



## Safety Data Sheet

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

Product identifier:

Product name: 1,2-Dichlorobenzene(o-)

SDS No. : 2275E-3

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

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### Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 4

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Acute toxicity (Inhalation): Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

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

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

Specific target organ toxicity – single exposure: Category 3 (Narcotic effects)

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

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

H227 Combustible liquid

H302 Harmful if swallowed

H332 Harmful if inhaled

H315 Causes skin irritation

H319 Causes serious eye irritation

H370 Causes damage to organs (liver, kidneys)



H335 May cause respiratory irritation

H336 May cause drowsiness or dizziness

H372 Causes damage to organs through prolonged or repeated exposure (blood system, liver, nervous system, respiratory system)

H410 Very toxic to aquatic life with long lasting effects

#### PRECAUTIONARY STATEMENT

##### Prevention

P273 Avoid release to the environment.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P264 Wash contaminated parts thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

##### Response

P370 + P378 In case of fire: Use appropriate media to extinguish.

P391 Collect spillage.

P314 Get medical advice/attention if you feel unwell.

P312 Call a POISON CENTER/doctor/physician if you feel unwell.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P330 IF SWALLOWED: Rinse mouth.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

##### Storage

P403 Store in a well-ventilated place.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

##### Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

#### Specific adverse human health effects

See "11. Toxicological Information".

### Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
1,2-Dichlorobenzene(o-)	≥ 98	95-50-1	3-41	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>

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

#### Impurities

1,4-Dichlorobenzene ≤ 0.40% (CAS No.106-46-7)



Traces of polychlorobiphenyl(PCB) (CAS No.1336-36-3)

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#### Section 4. First-aid measures

##### Descriptions of first-aid measures

###### General measures

Get medical advice/attention if you feel unwell.

###### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

###### IF ON SKIN

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.

###### 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.

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

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#### Section 5. Fire-fighting measures

##### Extinguishing media

###### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.

\*Fire Service Act Group 4 Hazardous Materials

###### Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System

Sprinkler System

Dry Chemical Extinguishing System—Others (except for phosphates etc., Hydrogen Carbonates etc.)

Fire Extinguisher Discharging Jet Water/Spraying Water

Fire Extinguisher Discharging Jet Loaded Liquid

Fire Extinguisher Discharging Dry Extinguishing agents—Others (except for phosphates etc., Hydrogen Carbonates etc.)

Water Bucket or Water Tank

\*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

##### Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

See "10.Stability and Reactivity".

##### Advice for firefighters

###### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

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.

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**Section 6. Accidental release measures**

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.  
Ventilate area until material pick up is complete.  
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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.

Preventive measures for secondary accident

Collect spillage.

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**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

Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands et al thoroughly after handling.  
When using do not eat, drink or smoke.  
Form traces of PCB under the influence of light. Avoid light during use.

Any incompatibilities

See "10.Stability and Reactivity".

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.  
Store locked up. (P405)



Store in a cool, dry place. Do not store in direct sunlight.

Form traces of PCB under the influence of light. Keep container protect from light. Store in a cool, dry place.

Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

Use closed unbreakable containers.

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## Section 8. Exposure controls/personal protection

### Control parameters

#### Control value and Concentration standard value

(1,2-Dichlorobenzene(o-))

Japan control value 25ppm

(1,4-Dichlorobenzene)

Concentration standard value TWA: 10ppm

(Polychlorobiphenyl)

Japan control value 0.01mg/m3

### Adopted value

(1,2-Dichlorobenzene(o-))

JSOH(1994) 25ppm; 150mg/m3

(1,4-Dichlorobenzene)

JSOH(1998) 10ppm; 60mg/m3

(Polychlorobiphenyl)

JSOH(2006) 0.01mg/m3 (skin)

(1,2-Dichlorobenzene(o-))

ACGIH(1996) TWA: 25ppm;

STEL: 50ppm (URT & eye irr; liver dam)

(1,4-Dichlorobenzene)

ACGIH(1993) 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

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

#### Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

#### Hand protection

Wear impervious protective glove.

#### Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

#### Skin and body protection

Wear protective clothing.

