category 2(tooth, respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment – acute hazard: Category 2

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

Harmful if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause genetic defects

May cause cancer

May cause damage to organs after single exposure

May cause damage to organs through prolonged or repeated exposure

Toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention

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

Avoid release to the environment.

Do not breathe dust/mist.

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In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

Do not eat, drink or smoke when using this product.

Response

Get medical advice/attention if you feel unwell.

Immediately call a POISON CENTER or doctor/physician.

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Cadmium chloride

Content(%):ca. 0.2

Chemical formula:CdCl₂

Chemicals No, Japan:1-199

CAS No.:10108-64-2

MW:183.32

ECNO:233-296-7

Ingredient name:Hydrogen chloride

Content(%):ca. 3.0

Chemical formula:ClH

Chemicals No, Japan:1-215

CAS No.:7647-01-0

MW:36.46

ECNO:231-595-7

Ingredient name:Water

Content(%):Residual quantity of the ingredient mentioned above.

Chemical formula:H₂O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

General measures

- Get medical attention/advice if you feel unwell.
- Immediately call a POISON CENTER or doctor/physician.

IF INHALED

- Remove person to fresh air and keep comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

- Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash with plenty of soap and water.
- If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

- Rinse mouth. Do NOT induce vomiting.
 - Call a POISON CENTER or doctor/physician if you feel unwell.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

- Use appropriate extinguishing media suitable for surrounding facilities.
- The product is non-flammable.

Specific hazards arising from the substance or mixture

- Containers may explode when heated.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Specific fire-fighting measures

- Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

- Wear fire/ flame resistant/retardant clothing.
 - Wear protective gloves/protective clothing/eye protection/face protection.
 - Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.
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6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

- Keep unauthorized personnel away.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ventilate area after material pick up is complete.
- Wear proper protective equipment.

Environmental precautions

- Avoid release to the rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

- Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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Preventive measures for secondary accident

- Collect spillage.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/mist.

(Protective measures against fire & explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Avoid breathing dust or mist.

Safety Measures/Incompatibility

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 or face protection.

Wear protective gloves.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

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

Keep cool. Protect from sunlight.

Store locked up.

8. Exposure controls/personal protection

Control parameters

Control value

(Cadmium chloride)

Japan control value (1995) $\leq 0.05\text{mg-Cd/m}^3$

Adopted value

(Cadmium chloride)

JSOH(1976) 0.05mg-Cd/m^3

ACGIH(1990) TWA: 0.01mg-Cd/m^3 ; 0.002mg-Cd/m^3 (R) (Kidney dam)

(Hydrogen chloride)

JSOH(2014) (ceiling limit) 2ppm; 3.0mg/m^3

ACGIH(2000) STEL: C 2ppm (URT irr)

OSHA-PEL

(Hydrogen chloride)

C 5ppm, 7mg/m^3

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

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Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear eye/face protection.

Safety and Health measures

Wash ... thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Liquid

Color: Colorless

Odor data N.A.

pH: pH \leq 2(Strong acidic)

Phase change temperature

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point data N.A.

Decomposition temperature data N.A.

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Specific gravity/Density data N.A.

Solubility

Solubility in water: Miscible

n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Chemical stability

Stable under normal storage/handling conditions.

Conditions to avoid

Contact with incompatible materials.

Heat.

Hazardous decomposition products

Cadmium oxides, Chlorides.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Cadmium chloride) rat LD50 =107~327 mg/kg (Patty 5th, 2001)

(Hydrogen chloride) rat LD50 =238 mg/kg (SIDS, 2009)

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Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Hydrogen chloride) mist : rat LC50=0.42 mg/L/4hr (SIDS, 2009)

Labor standard law, Japan; Toxic

Hydrogen chloride; Cadmium chloride

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Hydrogen chloride) rabbit/mouse/rat/human : corrosive (SIDS, 2009)

Serious eye damage /irritation

[GHS Cat. Japan, base data]

(Hydrogen chloride) rabbit : corrosive (SIDS, 2002)

Sensitization

Respiratory sensitization

[GHS Cat. Japan, base data]

(Hydrogen chloride) cat.1; Occupational/Environmental Allergy Society, Japan

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Cadmium chloride) cat.1B; invivo : IARC 58, 1993

Carcinogenicity

[GHS Cat. Japan, base data]

(Cadmium chloride)

cat.1A; IARC (58, 1993) Cd compounds Gr. 1 et al

IARC-Gr.1 : Carcinogenic to humans

ACGIH-A2(1990) : Suspected Human Carcinogen

JSOH-1: Classifiable as to Human Carcinogenicity

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

NTP-Known To Be Human Carcinogen

(Hydrogen chloride)

IARC-Gr.3 : Not Classifiable as a Human Carcinogen

ACGIH-A4(2000) : Not Classifiable as a Human Carcinogen

Reproductive toxicity

[GHS Cat. Japan, base data]

(Cadmium chloride) cat.2; rat : IARC 58, 1993

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT-single exposure

[cat.1]

[Japan published data]

(Hydrogen chloride) respiratory apparatus/system (ACGIH, 2003)

STOT-repeated exposure

[cat.1]

[Japan published data]

(Hydrogen chloride) teeth; respiratory apparatus/system (SIDS, 2002)

No Aspiration hazard data available

Additional data

There are no data available on the preparation itself.

12. Ecological Information

Toxicity

Aquatic toxicity

Toxic to aquatic life

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Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Cadmium chloride) Crustacea (Mysida) LC50=0.00138mg/L/96hr (ECETOCTR91, 2003)

(Hydrogen chloride) Crustacea (Daphnia magna) EC50=0.492mg/L/48hr (SIDS, 2005)

Water solubility

(Cadmium chloride) good (ICSC, 2005)

(Hydrogen chloride) 67 g/100 ml (30°C) (ICSC, 2000)

No Persistence and degradability data available

Bioaccumulative potential

(Hydrogen chloride) log Pow=0.25 (ICSC, 2000)

Additional information

There are no data available on the preparation itself.

13. Disposal considerations

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No, UN CLASS

UN number: 3264

UN proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Transport hazard class(es): 8

Packing group: III

ERG GUIDE NO.: 154

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Z···Hydrogen chloride

Non Noxious Liquid ; Cat. OS···Water

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US major regulations

TSCA

Hydrogen chloride; Water; Cadmium chloride

Other regulatory information

We are not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Acute Tox. 4: H332 Harmful if inhaled

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

Muta. 1B: H340 May cause genetic defects

Carc. 1A: H350 May cause cancer

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STOT SE 2: H371 May cause damage to organs after single exposure

STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

Aquatic Acute 2: H401 Toxic to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2012 EMERGENCY RESPONSE GUIDEBOOK(US DOT)

2017 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

Chemical Risk Information Platform (CHRIP)(NITE) <http://www.safe.nite.go.jp/japan/db.html>

GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013,METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2015).