

## Chemical Safety Data Sheet MSDS / SDS

## 1,2,3,5-tetrachlorobenzene SDS

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

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

Product name: 1,2,3,5-tetrachlorobenzene

CAS: 634-90-2

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

Relevant identified uses: For R&amp;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, short-term (Acute) - Category Acute 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

**GHS label elements, including precautionary statements**

Pictogram(s)



Signal word

Warning

**Hazard statement(s)**

H302 Harmful if swallowed

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.

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:	1,2,3,5-tetrachlorobenzene
Common names and synonyms:	1,2,3,5-tetrachlorobenzene
CAS number:	634-90-2
EC number:	211-217-7
Concentration:	100%

**SECTION 4: First aid measures****Description of necessary first-aid measures****If inhaled**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

**Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

**Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

**Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

**Most important symptoms/effects, acute and delayed**

ACUTE/CHRONIC HAZARDS: This compound may cause irritation on contact. (NTP, 1992)

**Indication of immediate medical attention and special treatment needed, if necessary****Absorption, Distribution and Excretion**

Three tetrachlorobenzene (TCB) congeners (1,2,3,4- 1,2,3,5- and 1,2,4,5-Tetrachlorobenzene were administered daily by gavage to pregnant Sprague-Dawley rats at levels of 50, 100, or 200 mg/kg from day 6-15 of gestation. Residues of all three congeners

were found in maternal and fetal tissues but generally the amounts of the 1,2,4,5- isomer were about 100 times higher than the other two.

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

### Specific hazards arising from the chemical

This chemical is probably combustible. (NTP, 1992)

### Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## SECTION 7: Handling and storage

### **Precautions for safe handling**

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**

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### **Skin protection**

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

## Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: White crystals or off-white solid. (NTP, 1992)
Colour:	Colorless needles
Odour:	no data available
Melting point/freezing point:	54.5°C
Boiling point or initial boiling point and boiling range:	246°C
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	110°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	less than 0.1 mg/mL at 67.1° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow= 4.66
Vapour pressure:	1 mm Hg at 136.8° F ; 5 mm Hg at 192° F; 760 mm Hg at 475° F (NTP, 1992)

Density and/or relative density:	1.573 g/cm <sup>3</sup>
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

no data available

### Possibility of hazardous reactions

Simple aromatic halogenated organic compounds, such as 1,2,3,5-TETRACHLOROBENZENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This chemical may react with oxidizers. (NTP, 1992).

### Conditions to avoid

no data available

### Incompatible materials

In mfr of sodium salt of trichlorophenol, sodium hydroxide, methyl alcohol & tetrachlorobenzene were heated. during heating process, pressure suddenly incr rapidly & explosion occurred. tetrachlorbenzene

### Hazardous decomposition products

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

## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 Rats oral 1727 mg/kg

Inhalation: no data available

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

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

no data available

### STOT-repeated exposure

no data available



### **Aspiration hazard**

no data available

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 Bluegill sunfish 57.8 mg/l/24 hr; 11.5 mg/l/48hr; 6.42 mg/l/96hr.

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

1,2,3,5-Tetrachlorobenzene was biodegraded by an acclimated anaerobic sediment slurry obtained from the Tsurumi River, Japan(1). The first-order biodegradation rate constant was 0.037 days<sup>-1</sup>, corresponding to a half-life of about 19 days(1). The half-life of 1,2,3,5-tetrachlorobenzene in sewage sludge amended soil was 45.4 days(2). An enriched microbial culture derived from sediment of the Rhine River reductively dechlorinated 1,2,3,5-tetrachlorobenzene to 1,3,5-trichlorobenzene in 280 days after a lag period of 47 days(3). An enriched microbial culture obtained from sediment of Lake Ketelmeer, Netherlands dechlorinated 250 nmols of 1,2,3,5-tetrachlorobenzene to 1,3,5-trichlorobenzene in 300 hours(4).

### **Bioaccumulative potential**

A measured steady state bioconcentration factor of 1800 was obtained for 1,2,3,5-tetrachlorobenzene using bluegill.

### **Mobility in soil**

Log Koc values of 4.2(1) and 3.2(2) were reported for 1,2,3,5-tetrachlorobenzene. A log Koc value of 3.9 was measured for 1,2,3,5-tetrachlorobenzene in sediment obtained from Ise Bay, Japan(3) According to a recommended classification scheme(4), these Koc values suggest that 1,2,3,5-tetrachlorobenzene has low mobility in soil(SRC).

### **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: UN1230 (For reference only, please check.)

IMDG: UN1230 (For reference only, please check.)

IATA: UN1230 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: METHANOL (For reference only, please check.)

IMDG: METHANOL (For reference only, please check.)

IATA: METHANOL (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (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)**

Not Listed.

**(PICCS)**

Not Listed.

**Vietnam National Chemical Inventory**

Listed.

IECSC)

Not Listed.

**Korea Existing Chemicals List (KECL)**

Not 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](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/>

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