

SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

SECTION 1: Identification

1.1 GHS Product identifier

Product name 1,2-Dichlorobenzene

1.2 Other means of identification

Product number CCEM500035
Other names Chloroden; DCB; o--dichlorobenzene

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.
Uses advised against no data available

1.4 Supplier's details

Company CATO Research Chemicals Inc.
Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou
Telephone +86-20-81960175

1.5 Emergency phone number

Emergency phone number +86-20-81960175
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Skin irritation, Category 2
Eye irritation, Category 2
Specific target organ toxicity – single exposure, Category 3
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

Response	P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P321 Specific treatment (see ... on this label). P332+P317 If skin irritation occurs: Get medical help. 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. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P319 Get medical help if you feel unwell. P391 Collect spillage.
Storage	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1,2-Dichlorobenzene	1,2-dichlorobenzene	95-50-1	202-425-9	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

Chronic inhalation of mist or vapors may result in damage to lungs, liver, and kidneys. Acute vapor exposure can cause symptoms ranging from coughing to central nervous system depression and transient anesthesia. Irritating to skin, eyes, and mucous membranes. May cause dermatitis. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Lindane and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Use water spray, dry chemical, foam, or carbon dioxide. Use water spray to keep fire-exposed containers cool. Extinguish fire using agent suitable for surrounding fire.

5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Poisonous vapors including hydrogen chloride gas, chlorocarbons, chlorine (USCG, 1999)

5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand

or inert absorbent. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Land spill: Dig a pit, pond, lagoon, or holding area to contain liquid or solid material. /SRP: If time permits, pits, ponds, lagoons, soak holes or holding areas should be sealed with an impermeable flexible membrane liner. / Dike surface flow using soil, sand bags, foamed polyurethane, or concrete. Absorb bulk liquid with fly ash, or cement power. Apply "universal" gelling agent to immobilize spill.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Above 66°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Separated from aluminium, oxidants and food and feedstuffs.Store in cool, dry, well-ventilated location. Separate from oxidizing materials.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 25 ppm as TWA; 50 ppm as STEL; A4 (not classifiable as a human carcinogen).MAK: 61 mg/m³, 10 ppm; peak limitation category: II(2); skin absorption (H); pregnancy risk group: C.EU-OEL: 122 mg/m³, 20 ppm as TWA; 306 mg/m³, 50 ppm as STEL; (skin)

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Colorless liquid
Odour	Pleasant odor
Melting point/freezing point	Ca. -17.03 °C.
Boiling point or initial boiling point and boiling range	Ca. 180.5 °C. Atm. press.:1 013.25 hPa.
Flammability	Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.
Lower and upper explosion limit/flammability limit	2 TO 9% BY VOL IN AIR
Flash point	Ca. 151 °F.;Ca. 66 °C.
Auto-ignition temperature	Ca. 640 °C. Remarks:Pressure not reported.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	dynamic viscosity (in mPa s) = Ca. 1.324. Temperature:25.0°C.
Solubility	less than 1 mg/mL at 76.1° F (NTP, 1992)
Partition coefficient n-octanol/water	log Pow = Ca. 3.433. Temperature:25 °C. Remarks:PH value.

Vapour pressure	Ca. 1.56 mm Hg. Temperature:Ca. 25 °C. Remarks:This is equivalent to 2.08 hPa.
Density and/or relative density	Ca. 1.306 g/cm ³ . Temperature:20 °C.;Ca. 1.3 g/cm ³ . Temperature:25 °C.
Relative vapour density	5.1 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on burning. This produces toxic and corrosive gases including hydrogen chloride. Reacts with aluminium and oxidants. Attacks plastics and rubber.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

Combustible liquid.O-DICHLOROBENZENE is sensitive to prolonged exposure to light. This chemical can react vigorously with oxidizers. It is incompatible with aluminum and aluminum alloys. It attacks some forms of plastics, rubber and coatings. (NTP, 1992).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizers, aluminum, chlorides, acids, acid fumes.

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic /hydrogen/ chloride fumes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - > 2 000 mg/kg bw.
- Inhalation: LC50 - mouse (female) - 1 236 ppm.
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

NTP: Reasonably anticipated to be a human carcinogen

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system and liver. Exposure could cause lowering of consciousness.

STOT-repeated exposure

The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the kidneys and blood.

Aspiration hazard

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Oncorhynchus mykiss (previous name: Salmo gairdneri) - 1.58 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Ceriodaphnia dubia - 4.5 µmol/L - 48 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 2.2 mg/L - 96 h.
- Toxicity to microorganisms: IC50 - Nitrosomonas sp. - 47 mg/L - 24 h.

12.2 Persistence and degradability

AEROBIC: 1,2-Dichlorobenzene at 100 mg/L achieved 0% of its theoretical BOD using an activated sludge inoculum at 30 mg/L over a 4 week incubation period in the Japanese MITI test(1). 1,2-Dichlorobenzene was resistant to biodegradation in another Japanese MITI test study(2). Dichlorobenzene isomers were slowly biodegraded (6.3% of theoretical CO₂ evolution in 10 weeks) in an alkaline soil sample(3). The rate constant for 1,2-dichlorobenzene in a heterogeneous aquifer at the Columbus Air Force Base, Mississippi was 0.0059 days⁻¹, corresponding to a biodegradation half-life of about 117 days(4). 1,2-Dichlorobenzene is resistant to biodegradation in soils, with half-lives expected to be greater than 9 months(5).

12.3 Bioaccumulative potential

The sorption of 8 organic compounds by a representative green alga, *Selenastrum capricornutum*, was determined by GLC by a series of linear model experiments. The log₁₀ bioconcentration factors (BCF), defined as the ratio of the concentration on/in the algae to the concentration in the aqueous medium, were as follows: benzene 3.32, toluene 3.18, chlorobenzene 3.69, 1,2-dichlorobenzene 4.17. The relation of log₁₀ BCF correlation with log₁₀ octanol-water partition coefficient (P) was determined to be log₁₀ BCF = 0.46 log₁₀ P + 2.36.

12.4 Mobility in soil

Experimental Koc values of 280(1) and 320(2) were determined for 1,2-dichlorobenzene in silt loam soils. A log Koc value of 3.7 was reported for 1,2-dichlorobenzene in sediment obtained from the Ise Bay, Japan(3) and a log Koc value of 4.3 was measured from sediment of Lake Ketelmeer, Netherlands(4). According to a recommended classification scheme(5), these soil Koc values suggest that 1,2-dichlorobenzene has moderate mobility in soil(SRC).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN1591 (For reference only, please check.) IMDG: UN1591 (For reference only, please check.) IATA: UN1591 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: o-DICHLOROBENZENE (For reference only, please check.) IMDG: o-DICHLOROBENZENE (For reference only, please check.) IATA: o-DICHLOROBENZENE (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.) IMDG: 6.1 (For reference only, please check.) IATA: 6.1 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.) IMDG: III (For reference only, please check.) IATA: III (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: Yes IMDG: Yes IATA: Yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
1,2-dichlorobenzene	1,2-dichlorobenzene	95-50-1	202-425-9
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.

EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Listed.
New Zealand Inventory of Chemicals (NZIoC)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

SECTION 16: Other information

Information on revision

Creation Date July 15, 2019
Revision Date August 08, 2025

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com

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