

Safety Data Sheet

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

Product identifier:

Product name: Hydrazinium dichloride

Product code(SDS NO): 19120jis_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

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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 Oral: Category 3

Acute toxicity Dermal: Category 2

Skin corrosion/irritation: Category 1A

Serious eye damage/eye irritation: Category 1

Skin sensitization: Category 1

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 2

Reproductive toxicity: Category 2

Specific target organ toxicity – single exposure: Category 1 (nervous system, liver)

Specific target organ toxicity – single exposure: Narcosis Category 3

Specific target organ toxicity – repeated exposure: Category 1 (liver, respiratory system, kidney, adrenal gland)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment – acute hazard: Category 1

Hazardous to the aquatic environment – long-term hazard: Category 1

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

Label elements



Signal word: Danger

HAZARD STATEMENT

Toxic if swallowed

Fatal in contact with skin

Causes severe skin burns and eye damage

Causes serious eye damage

May cause an allergic skin reaction

Suspected of causing genetic defects

Suspected of causing cancer

Suspected of damaging fertility or the unborn child

Causes damage to organs after single exposure
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Do not breathe dust/fume /mist.
Use only outdoors or in a well-ventilated area.
Do not get in eyes, on skin, or on clothing.
Wash contaminated parts thoroughly after handling.
Wear protective gloves.
Contaminated work clothing should not be allowed out of the workplace.
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

Collect spillage.
Get medical advice/attention 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 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 or rash occurs: Get medical advice/attention.
Take off immediately all 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: Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

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

Disposal

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

3. Composition/information on ingredients

Substance/Mixture:

Substance

Common name, synonyms: Hydrazine hydrochloride

Ingredient name: Hydrazinium dichloride

Content(%): 95.0 <

Chemical formula: $\text{H}_4\text{N}_2 \cdot 2\text{HCl}$

Chemicals No, Japan: 1-374

CAS No.: 5341-61-7 [302-01-2(free)]

MW: 104.97

ECNO: 226-283-2 [206-114-9(free)]

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.
- 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.
- Immediately call a POISON CENTER or doctor/physician.
- Call a POISON CENTER or doctor/physician if you feel unwell.

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.

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, groundwater.

Methods and materials for containment and cleaning up

- Sweep up, place in a bag and hold for waste disposal.

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/fume/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.

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

No control value data available

Adopted value

No Adopted value data available

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

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 safety glasses with side-shields or chemical safety goggle.

Wear eye/face protection.

Safety and Health measures

Do not get in eyes, on skin, or on clothing.

Wash ... thoroughly after handling.

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

Contaminated work clothing should not be allowed out of the workplace.

Take off immediately all contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Solid~Crystalline powder

Color: White

Odor data N.A.

pH: 0.5 (50g/L, 20°C)

Phase change temperature

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point: 198°C

Decomposition temperature: ca. 198°C

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: 1.42g/cm³(20°C)

Solubility

Solubility in water: 2700g/liter(20°C)

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

10. Stability and Reactivity

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

May form an explosive mixture with air on heating.

Conditions to avoid

Contact with incompatible materials.

Heat.

Incompatible materials

Bases, Oxidizing agents

Hazardous decomposition products

Nitrogen oxides, Hydrogen chloride.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Hydrazine) rat LD₅₀=60 mg/kg (DFGOT vol.1, 1989)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Hydrazine) rat LD₅₀ = 91 mg/kg (IUCLID, 2000)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Hydrazine) vapor : rat LC₅₀=570 ppm/4hr (DFGOT vol.1, 1989)

Labor standard law, Japan; Toxic

Hydrazinium dichloride

Irritant properties

Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Hydrazine) rabbit skin irritation tests: fatal irritating reaction

Serious eye damage /irritation
[GHS Cat. Japan, base data]
(Hydrazine) rabbit eye irritation tests: severe irritating

Sensitization
Skin sensitization
[GHS Cat. Japan, base data]
(Hydrazine) cat.1; JSOH report, 2004

Germ cell mutagenicity
[GHS Cat. Japan, base data]
(Hydrazine) cat.2; CERI/NITE hazard assessment No.73, 2004
[MOHL_J Notice]
(Hydrazine)
Reverse-mutation assay in bacteria (Ames test) :Positive
(MHLW_Japan; Mutagenicity Test Results for Chemical Substance)
Chromosome aberration test :Positive (MHLW_Japan; Mutagenicity Test Results for Chemical Substance)

Carcinogenicity
[GHS Cat. Japan, base data]
(Hydrazine)
IARC-Gr.2A : Probably carcinogenic to humans
ACGIH-A3(1988) : Confirmed Animal Carcinogen with Unknown Relevance to Humans
JSOH-2B: Insufficient Evidence of Carcinogenicity for Humans
EPA-Group B2; Probable Human Carcinogen(1986)
NTP-Reasonably Anticipated To Be Human Carcinogen

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

Reproductive toxicity
[GHS Cat. Japan, base data]
(Hydrazine) cat.2; CERI/NITE hazard assessment No.73, 2004

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

STOT

STOT-single exposure
[cat.1]
[Japan published data]
(Hydrazine) nerve/nervous system; liver (CERI/NITE hazard assessment No.73, 2003)
[cat.3(drow./dizz.)]
[Japan published data]
(Hydrazine) Narcosis (EHC 68, 1987)

STOT-repeated exposure
[cat.1]
[Japan published data]
(Hydrazine)
liver; respiratory apparatus/system; kidney; adrenal (CERI/NITE hazard assessment No.73, 2003)

No Aspiration hazard data available

12. Ecological Information

Toxicity

Aquatic toxicity

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Hydrazine)

Crustacea (Daphnia magna) EC50=0.16mg/L/48hr (MOE_Japan Risk Assessment vol. 1, 2002)

Water solubility

(Hydrazine) very good (ICSC, 2009)

Persistence and degradability

(Hydrazine) BOD_Degradation : 2% (Registered chemicals data check & review, Japan)

Bioaccumulative potential

(Hydrazine) log Pow=-2.07 (PHYSPROP Database, 2005)

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: 3288

UN proper shipping name: TOXIC SOLID, INORGANIC, N.O.S.

Transport hazard class(es): 6.1

Packing group: II

ERG GUIDE NO.: 151

15. Regulatory Information

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

US major regulations

TSCA

Hydrazinium dichloride

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. 3: H301 Toxic if swallowed

Acute Tox. 2: H310 Fatal in contact with skin

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

Eye Dam. 1: H318 Causes serious eye damage

Skin Sens. 1: H317 May cause an allergic skin reaction

Muta. 2: H341 Suspected of causing genetic defects

Carc. 2: H351 Suspected of causing cancer

Repr. 2: H361 Suspected of damaging fertility or the unborn child

STOT SE 1: H370 Causes damage to organs after single exposure

STOT SE 3: H336 May cause drowsiness or dizziness

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Hydrazinium dichloride, JUNSEI CHEMICAL CO., LTD., 19120jis_J_E1-1, 20/04/2017

Aquatic Acute 1: H400 Very toxic to aquatic life

Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

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 (table 3-1 ECNO 6182012)

2012 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2016 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 is advised to make their own tests to determine 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).

But the data are partially changed based on our judgement.