



Safety Data Sheet

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

Product identifier:

Product name: Chlorobenzene

SDS No. : 1578E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

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

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 3

HEALTH HAZARDS

Acute toxicity (Inhalation): Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2A

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 2

Specific target organ toxicity – single exposure: Category 1(systemic toxicity)

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

Specific target organ toxicity – repeated exposure: Category 1(CNS; peripheral nervous system; blood/blood system)

Specific target organ toxicity – repeated exposure: Category 2(liver; kidney; adrenal)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 1

Hazardous to the aquatic environment (Long-term): Category 1

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

Label elements



Signal word: Danger

HAZARD STATEMENT

Flammable liquid and vapor

Harmful if inhaled

Causes skin irritation

Causes serious eye irritation

Suspected of causing genetic defects

Suspected of causing cancer

Causes damage to organs after single exposure(systemic toxicity)

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure(CNS; peripheral nervous system)



system; blood/blood system)

May cause damage to organs through prolonged or repeated exposure(liver; kidney; adrenal)

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

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 appropriate media other than water for extinction.

Collect spillage.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

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 eye irritation persists: Get medical advice/attention.

Storage

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

Disposal

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

Specific Physical and Chemical hazards

Flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Chlorobenzene

Content (%):99(min)

Chemical formula:C6H5Cl

Chemicals No, Japan:3-31

CAS No.:108-90-7

MW:112.56

ECNO:203-628-5

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

Impurities and stabilizing additives

Impurities: Polychlorobiphenyl (PCB) trace (CAS No:1336-36-3)



4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

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.

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

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.

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

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

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

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.

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/sparks/open flames/hot surfaces. – No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(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.

When using do not eat, drink or smoke.

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

Container and packaging materials for safe handling

Glass

Iron

8. Exposure controls/personal protection

Control parameters

Adopted value

(Chlorobenzene)

ACGIH(1988) TWA: 10ppm (Liver dam)

OSHA-PEL

ChlorobenzeneTWA: 75ppm, 350mg/m³

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.
- Eye protection
 - Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

- Physical state: Liquid
- Color: Colorless, Clear
- Odor: Characteristic odor
- pH data is not available.
- Boiling point or initial boiling point: 132°C
- Boiling range data is not available.
- Melting point/Freezing point: -45°C
- Decomposition temperature data is not available.
- Flammability (gases, liquids and solids) data is not available.
- Flash point: (C.C.)(Chlorobenzene)27°C
- Auto-ignition temperature: 590°C
- Lower and upper explosion limit/flammability limit:
 - Lower explosion limit: 1.3 vol %
 - Upper explosion limit: 11 vol %
- Vapor pressure: 1.17 kPa (20 °C)
- Relative vapor density (Air=1): 3.88
- Relative density of the Vapor/air - mixture at 20°C (Air = 1): 1.03
- Density and/or relative density: 1.11
- Kinematic viscosity data is not available.
- Solubility:
 - Solubility in water: 0.05 g/100 ml (20 °C)
- n-Octanol/water partition coefficient: log Pow2.18 through 2.84
- No Particle characteristics data is not available.

10. Stability and Reactivity

- Reactivity
 - Not available.
- Chemical stability
 - Form polychlorobiphenyl under the influence of light.
- Possibility of hazardous reactions
 - Decomposes on heating and on contact with hot surfaces and flames. This produces toxic and corrosive fumes. Reacts violently with strong oxidants. This generates fire and explosion hazard. Attacks rubber and some plastics. (ICSC 0642)
- Conditions to avoid
 - Contact with incompatible materials.
 - Contact with fire source.
- Incompatible materials
 - Strong oxidizing agents
- Hazardous decomposition products
 - Carbon oxides, Chlorine compounds



11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Chlorobenzene)

rat LD50=2914mg/kg (MOE assessment vol.3, 2004)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Chlorobenzene)

vapor: rat LC50=3526ppm/4hr (EHC 167, 1995)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Chlorobenzene)

rabbit/human moderate irritation (CERI/NITE risk assessment No.82, 2005)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Chlorobenzene)

rabbit/guinea pig/human moderate irritation (CERI/NITE risk assessment No.82, 2005 et al)

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Chlorobenzene)

cat. 2; CERI/NITE risk assessment NO.82, 2005

Carcinogenicity

[GHS Cat. Japan, base data]

(Chlorobenzene)

cat.2; ACGIH A3 (ACGIH, 2001)

(Chlorobenzene)

ACGIH-A3(1988) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Chlorobenzene)

systemic toxicity (CERI/NITE risk assessment, 2005)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(Chlorobenzene)

narcosis (CERI/NITE risk assessment, 2005)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Chlorobenzene)

CNS; peripheral nervous system; blood/blood system (CERI/NITE risk assessment, 2005)

[cat.2]

[GHS Cat. Japan, base data]

(Chlorobenzene)

liver; kidney; adrenal (CERI/NITE risk assessment, 2005)

Aspiration hazard data is not available.



12. Ecological Information

Ecotoxicity

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]

(Chlorobenzene)

Crustacea (Daphnia magna) EC50=0.59mg/L/48hr (CICAD 60, 2004)

Water solubility

(Chlorobenzene)

0.05 g/100 ml (20°C) (ICSC, 2003)

Persistence and degradability

(Chlorobenzene)

Not degrade rapidly (BOD_Degradation : 0% (Registered chemicals data check & review, 1976))

Bioaccumulative potential

(Chlorobenzene)

log Pow=2.18 through 2.84 (ICSC, 2003); BCF=39.6 (Check & Review, Japan)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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 (- if this is not the intended use).

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

14. Transport Information

UN No.: 1134

Proper Shipping Name :

CHLOROBENZENE

Class or division : 3

Packing group : III

ERG GUIDE No.: 130

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1134

Proper Shipping Name :

CHLOROBENZENE

Class or division : 3

Packing group : III

IATA Dangerous Goods Regulations

UN No.: 1134

Proper Shipping Name :

CHLOROBENZENE

Class or division : 3

Hazard labels : Flamm.liquid

Packing group : III

Environmental hazards



MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Specific target organ toxicity – repeated exposure: cat.1

Chlorobenzene

Hazardous to the aquatic environment – acute hazard: cat.1

Chlorobenzene

Hazardous to the aquatic environment – long-term hazard: cat.1, 2

Chlorobenzene

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

Noxious Liquid ; Cat. Y

Chlorobenzene

15. Regulatory Information

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

US major regulations

Chemicals listed in TSCA Inventory

Chlorobenzene

Other regulatory information

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

16. Other information

GHS classification and labelling

Flam. Liq. 3: H226 Flammable liquid and vapor

Acute Tox. 4: H332 Harmful if inhaled

Skin Irrit. 2: H315 Causes skin irritation

Eye Irrit. 2A: H319 Causes serious eye irritation

Muta. 2: H341 Suspected of causing genetic defects

Carc. 2: H351 Suspected of causing cancer

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

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, (6th ed., 2015), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (60th Edition) 2019

Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2019 TLVs and BEIs. (ACGIH)

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

Supplier's data/information

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



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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 2018).