# Safety Data Sheet

According to the UN GHS revision 8

Creation Date: June 01, 2026
Revision Date: June 01, 2026

## 1. IDENTIFICATION

### 1.1 GHS Product identifier

**Product name:** 1,4-Dichlorobenzene

**Catalog Number:** T7431

**CAS Number:** 106-46-7

### 1.2 Other means of identification

**Other names:** -

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses:** no data available

### 1.4 Supplier's details

**Company:** Targetmol Chemicals Inc.

**Address:** 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA

**Tel/Fax:** (781) 999-4286

### 1.5 Emergency phone number

**Emergency phone number:** 781-999-4286

**Service hours:** Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

## 2. HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

Eye irritation, Category 2
Carcinogenicity, Category 2
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):**
H319 Causes serious eye irritation
H351 Suspected of causing cancer
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s):**

**Prevention:**
P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P203 Obtain, read and follow all safety instructions before use.
P273 Avoid release to the environment.

**Response:**
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P318 IF exposed or concerned, get medical advice.
P391 Collect spillage.

**Storage:** 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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

| Chemical name | Common names and synonyms | CAS number | EC number |
|---|---|---|---|
| 1,4-Dichlorobenzene | - | 106-46-7 | 203-400-5 |

## 4. FIRST-AID MEASURES

### 4.1 Description of necessary first-aid measures

**General advice**

no data available

**If inhaled**

Fresh air, rest. Refer for medical attention.

**Following skin contact**

Remove contaminated clothes. Rinse and then wash skin with water and soap.

**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**

Give one or two glasses of water to drink. Refer for medical attention .

### 4.2 Most important symptoms/effects, acute and delayed

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

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

INHALATION: irritation of upper respiratory tract; over- exposure may cause depression and injury to liver and kidney. EYE CONTACT: pain and mild irritation. (USCG, 1999)

## 5. FIRE-FIGHTING MEASURES

### 5.1 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. o-Dichlorobenzene

### 5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Vapors are irritating. Toxic chlorine, hydrogen chloride, and phosgene gases may be generated in fires. (USCG, 1999)

### 5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. 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. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

### 6.3 Methods and materials for containment and cleaning up

ENVIRONMENTAL HAZARDS: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

NO open flames. Above 66°C use a closed system, ventilation and explosion-proof electrical equipment. Prevent deposition of dust. 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

Provision to contain effluent from fire extinguishing. Separated from strong oxidants and food and feedstuffs. Keep in a well-ventilated room.MATERIALS WHICH ARE TOXIC AS STORED OR WHICH CAN DECOMPOSE INTO TOXIC COMPONENTS ... SHOULD BE STORED IN A COOL WELL VENTILATED PLACE, OUT OF THE DIRECT RAYS OF THE SUN, AWAY FROM AREAS OF HIGH FIRE HAZARD, AND SHOULD BE PERIODICALLY INSPECTED. INCOMPATIBLE MATERIALS SHOULD BE ISOLATED ...

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Occupational Exposure limit values**

TLV: 10 ppm as TWA; A3 (confirmed animal carcinogen with unknown relevance to humans).MAK: 12 mg/m3, 2 ppm; peak limitation category: II(2); skin absorption (H); carcinogen category: 4; pregnancy risk group: C.EU-OEL: 12 mg/m3, 2 ppm as TWA; 60 mg/m3, 10 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 safety goggles or eye protection in combination with breathing protection.

**Skin protection**

Protective gloves.

**Respiratory protection**

Use ventilation, local exhaust or breathing protection.

**Thermal hazards**

no data available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical state** | Solid |
| **Color** | White |
| **Odour** | Distinctive aromatic odor becomes very strong at concn between 30 & 60 ppm |

| | |
|---|---|
| **Melting point/freezing point** | 53.3 °C. Remarks:Sublimes at ordinary temperature. |
| **Boiling point or initial boiling point and boiling range** | 174.12 °C. Atm. press.:1 013 hPa. |
| **Flammability** | Combustible Solid, but may take some effort to ignite. |
| **Lower and upper explosion limit/flammability limit** | Flammability limits in air at 20 deg C, 101 k Pa: lower = 1.7 (%V) upper = 5.9 (%V) |
| **Flash point** | 66 °C. Atm. press.:1 013 hPa. |
| **Auto-ignition temperature** | > 500 °C. Remarks:No pressure reported. |
| **Decomposition temperature** | no data available |
| **pH** | no data available |
| **Kinematic viscosity** | 0.839 mPa.s at 55 deg C; 0.668 mPa.s at 79 deg C |
| **Solubility** | DMSO: 55 mg/mL (374.15 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| **N-octanol-water partition coefficient** | log Pow = 3.37. Temperature:25 °C. |
| **Vapour pressure** | 0.53 hPa. Temperature:25 °C. |
| **Density and/or relative density** | 1.46. Temperature:20 °C. |
| **Relative vapour density** | 5.07 (vs air) |
| **Particle characteristics** | no data available |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

150 ppm; NIOSH considers p-dichlorobenzene to be a potential occupational carcinogen. On combustion, forms toxic and corrosive fumes including hydrogen chloride. Reacts with strong oxidants.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

P-DICHLOROBENZENE is incompatible with oxidizing agents. It is also incompatible with aluminum and its alloys. It liquefies when mixed with camphor, phenol and salol. It will attack some forms of plastics, rubber and coatings. (NTP, 1992).

