Chemical Book India

Chemical Safety Data Sheet MSDS / SDS

1,3-dichlorobenzene SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: 1,3-dichlorobenzene

CAS: 541-73-1

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

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SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed
H411 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.
P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P391 Collect spillage.

Storage

none

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.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	1,3-dichlorobenzene
Common names and synonyms:	1,3-dichlorobenzene
CAS number:	541-73-1
EC number:	208-792-1
Concentration:	100%

SECTION 4: First aid measures

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. Refer for medical attention .

Most important symptoms/effects, acute and delayed

INHALATION: Causes headache, drousiness, unsteadiness. Irritating to mucous membranes. EYES: Severe irritation. SKIN: Severe irritation. INGESTION: Irritation of gastric mucosa, nausea, vomiting, diarrhea, abdominal cramps and cyanosis. (USCG, 1999)

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: Firefighting measures

Suitable extinguishing media

Water, foam, carbon dioxide, dry chem ...

Specific hazards arising from the chemical

Special Hazards of Combustion Products: Irritating vapors including hydrogen chloride are produced. (USCG, 1999)

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.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. 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. Do NOT let this chemical enter the environment.

Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. 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. Do NOT let this chemical enter the environment.

Methods and materials for containment and cleaning up

Environmental considerations: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder. Apply "universal" gelling agent to immobilize spill. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./ /o-Dichlorobenzene/ Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water. p-Dichlorobenzene

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Above 63°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.

Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Separated from strong oxidants, aluminium and food and feedstuffs. Well closed. Store in an area without drain or sewer access.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

MAK: 12 mg/m3, 2 ppm; peak limitation category: II(2); pregnancy risk group: C

Biological limit values

no data available

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.

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

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

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:	Colourless.
Odour:	no data available
Melting point/freezing point:	-22 °C. Remarks:By ambient pressure.
Boiling point or initial boiling point and boiling range:	173 °C. Atm. press.:1 013 hPa.
Flammability:	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	63 °C.
Auto-ignition temperature:	> 500 °C. Remarks:Atmospheric pressure was not reported.
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	dynamic viscosity (in mPa s) = 1.492. Temperature:0.0°C.;dynamic viscosity (in mPa s) = 1.044. Temperature:25.0°C.;dynamic viscosity (in mPa s) = 0.787. Temperature:50.0°C.
Solubility:	Insoluble in water
Partition coefficient n-octanol/water:	Pow = 2 750. Temperature:23 °C. Remarks:PH.;log Pow = 3.44. Temperature:23 °C. Remarks:PH.

Vapour pressure:	0.4 hPa. Temperature:0 °C. Remarks:Reported by Fisk and Noyes (1936).;2.33 hPa. Temperature:24 °C. Remarks:Reported by Fisk and Noyes (1936).;57.3 hPa. Temperature:84.5 °C. Remarks:Reported by Rohac et al. (1998).
Density and/or relative density:	1.29 g/cm3.
Relative vapour density:	5.08 (NTP, 1992) (Relative to Air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic fumes including hydrogen chloride. Reacts with strong oxidants. Reacts violently with aluminium.

Chemical stability

no data available

Possibility of hazardous reactions

CombustibleThe vapour is heavier than air.M-DICHLOROBENZENE is incompatible with oxidizing agents and aluminum and its alloys. Above the flash point, explosive vapor-air mixtures may be formed. (NTP, 1992)

Conditions to avoid

no data available

Incompatible materials

Can react violently with aluminum ...

Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 - rat (male) - ca. 580 mg/kg bw.

Inhalation: LC50 - rat (male/female) - > 17.6 mg/L air.

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 vapour is irritating to the eyes, skin and respiratory tract. See Notes.

STOT-repeated exposure

The substance may have effects on the kidneys and liver. See Notes.

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 - Oryzias latipes - 5.7 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 1.2 mg/L - 48 h.

Toxicity to algae: ErC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 9.2 mg/L - 72 h.

Toxicity to microorganisms: EC50 - Tetrahymena pyriformis - 130 mg/L - 24 h.

Persistence and degradability

AEROBIC: 1,3-Dichlorobenzene at 100 mg/L exhibited 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). Dichlorobenzene isomers were slowly biodegraded (6.3% of theoretical CO2 evolution in 10 weeks) in an alkaline soil sample(2).

Bioaccumulative potential

BCF values of 60 to 230 were measured in carp exposed to 100 ug/L of 1,3-dichlorobenzene during an 8 week incubation period and BCF values of 60 to 370 were measured in carp exposed to 10 ug/L of 1,3-dichlorobenzene during an 8 week incubation period(1). Mean 1,3-dichlorobenzene BCF values of 420 to 740 were experimentally determined for rainbow trout exposed up to 119 days in laboratory aquaria(2). A whole body BCF of 90 was determined for bluegill sunfish exposed to 1,3-dichlorobenzene over a 28-day period in a continuous flow system(3). According to a classification scheme(4), these BCF values suggest that bioconcentration in aquatic organisms is moderate to high.

Mobility in soil

An experimental Koc value of 300(1) was determined for 1,3-dichlorobenzene in silt loam soil. According to a recommended classification scheme(3), these Koc values suggest that 1,3-dichlorobenzene has moderate to low mobility in soil. A log Koc value of 3.5 was reported for 1,3-dichlorobenzene in sediment obtained from the Ise Bay, Japan(2) and a log Koc value of 4.7 was measured from sediment of Lake Ketelmeer, Netherlands(4).

Other adverse effects

no data available

SECTION 13: Disposal considerations

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

UN Number

ADR/RID: UN2810 (For reference only, please check.)
IMDG: UN2810 (For reference only, please check.)
IATA: UN2810 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)
IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)
IATA: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

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.)

Packing group, if applicable

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

Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

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

Data on the toxicity of m-dichlorobenzene are limited. See ICSCs 0037 and 1066.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any