

Safety Data Sheet

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

Product identifier:

Product name: 1,4-Dichlorobenzene

Reference number(SDS):34335jis_J_E1-2

Product type:

Reagent

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the product: Research and Development

Uses advised against: Do not use for other purposes.

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

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

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Serious eye damage/eye irritation: Category 2

Skin sensitization: Category 1

Carcinogenicity: Category 2

Reproductive toxicity: Category 2

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

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

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

Specific target organ toxicity – repeated exposure: Category 2 (respiratory organs, kidney)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 1

Hazardous to the aquatic environment, long-term (chronic): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H319-Causes serious eye irritation

H317-May cause an allergic skin reaction

H351–Suspected of causing cancer

H361–Suspected of damaging fertility or the unborn child

H370–Causes damage to organs

H335–May cause respiratory irritation

H372–Causes damage to organs through prolonged or repeated exposure

H373–May cause damage to organs through prolonged or repeated exposure

H400–Very toxic to aquatic life

H410–Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

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

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

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

Wear protective gloves/protective clothing/eye protection/face protection.

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

Response

In case of fire: Use water mist, foam, dry powder, CO2 to extinguish.

Collect spillage.

Specific treatment is required.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF exposed or concerned: Call a POISON CENTER/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 skin irritation or rash 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 eye irritation persists: Get medical advice/attention.

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.

Section 3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Ingredient name:1,4-Dichlorobenzene

Content (%):99.0 <

Chemical formula:C₆H₄Cl₂

ENCS:3-41

CAS No.:106-46-7

MW:147.00

EC No.:203-400-5

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

Section 4. First-aid measures**Descriptions of first-aid measures****General measures**

Get medical advice/attention if you feel unwell.

Call emergency medical service.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Remove and isolate contaminated clothing and shoes.

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.

If victim is conscious, give 1 – 2 glasses of water.

IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Cough. Sore throat. Drowsiness. Headache. Nausea. Shortness of breath. Vomiting. Diarrhoea.

(Symptoms when skin and/or eye contact)

Redness of the eyes. Pain of the eyes.

Indication of any immediate medical attention and special treatment needed

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Section 5. Fire-fighting measures**Extinguishing media**

Suitable extinguishing media

In case of fire, use water mist, foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

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.

Cool container with water spray.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 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 until material pick up is complete.

Wear proper protective equipment.

Do not touch or walk through spilled material.

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Sweep spilled substance into covered containers.

If appropriate, moisten first to prevent dusting.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

Prevent dust cloud.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

- Obtain special instructions before use.
- 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/eye protection/face protection.
- Use personal protective equipment as required.
- When using do not eat, drink or smoke.

Any incompatibilities

- Strong oxidizing agents should not be mixed with the chemicals.

Advice on general occupational hygiene

- Wash contaminated parts 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 contaminated clothing and wash it before reuse.

Storage**Conditions for safe storage**

- Store in a well-ventilated place. Keep container tightly closed.
- Keep cool. Protect from sunlight.
- Store in accordance with local/national regulation.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

- See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

Section 8. Exposure controls/personal protection**Control parameters**

Control value and Concentration standard value under ISHA

Concentration standard value TWA: 10ppm

Occupational Exposure Limit

JSOH

10ppm; 60mg/m³

ACGIH

TWA: 10ppm (Eye irr; kidney dam)

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**

- Select and wear respiratory protection in accordance with approved standards (e.g. JIS T8150).
- Recommended respiratory protection: Self-Contained Breathing Apparatus (SCBA)

Hand protection

- Wear protective gloves. Recommended material(s): viton

Inspect before use and replace worn or damaged gloves.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection in accordance with approved standards (e.g. JIS T8147).

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals or crystalline powder

Color: Colorless ~ White

Odor: Characteristic odor

Odor threshold data is not available.

Melting point/Freezing point: 53~55°C

Boiling point or initial boiling point: 174°C

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 1.7 vol %

Upper explosion limit: 5.9 vol %

Flash point: 66°C(C.C.)

Auto-ignition temperature: 640°C

Decomposition temperature: > 480°C

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH data is not available.

Dynamic viscosity: 0.73mPa·s(70°C)

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 49 mg/L (20°C)

Solubility in solvent data is not available.

n-Octanol/water partition coefficient: log Pow3.37

Vapor pressure: 170 Pa (20°C)

Vapor density data is not available.

Density and/or relative density: 1.2g/cm³

Relative vapor density (Air=1): 5.08

Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1.01

Particle characteristics data is not available.

Other information

Critical temperature data is not available.

Evaporation rate data is not available.

VOC data is not available.

Section 10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

May form explosive dust-air mixtures.

On combustion, forms toxic and corrosive fumes.

Upon heating, toxic fumes are formed.

Reacts with strong oxidants. This generates fire and explosion hazard.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heating.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Carbon oxides. Hydrogen chloride. Phosgene. Chlorides.