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Dangerous: when heated to decomposition or on contact with acids or acid fumes they evolve highly toxic /hydrogen chloride/ fumes. Can react vigorously with oxidizing materials.

### 10.6 Hazardous decomposition products

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

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Oral: LD50 - rat (male/female) - > 2 000 mg/kg bw. Remarks:No animal died during the observation period and recovered from unspecific findings (piloerection, hunched posture) by day 3.
Inhalation: LC50 - rat (male/female) - > 5.07 mg/L air.
Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

**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 information is available on the reproductive or developmental effects of 1,4-dichlorobenzene in humans. In one animal study, exposure of pregnant rats to 1,4-dichlorobenzene via inhalation did not result in developmental effects in the offspring. In another study, an increase in the incidence of an extra rib was reported in the fetuses of pregnant rats administered 1,4-dichlorobenzene by gavage. A study reported decreased number of live births, pup survival, and pup weights, but no birth defects in the offspring of animals exposed to 1,4-dichlorobenzene via inhalation.

**STOT-single exposure**

The substance is irritating to the eyes, respiratory tract and skin. The substance may cause effects on the blood. This may result in haemolytic anaemia. The substance may cause effects on the central nervous system.

**STOT-repeated exposure**

The substance may have effects on the liver, central nervous system, blood and lungs. This may result in liver function impairment, neuropathy and anaemia. This substance is possibly carcinogenic to humans.

**Aspiration hazard**

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

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish: LC50 - Oncorhynchus mykiss (previous name: Salmo gairdneri) - 1.12 mg/L - 96 h.
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 0.7 mg/L - 48 h.
Toxicity to algae: EC0 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 0.57 mg/L - 96 h.
Toxicity to microorganisms: IC50 - Nitrosomonas sp. - 86 mg/L - 24 h. Remarks:Nitrosomonas.

### 12.2 Persistence and degradability

AEROBIC: An unspecified initial concentration of 1,4-dichlorobenzene was biodegraded between 25 and 90 percent in soil column experiments using sediment from the Rhine River over a 300 day incubation period(1). Dichlorobenzene isomers were slowly biodegraded (6.3% of theoretical CO2 evolution in 10 weeks) in an alkaline soil sample(2). The first-order biodegradation rate of 1,4-dichlorobenzene in a biofilm system was 5.0-20.0X10-4 days-1, corresponding to half-lives on the order of a year or longer(3). 1,4-Dichlorobenzene was not biodegraded in aquifers from Vejen and Grindsted, Denmark during a 50 day incubation period(4). 1,4-Dichlorobenzene was found to be degradation-resistant using the Japanese MITI test(5,6); at 100 mg/L, 1,4-dichlorobenzene achieved 0% of its theoretical BOD using an activated sludge inoculum at 30 mg/L incubated over a 4 week period(6).

### 12.3 Bioaccumulative potential

A mean BCF value of 78 was measured in mosquito fish exposed to 57-233 ug/L of 1,4-dichlorobenzene during 1 to 4 day incubation periods(1). Mean BCF values of 370 to 720 were experimentally determined for rainbow trout exposed to unspecified concns of 1,4-dichlorobenzene up to 119 days in laboratory aquariums(2). A whole body BCF of 60 was determined for bluegill sunfish exposed to 1,4-dichlorobenzene over a 28-day period in a continuous flow system(3). BCF values of 33 to 73 were measured in carp exposed to 2 ug/L of 1,4-dichlorobenzene during an 35 day incubation period and BCF values of 47 to 190 were measured in carp exposed to 0.2 ug/L of 1,4-dichlorobenzene during a 35 day incubation period(4). According to a classification scheme(5), these BCF values suggest that bioconcentration in aquatic organisms is moderate to high, provided the compound is not metabolized by the organism(SRC)..

### 12.4 Mobility in soil

An experimental Koc value of 273(1) was determined for 1,4-dichlorobenzene in silt loam soil and a value of 390 was reported in Lincoln fine sand(2). According to a recommended classification scheme(3), these Koc values suggest that 1,4-dichlorobenzene has moderate mobility in soil(SRC). A log Koc value of 4.8 was measured for 1,4-dichlorobenzene from sediment of Lake Ketelmeer, Netherlands(4).

### 12.5 Other adverse effects

no data available

## 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.

## 14. TRANSPORT INFORMATION

### 14.1 UN Number

no data available

### 14.2 UN Proper Shipping Name

no data available

### 14.3 Transport hazard class(es)

no data available

### 14.4 Packing group, if applicable

no data available

### 14.5 Environmental hazards

no data available

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## 15. REGULATORY INFORMATION

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

| | |
|---|---|
| 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 | Not 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. |

## 16. OTHER INFORMATION

**Information on revision**

**Creation Date** June 01, 2026

**Revision Date** June 01, 2026

**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/

**Other Information**

Depending on the degree of exposure, periodic medical examination is suggested.Do NOT take working clothes home.

---