Material Safety Data Sheet
1,2,4-Trichlorobenzene

ACC# 26670

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,2,4-Trichlorobenzene
Catalog Numbers: AC157900000, AC157900010, AC157900025, AC220200000, AC220200100, NC9240452, NC9241454, NC9244218, NC9378461, O4846-4, O4846-4LC, O4846RS-19, O4846SS-50
Synonyms: 1,2,4-TCB.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
120-82-1	1,2,4-Trichlorobenzene	96+	204-428-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 30 max liquid.
Warning! Harmful if swallowed. Causes eye and skin irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause respiratory tract irritation.
Target Organs: Liver, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin. Repeated (3 times/week for 13 weeks) topical application of 1,2,4-TCB to rabbit ears failed to elicit chloracne or acneform dermatitis, but local dermal irritation was attributed to its defatting action.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: May cause respiratory tract irritation. May be harmful if inhaled. A study of the acute and subacute inhalation toxicity of trichlorobenzene (95% the 1,2,4-TCB) indicated that the target organs from nonlethal exposures of cats, dogs, rats, rabbits, and guinea pigs included the liver, kidney, and ganglion cells of the brain, and it can irritate mucous membranes.

Chronic: Chronic exposure may cause liver damage.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.
Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: 110 deg C (230.00 deg F)
Autoignition Temperature: 571 deg C (1,059.80 deg F)
Explosion Limits, Lower:2.5 Vol %
Upper: 6.6 Vol %
NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.
Storage: Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,2,4-Trichlorobenzene	5 ppm Ceiling	none listed	none listed

OSHA Vacated PELs: 1,2,4-Trichlorobenzene: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: APHA: 30 max
Odor: aromatic odor
pH: Not available.
Vapor Pressure: 2 hPa @ 50 deg C
Vapor Density: 6.26 (air=1)
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 214 deg C @ 760 mmHg
Freezing/Melting Point:16 deg C
Decomposition Temperature: Not available.
Solubility: 49 mg/L (20°C)
Specific Gravity/Density:1.450
Molecular Formula:C6H3Cl3
Molecular Weight:181.45

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, alkali metals, alkaline earth metals.
Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 120-82-1: DC2100000
LD50/LC50:
CAS# 120-82-1:
Draize test, rabbit, skin: 1950 mg/13W (Intermittent) Moderate;
Oral, mouse: LD50 = 300 mg/kg;
Oral, mouse: LD50 = 756 mg/kg;
Oral, rat: LD50 = 756 mg/kg;
Oral, rat: LD50 = 756 mg/kg;
Skin, rat: LD50 = 6139 mg/kg;
.

Carcinogenicity:
CAS# 120-82-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Tumorigenic effects have been reported in experimental animals.
Teratogenicity: Teratogenic effects have occurred in experimental animals.
Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: Mutagenic effects have occurred in experimental animals.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. Acute fish toxicity: LC50 on Poecilia reticula: approx. 2,4 mg/l. Duration of test: 14 d (Verschueren,K. Handb.of Environm. Data on Org.Chem., 2 ed., 1983); LC50 on Lepomis macrochirus: approx. 3,4 mg/l (Buccafusco,R.J. et al. Bull.Environm.Toxicol.26,446-452,1981).
Environmental: According to WORNE biological degradation with complete ring cleavage occurs within 46 hours at 30C in the presence of Pseudomonas sp. The test was conducted with adapted bacteria (Worne,H.E. Magazine from BECEWA, Liege, Belgium 22, 1972, 61-71).
Physical: No information available.
Other: Do not empty into drains.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	TRICHLOROBENZENES, LIQUID	TRICHLOROBENZENES, LIQUID
Hazard Class:	6.1	6.1
UN Number:	UN2321	UN2321

Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 120-82-1 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
CAS# 120-82-1: 40 CFR 799.1053
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 120-82-1: 100 lb final RQ; 45.4 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 120-82-1: immediate, delayed.
Section 313
This material contains 1,2,4-Trichlorobenzene (CAS# 120-82-1, 96+%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR
Clean Air Act:
CAS# 120-82-1 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 120-82-1 is listed as a Priority Pollutant under the Clean Water Act.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 120-82-1 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
XN N
Risk Phrases:
R 22 Harmful if swallowed.
R 38 Irritating to skin.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.
S 37/39 Wear suitable gloves and eye/face protection.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 120-82-1: 3

Canada - DSL/NDSL

CAS# 120-82-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 120-82-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/08/1998
Revision #8 Date: 1/10/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.