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[NITE-CHRIIP]

rat LD50: 2515 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[NITE-CHRIIP]

rabbit LD50: > 5010 mg/kg (source: NITE)

Acute toxicity (Inhalation)

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[NITE-CHRIIP]

dust: rat LC50: > 5.07 mg/L (4-hour) (source: NITE)

Irritant properties

Skin corrosion/irritation

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Serious eye damage/irritation

[Product]

Category 2, Causes serious eye irritation

[Data for components of the product]

[NITE-CHRIP]

Category 2 (source: NITE)

Sensitization

Respiratory sensitization

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Skin sensitization

[Product]

Category 1, May cause an allergic skin reaction

[Data for components of the product]

[NITE-CHRIP]

Category 1 (source: NITE)

Germ cell mutagenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Carcinogenicity

[Product]

Category 2, Suspected of causing cancer

[Data for components of the product]

[NITE-CHRIP]

Category 2 (source: NITE)

[IARC]

Group 2B : Possibly carcinogenic to humans

[ACGIH]

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans

[JSOH]

Group 2B: The agents which are probably or possibly carcinogenic to humans

[NTP]

RAHC : Reasonably Anticipated to be Human Carcinogens

[EU]

Category 2; Substances suspected human carcinogens

Reproductive toxicity

[Product]

Category 2, Suspected of damaging fertility or the unborn child

[Data for components of the product]

[NITE-CHRIP]

Category 2 (source: NITE)

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 1, Causes damage to organs

Category 3, May cause respiratory irritation

[Data for components of the product]

[NITE-CHRIP]

Category 1 (central nervous system, blood system, liver), Category 3 (Respiratory tract irritation) (source: NITE)

STOT-repeated exposure

[Product]

Category 1, Causes damage to organs through prolonged or repeated exposure

Category 2, May cause damage to organs through prolonged or repeated exposure

[Data for components of the product]

[NITE-CHRIP]

Category 1 (nervous system, liver, blood system), Category 2 (respiratory organs, kidney) (source: NITE)

Aspiration hazard

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Section 12. Ecological Information

Ecotoxicity

Aquatic toxicity

[Product]

Category 1, Very toxic to aquatic life

Category 1, Very toxic to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIP]

Crustacea (Daphnia magna) 48-hour EC50: 0.7 mg/L (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

[NITE-CHRIP]

Crustacea (Daphnia magna) 21-day NOEC (reproduction): 0.1 mg/L (source: NITE)

Water solubility

[Data for components of the product]

49 mg/L (20°C) (source: ICSC, 2018)

Persistence and degradability

[Data for components of the product]

Not rapidly degradable (Degradation rate: 0% (by BOD); 0% (by HPLC)) (source: NITE)

Bioaccumulative potential

[Data for components of the product]

log Pow: 3.37 (source: ICSC, 2018); BCF=190 (Existing chemical safety inspection data)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.

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

Section 14. Transport Information**UN No., UN CLASS**

UN Number or ID Number : 3077

UN Proper Shipping Name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Packing group : III

ERG GUIDE No.: 171

Special provisions No.: 274; 331; 335; 375

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 3077

UN Proper Shipping Name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Packing group : III

Special provisions No.: 274; 335; 375; 966; 967; 969

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 3077

UN Proper Shipping Name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Hazard labels : Miscellaneous & Environmentally hazardous

Packing group : III

Special provisions No.: A97; A158; A179; A197; A215

Environmental hazards

Marine pollutants (yes/no) : yes

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

Noxious Liquid Substances ; Cat. X

1,4-Dichlorobenzene

MARPOL Annex V – HME (Harmful to the Marine Environment)

Specific target organ toxicity – repeated exposure: cat.1

1,4-Dichlorobenzene

Hazardous to the aquatic environment – short-term (acute): cat.1

1,4-Dichlorobenzene

Hazardous to the aquatic environment – long-term (chronic): cat.1, 2

1,4-Dichlorobenzene

Section 15. Regulatory Information

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

Labor Standards Act, Japan

Chemical substances or compounds (including alloys) causing disease (item (iv)-1 of Appended Table 1-2 of Regulation)

1,4-Dichlorobenzene

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

106-46-7

All components are listed or exempted.

Superfund Amendments and Reauthorizations Act (SARA), Title III

SARA 313 (TRI)

1,4-Dichlorobenzene

Other regulatory information

We are not able to check up the regulatory information with 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.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

Section 16. Other information

GHS classification and labelling

H319-Serious eye damage/eye irritation, Category 2: H319 Causes serious eye irritation

H317-Skin sensitization, Category 1: H317 May cause an allergic skin reaction

H351-Carcinogenicity, Category 2: H351 Suspected of causing cancer

H361-Reproductive toxicity, Category 2: H361 Suspected of damaging fertility or the unborn child

H370-STOT – single exposure, Category 1: H370 Causes damage to organs

H335-STOT – single exposure, Category 3, Respiratory tract irritation: H335 May cause respiratory irritation.

H372-STOT – Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure

H373-STOT – Repeated exposure, Category 2: H373 May cause damage to organs through prolonged or repeated exposure

1,4-Dichlorobenzene , JUNSEI CHEMICAL CO., LTD., 34335jis_J_E1-2, 10/Jul/2025

H400-Hazardous to the aquatic environment, short-term (acute), Category 1: H400 Very toxic to aquatic life

H410-Hazardous to the aquatic environment, long-term (chronic), Category 1: H410 Very toxic to aquatic life with long lasting effects

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN
IMDG Code, 2024 Edition (Incorporating Amendment 42-24)
IATA Dangerous Goods Regulations (66th Edition) 2025
2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2025 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2024 Recommendation on TLVs (JSOH)
Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial
Safety and Health Department, Labour Standards Bureau, MHLW in Japan
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.33
(<https://www.asahi-ghs.com/>)
NITE Chemical Risk Information Platform "NITE-CHRIIP"
(https://www.chem-info.nite.go.jp/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.1) (May. 2024, METI)

Abbreviations and acronyms

SDS (Safety Data Sheet)
LD50 (Lethal Dose, 50%)
LC50 (Lethal Concentration, 50%)
IARC (International Agency for Research on Cancer)
ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
METI (Ministry of Economy, Trade and Industry in Japan)
MHLW (Ministry of Health, Labour and Welfare in Japan)
MOE (Ministry of the Environment in Japan)
JSOH (Japan Society for Occupational Health)
ISHA (Industrial Safety and Health Act in Japan)
CSCL (Chemical Substances Control Law in Japan)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety. 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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIIP), up to FY2023).