

SAFETY DATA SHEET



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1,2,4-TRICHLOROBENZENE

SDS No. M0195

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 1,2,4-Trichlorobenzene

Synonyms: Trichlorobenzenes

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION



Classification:

Acute Toxicity, Oral: GHS Category 4

Skin Irritation: GHS Category 2

Acute Aquatic Toxicity: GHS Category 1

Chronic Aquatic Toxicity: GHS Category 1

Label Elements

Signal Word: WARNING!

Hazard Statements:

H302 – Harmful if swallowed.

H315 – Causes skin irritation

H320 – Causes eye irritation.

H335 – May cause respiratory irritation.

H410 – Very toxic to aquatic life with long lasting effects,

Precautionary Statements:

P243 – Take precautionary measures against static discharge.

P273 – Avoid release to environment.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Emergency Overview

Harmful if swallowed. Causes irritation to eyes, skin, and respiratory tract. Possible static electrical hazard. Harmful to Aquatic organisms. Target Organs: Skin, eyes, liver, central nervous system, and respiratory system.

Clear focus. Consistent results. Complete confidence.

HMIS Rating:

Health – 2 Flammability – 1 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
1,2,4-Trichlorobenzene	120-82-1	90-100%	Yes

4. FIRST-AID MEASURES

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. Get medical aid.

Ingestion: Do not induce vomiting. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: May be combustible at high temperatures.

Auto-ignition Temperature: 571° C (1059° F)

Flash Point: 110° C (230° F)

Flammable Limits: Lower Limit – 2.5%; Upper Limit – 6.6%

Products of Combustion: May decompose into highly toxic and irritating gases (hydrogen chloride, phosgene, carbon monoxide, and carbon dioxide) under fire conditions.

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Vapors mixed with air in proper proportion will propagate a flame.

Specific Explosion Hazards: None

Fire Fighting Media: Use water, dry chemical, chemical foam, or alcohol resistant foam. Use water spray to keep fire exposed containers cool. Do not use water streams.

National Fire Protective Association: Health - 2, Flammability - 1, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Provide ventilation to the affected area. Avoid run-off into storm sewers and ditches that lead to waterways. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or appropriate eye protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits:

ACGIH – Not Available

NIOSH – 5 ppm REL; 40 mg/m³

OSHA Final PELs: None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Aromatic odor

Odor Threshold: 3 ppm

Molecular Formula: C₆H₃Cl₃

Molecular Weight: 181.45

Auto-ignition Temperature: 571° C (1059° F)

Flash Point: 110° C (230° F)

Flammable Limits: Lower Limit – 2.5%; Upper Limit – 6.6%

pH: Not available.

Boiling Point: 214° C 760 mm Hg @ 20° C (417° F)

Freezing/Melting Point: 16° C (60.8° F)

Decomposition Temperature: Not available

Specific Gravity: 1.45 (Water=1)

Vapor Density (Air=1): 6.26

Vapor Pressure: 2 hPa @ 50° C

Viscosity: Not available

Solubility: Insoluble in water

Conductivity: Semiconductive; Conductivity = 200 pS/m; Dielectric Constant = 4.08; Relaxation Time Constant = 0.18 seconds

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Incompatible materials, excess heat.

Incompatibility With Various Substances: Strong oxidizing agents, alkali metals, alkaline earth metals.

Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon, dioxide.

Hazardous Polymerization: Has not been reported.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: May be harmful if inhaled. May cause irritation of the respiratory tract.

INGESTION HAZARD: Harmful if swallowed. Causes irritation of the gastrointestinal tract.

SKIN CONTACT HAZARD: Causes irritation, redness, watering, and itching.

EYE CONTACT HAZARD: Causes eye irritation (sensitizer).

Chronic Exposure Hazards: Chronic exposure may cause liver damage.

Animal Toxicity:

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;

Skin, rat: LD50 = 6139 mg/kg;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or California Prop 65

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Acute fish; Poecilia reticula: LC50 = 2.4mg/L/14D

Environmental Fate: No data available.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Trichlorobenzenes, liquid

Hazard Class: 6.1

UN Number: UN2321

Packing Group: III

Canada TDG

Additional Information: Not available

15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: CAS# 120-82-1 is listed on the TSCA Inventory.

Chemical Test Rules: CAS# 120-82-1 is not listed.

Section 12b: CAS# 120-82-1 is not listed.

TSCA Significant New Use Rule: Does not have an SNUR under TSCA.

CERCLA Hazardous Substances: CAS# 120-82-1 not listed.

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 120-82-1– acute, chronic

Section 313: Trichlorobenzene (CAS# 120-82-1) is subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 120-82-1 is on the following state right-to-know lists: Florida, New Jersey, Pennsylvania, Minnesota, and Massachusetts

Canada:

DSL/NDL: CAS# 120-82-1 is listed on Canada's DSL list.

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

DSCL (EEC):

Hazard Symbols: Xn, N

Risk Phrases: R22 – Harmful if swallowed, R38 – Irritating to skin, R50/53 – Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Safety Phrases: S23 – Do not inhale gas/fumes/vapor/spray; S37/39: Wear suitable gloves and eye/face protection, S60 – This material and its container must be disposed of as hazardous waste, S61 – Avoid release to the environment, refer to special instructions/safety data sheets.

WGK (Water Danger/protection): CAS# 120-82-1: 3

16. OTHER INFORMATION

Originally Prepared: 1/1/2006

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