

# SAFETY DATA SHEET

Creation Date 24-Nov-2010

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Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** 1,2,4-Trichlorobenzene

**Cat No. :** O4846, O4846-4, O4846RS-19, O4846SS-50

**CAS No** 120-82-1  
**Synonyms** unsym-Trichlorobenzene; Unsymmetrical trichlorobenzene.; 1,2,4-TCB

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

#### **Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Acute oral toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2

### Label Elements

#### **Signal Word**

Warning

#### **Hazard Statements**

Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection

#### Skin

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing

#### Eyes

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

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

#### Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
1,2,4-Trichlorobenzene	120-82-1	>95

### 4. First-aid measures

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Most important symptoms and effects</b>	Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 110 °C / 230 °F

**Method -** No information available

**Autoignition Temperature** 571 °C / 1059.8 °F

**Explosion Limits**

**Upper** 6.6%

**Lower** 2.5%

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
2

**Flammability**  
0

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## 7. Handling and Storage

**Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing.

**Storage.**

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents. Metals.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
1,2,4-Trichlorobenzene	Ceiling: 5 ppm	(Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 40 mg/m <sup>3</sup>	Ceiling: 5 ppm Ceiling: 40 mg/m <sup>3</sup>	Ceiling: 5 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

**Physical State** Liquid  
**Color** Clear  
**Odor** aromatic  
**Odor Threshold** No information available

### Property

	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
<b>Melting Point/Range</b>	16 °C / 60.8 °F		
<b>Softening Point</b>	No data available		
<b>Boiling Point/Range</b>	214 °C / 417.2 °F	@ 760 mmHg	
<b>Flash Point</b>	110 °C / 230 °F	<b>Method -</b> No information available	
<b>Flammability (liquid)</b>	No data available		
<b>Flammability (solid,gas)</b>	Not applicable	Liquid	
<b>Explosion Limits</b>	<b>Lower</b> 2.5 <b>Upper</b> 6.6		
<b>Autoignition Temperature</b>	571 °C / 1059.8 °F		
<b>Decomposition Temperature</b>	No data available		
<b>pH</b>	No information available		
<b>Viscosity</b>	No data available		
<b>Water Solubility</b>	Slightly soluble		
<b>Solubility in other solvents</b>	No information available		
<b>Partition Coefficient (n-octanol/water)</b>			
<b>Component</b>	<b>log Pow</b>		
1,2,4-Trichlorobenzene	4.05		
<b>Vapor Pressure</b>	2 hPa @ 50 °C		
<b>Density / Specific Gravity</b>	1.450		
<b>Bulk Density</b>	Not applicable	Liquid	
<b>Vapor Density</b>	6.26 (Air = 1.0)	(Air = 1.0)	
<b>Particle characteristics</b>	Not applicable (liquid)		

### Other Information

**Molecular Formula** C6 H3 Cl3  
**Molecular Weight** 181.45

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

<b>Conditions to Avoid</b>	Incompatible products.
<b>Incompatible Materials</b>	Strong oxidizing agents, Metals
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Phosgene, Hydrogen chloride gas
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

<b>Inhalation</b>	Avoid breathing vapors or mists.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Eyes</b>	Avoid contact with eyes. May cause irritation.
<b>Skin</b>	Avoid contact with skin. May cause irritation. Prolonged skin contact may defat the skin and produce dermatitis.

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,2,4-Trichlorobenzene	LD50 = 756 mg/kg ( Rat )	LD50 = 6139 mg/kg ( Rat )	-

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** Category 2

**(c) serious eye damage/irritation;** No data available

**(d) respiratory or skin sensitization;**  
**Respiratory** No data available  
**Skin** No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;**

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
1,2,4-Trichlorobenzene	120-82-1	Not listed	Not listed	Not listed	Not listed	Not listed

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

(j) aspiration hazard; No data available

**Symptoms / effects, both acute and delayed** Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1,2,4-Trichlorobenzene	EC50: = 1.4 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: 11.1 - 36.2 mg/L, 72h (Pseudokirchneriella subcapitata) EC50: = 8.4 mg/L, 96h (Desmodesmus subspicatus) EC50: = 1.4 mg/L, 96h static (Pseudokirchneriella subcapitata)	LC50: 2.7 - 4.1 mg/L, 96h static (Lepomis macrochirus) LC50: = 6.57 mg/L, 96h static (Brachydanio rerio) LC50: = 4.8 mg/L, 96h (Oryzias latipes) LC50: 1.24 - 1.4 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 1.67 - 4.34 mg/L, 96h flow-through (Pimephales promelas) LC50: 2.68 - 3.4 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 3.02 mg/L, 96h (Lepomis macrochirus) LC50: = 2.76 mg/L, 96h (Pimephales promelas) LC50: 3.4 - 4.77 mg/L, 96h static (Oncorhynchus mykiss)	EC50 = 0.91 mg/L 24 h EC50 = 4.0 mg/L 30 min	EC50: = 2.7 mg/L, 48h (Daphnia magna)

**Persistence and Degradability** May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Is not likely mobile in the environment due its low water solubility.

Component	log Pow
1,2,4-Trichlorobenzene	4.05

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

**UN-No** UN2321  
**Proper Shipping Name** TRICHLOROBENZENES, LIQUID  
**Hazard Class** 6.1  
**Packing Group** III

### TDG

**UN-No** UN2321  
**Proper Shipping Name** TRICHLOROBENZENES, LIQUID  
**Hazard Class** 6.1  
**Packing Group** III

**IATA**

**UN-No** UN2321  
**Proper Shipping Name** TRICHLOROBENZENES, LIQUID  
**Hazard Class** 6.1  
**Packing Group** III

**IMDG/IMO**

**UN-No** UN2321  
**Proper Shipping Name** TRICHLOROBENZENES, LIQUID  
**Hazard Class** 6.1  
**Packing Group** III

## 15. Regulatory Information

**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
1,2,4-Trichlorobenzene	120-82-1	X	ACTIVE	-

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
1,2,4-Trichlorobenzene	120-82-1	X	-	204-428-0	X	X	X	X	X	KE-34063

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
1,2,4-Trichlorobenzene	120-82-1	>95	1.0 %	-

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
1,2,4-Trichlorobenzene	-	-	-	X

**Clean Air Act**

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
1,2,4-Trichlorobenzene	X		-

**OSHA** - Occupational Safety and Health Administration Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
1,2,4-Trichlorobenzene	100 lb	-	100 lb 45.4 kg

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
1,2,4-Trichlorobenzene	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
1,2,4-Trichlorobenzene	120-82-1	-	Use restricted. See entry 49. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic	Ozone Depletion	Restriction of

			Pollutant	Potential	Hazardous Substances (RoHS)
1,2,4-Trichlorobenzene	120-82-1	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1,2,4-Trichlorobenzene	120-82-1	Not applicable	Not applicable	Not applicable	Annex I - Y45

## 16. Other Information

<b>Prepared By</b>	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
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**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**