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## Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties



Physical state: Liquid  
Color: Colorless to light yellow  
Odor: Characteristic odor  
Melting point/Freezing point:  $-17^{\circ}\text{C}$   
Boiling point or initial boiling point: (1,2-Dichlorobenzene(o-))  $180\sim 183^{\circ}\text{C}$   
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: 2.2 vol %  
    Upper explosion limit: 9.2 vol %  
Flash point: (1,2-Dichlorobenzene(o-))  $74.4^{\circ}\text{C}$   
Auto-ignition temperature: (1,2-Dichlorobenzene(o-))  $648^{\circ}\text{C}$   
Decomposition temperature data is not available.  
pH data is not available.  
Dynamic viscosity: 1.01 cSt  
Kinematic viscosity data is not available.  
Solubility:  
    Solubility in water: Insoluble  
    Solubility in solvent data is not available.  
n-Octanol/water partition coefficient:  $\log P_{ow} 3.38$   
Vapor pressure: 0.16 kPa ( $20^{\circ}\text{C}$ )  
Density and/or relative density: 1.3  
Relative vapor density (Air=1): 5.1  
Relative density of the Vapor/air – mixture at  $20^{\circ}\text{C}$  (Air = 1): 1.006  
Particle characteristics data is not available.  
Other information  
    Other information is not available.

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## Section 10. Stability and Reactivity

Reactivity  
    Not available.

Chemical stability  
    Form traces of PCB under the influence of light. Keep container protect from light. Store in a cool, dry place.

Possibility of hazardous reactions  
    Decomposes on burning. This produces toxic and corrosive gases including hydrogen chloride.  
    Reacts with aluminium and oxidants. Attacks plastics and rubber. (ICSC 1066)

Conditions to avoid  
    Contact with incompatible materials.  
    Contact with fire source.

Incompatible materials  
    Oxidizing agents, Aluminium

Hazardous decomposition products  
    Carbon oxides, Hydrogen chloride

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## Section 11. Toxicological Information

Information on toxicological effects  
Acute toxicity

**Acute toxicity (Oral)****[Product]**

Category 4, Harmful if swallowed

**[Data for components of the product]****[NITE-CHRIP]**

(1,2-Dichlorobenzene(o-))

rat LD50: 500 mg/kg (source: NITE)

(1,4-Dichlorobenzene)

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

(Polychlorobiphenyl)

rat LD50: 1010 mg/kg (source: NITE)

**Acute toxicity (Dermal)****[Data for components of the product]****[NITE-CHRIP]**

(1,4-Dichlorobenzene)

rabbit LD50: &gt; 5010 mg/kg (source: NITE)

(Polychlorobiphenyl)

rabbit LD50: 800 mg/kg (MLD) (source: NITE)

**Acute toxicity (Inhalation)****[Product]**

Category 4, Harmful if inhaled

**[Data for components of the product]****[NITE-CHRIP]**

(1,2-Dichlorobenzene(o-))

vapor: rat LC50: 961 ppm (7-hour) (converted 4-hour equivalent value: 2543 ppm) (source: NITE)

(1,4-Dichlorobenzene)

dust: rat LC50: &gt; 5.07 mg/L (4-hour) (source: NITE)

**Irritant properties****Skin corrosion/irritation****[Product]**

Category 2, Causes skin irritation

**[Data for components of the product]****[NITE-CHRIP]**

(1,2-Dichlorobenzene(o-))

Category 2 (source: NITE)

**Serious eye damage/irritation****[Product]**

Category 2, Causes serious eye irritation

**[Data for components of the product]****[NITE-CHRIP]**

(1,2-Dichlorobenzene(o-))

Category 2B (source: NITE)

(1,4-Dichlorobenzene)

Category 2 (source: NITE)

**Sensitization****Skin sensitization****[Data for components of the product]****[NITE-CHRIP]**

(1,4-Dichlorobenzene)



Category 1 (source: NITE)

Mutagenic effects data is not available.

Carcinogenicity

[Data for components of the product]

[NITE-CHRIIP]

(1,4-Dichlorobenzene)

Category 2 (source: NITE)

[IARC]

(1,2-Dichlorobenzene(o-))

Group 3 : Not classifiable as to its carcinogenicity to humans

(1,4-Dichlorobenzene)

Group 2B : Possibly carcinogenic to humans

(Polychlorobiphenyl)

Group 1 : Carcinogenic to humans

[ACGIH]

(1,2-Dichlorobenzene(o-))

A4(1996) : Not Classifiable as a Human Carcinogen

(1,4-Dichlorobenzene)

A3(1993) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

[NTP]

(1,4-Dichlorobenzene)

RAHC : Reasonably Anticipated to be Human Carcinogens

(Polychlorobiphenyl)

RAHC : Reasonably Anticipated to be Human Carcinogens

[EU]

(1,4-Dichlorobenzene)

Category 2; Substances suspected human carcinogens

Reproductive toxicity

[Data for components of the product]

[NITE-CHRIIP]

(1,4-Dichlorobenzene)

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

Category 3, May cause drowsiness or dizziness

[Data for components of the product]

[NITE-CHRIIP]

(1,2-Dichlorobenzene(o-))

Category 1 (liver, kidneys), Category 3 (Respiratory tract irritation), Category 3

(Narcotic effects) (source: NITE)

(1,4-Dichlorobenzene)

Category 3 (Respiratory tract irritation) (source: NITE)

STOT-repeated exposure

[Product]

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

[Data for components of the product]

[NITE-CHRIIP]



(1,2-Dichlorobenzene(o-))

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

Aspiration hazard data is not available.

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## Section 12. Ecological Information

### Toxicity

#### 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]

(1,2-Dichlorobenzene(o-))

Fish (*Oryzias latipes*) 96-hour LC50: 3.8 mg/L (OECD TG 203, GLP) (source: NITE)

Crustacea (*Ceriodaphnia dubia*) 48-hour EC50: 0.66 mg/L (EPA 600/4-90/027F) (source: NITE)

Algae (*Raphidocelis subcapitata*) 72-hour ErC50: > 4.2 mg/L (OECD TG 201, GLP) (source: NITE)

(1,4-Dichlorobenzene)

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

(Polychlorobiphenyl)

Fish (Fathead minnow) 96-hour LC50: 0.008 mg/L (source: NITE)

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

##### [NITE-CHRIP]

(1,2-Dichlorobenzene(o-))

Crustacea (*Daphnia magna*) 21-day NOEC: < 0.1 mg/L (OECD TG 202, GLP) (source: NITE)

Algae (*Raphidocelis subcapitata*) 72-hour NOErC: 2.6 mg/L (OECD TG 201, GLP) (source: NITE)

(1,4-Dichlorobenzene)

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

#### Water solubility

(1,2-Dichlorobenzene(o-))

very poor (source: ICSC, 2003)

(1,4-Dichlorobenzene)

49 mg/L (20°C) (source: ICSC, 2018)

#### Persistence and degradability

##### [Data for components of the product]

(1,2-Dichlorobenzene(o-))

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

(1,4-Dichlorobenzene)

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

(Polychlorobiphenyl)

Not rapidly degradable (source: NITE)

#### Bioaccumulative potential

##### [Data for components of the product]

(1,2-Dichlorobenzene(o-))

log Pow: 3.38 (source: ICSC, 2003)

(1,4-Dichlorobenzene)

log Pow: 3.37 (source: ICSC, 2018)

(Polychlorobiphenyl)



BCF: 270000 (source: NITE)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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### 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 as industrial waste. Accordance with local/national regulation.

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### Section 14. Transport Information

UN Number or ID Number : 1591

UN Proper Shipping Name :

o-DICHLOROBENZENE

Class or division (Transport hazard class) : 6.1

Packing group : III

ERG GUIDE No.: 152

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1591

UN Proper Shipping Name :

o-DICHLOROBENZENE

Class or division (Transport hazard class) : 6.1

Packing group : III

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1591

UN Proper Shipping Name :

o-DICHLOROBENZENE

Class or division (Transport hazard class) : 6.1

Hazard labels : Toxic

Packing group : III

Environmental hazards

Marine pollutants (yes/no) : yes

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### Section 15. Regulatory Information

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

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

Chemicals listed in TSCA Inventory

1,2-Dichlorobenzene(o-); 1,4-Dichlorobenzene; Polychlorobiphenyl

Other regulatory information

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



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**Section 16. Other information**

## References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN  
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)  
IATA Dangerous Goods Regulations (65th Edition) 2024  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2024 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2023 Recommendation on TLVs (JISOH)  
Supplier's data/information

## General Disclaimer

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Unauthorized translation or modification is prohibited.

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

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).