

1,2,4-TRICHLOROBENZENE

TCB

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms Benzene, 1,2,4-trichloro- unsym-Trichlorobenzene 1,2,4-Trichlorobenzol	Liquid or solid	Colorless	Sharp chlorobenzene odor
<p>KEEP PEOPLE AWAY. AVOID CONTACT WITH LIQUID AND VAPOR. Wear self-contained positive breathing apparatus and full protective clothing. Shut off ignition sources and call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Wear self-contained positive pressure breathing apparatus and full protective clothing. Extinguish small fires: dry chemical, CO₂, water spray or foam; large fires: water spray, fog or foam.</p>		
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR May be irritating to eyes, skin and respiratory tract. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID May irritate skin and eyes. Poisonous if swallowed. IF IN EYES OR ON SKIN, flush with running water for at least 15 minutes; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and induce vomiting. If swallowed and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p>		
Water Pollution	<p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>		

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS
Stop discharge Contain Collection Systems: Pump; Dredge	<p>2.1 CG Compatibility Group: 36; Halogenated hydrocarbon</p> <p>2.2 Formula: C₆H₄Cl₃</p> <p>2.3 IMO/UN Designation: 6.1/2321</p> <p>2.4 DOT ID No.: 2321</p> <p>2.5 CAS Registry No.: 120-82-1</p> <p>2.6 NAERG Guide No.: 153</p> <p>2.7 Standard Industrial Trade Classification: 51139</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Wear self-contained positive pressure breathing apparatus and full protective clothing.</p> <p>3.2 Symptoms Following Exposure: Exposures to high concentrations via inhalation are potentially hazardous to the lungs, kidneys and liver. Prolonged or repeated exposures or short exposure to high concentrations via inhalation are potentially hazardous to the lungs, kidneys and liver. Prolonged or repeated exposure to the eyes is likely to result in moderate pain and transient irritation. Prolonged or repeated contact with the skin may result in moderate irritation and possible systemic effects. Ingestion: May cause kidney and liver damage.</p> <p>3.3 Treatment of Exposure: INHALATION: If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 minutes; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. INGESTION: If victim is conscious, have victim drink water or milk and induce vomiting by touching a finger to the back of his throat.</p> <p>3.4 TLV-TWA: Not listed.</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: 5 ppm</p> <p>3.7 Toxicity by Ingestion: Grade 3; LD₅₀ = 300 mg/Kg (mouse)</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: May cause lung, liver, and/or kidney damage. Causes teratogenic effects in the rat.</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation. Personnel may find high concentrations unpleasant. The effect is temporary.</p> <p>3.11 Liquid or Solid Characteristics: Causes smarting of the skin and first-degree burns on short exposure; may cause second-degree burns on long exposure.</p> <p>3.12 Odor Threshold: 3 ppm</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p>	

4. FIRE HAZARDS		7. SHIPPING INFORMATION							
4.1 Flash Point: 230°F O.C. 210°F C.C.	7.1 Grades of Purity: Purified (99%); Technical: 75% 1,2,4-Trichlorobenzene and 25% 1,2,3-Trichlorobenzene								
4.2 Flammable Limits in Air: Currently not available	7.2 Storage Temperature: Ambient								
4.3 Fire Extinguishing Agents: Small fires: dry chemical, CO ₂ , water spray or foam; large fires: water spray, fog or foam.	7.3 Inert Atmosphere: Currently not available								
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent	7.4 Venting: Not pertinent								
4.5 Special Hazards of Combustion Products: May contain toxic hydrogen chloride and phosgene.	7.5 IMO Pollution Category: B								
4.6 Behavior in Fire: Decomposes to form hydrogen chloride and phosgene.	7.6 Ship Type: 2								
4.7 Auto Ignition Temperature: 1,060°F	7.7 Barge Hull Type: 3								
4.8 Electrical Hazards: Currently not available									
4.9 Burning Rate: Currently not available									
4.10 Adiabatic Flame Temperature: Currently not available									
4.11 Stoichiometric Air to Fuel Ratio: 28.6 (calc.)									
4.12 Flame Temperature: Currently not available									
4.13 Combustion Molar Ratio (Reactant to Product): 9.0 (calc.)									
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed									
5. CHEMICAL REACTIVITY		8. HAZARD CLASSIFICATIONS							
5.1 Reactivity with Water: No reaction	8.1 49 CFR Category: Keep Away From Food								
5.2 Reactivity with Common Materials: No reaction	8.2 49 CFR Class: 6.1								
5.3 Stability During Transport: Stable	8.3 49 CFR Package Group: III								
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent	8.4 Marine Pollutant: No								
5.5 Polymerization: Not pertinent	8.5 NFPA Hazard Classification:								
5.6 Inhibitor of Polymerization: Not pertinent	<table border="1"> <thead> <tr> <th>Category</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Health Hazard (Blue)</td> <td>2</td> </tr> <tr> <td>Flammability (Red)</td> <td>1</td> </tr> <tr> <td>Instability (Yellow)</td> <td>0</td> </tr> </tbody> </table>	Category	Classification	Health Hazard (Blue)	2	Flammability (Red)	1	Instability (Yellow)	0
Category	Classification								
Health Hazard (Blue)	2								
Flammability (Red)	1								
Instability (Yellow)	0								
		8.6 EPA Reportable Quantity: 100 pounds							
		8.7 EPA Pollution Category: B							
		8.8 RCRA Waste Number: Not listed							
		8.9 EPA FWP/CA List: Not listed							
6. WATER POLLUTION		9. PHYSICAL & CHEMICAL PROPERTIES							
6.1 Aquatic Toxicity:	9.1 Physical State at 15° C and 1 atm: Solid								
1.5 ppm/1 hr/rainbow trout/LC ₅₀ /fresh water	9.2 Molecular Weight: 181.5								
0.45 ppm/96 hr/mysid shrimp/LC ₅₀ /salt water	9.3 Boiling Point at 1 atm: 415°F = 213°C = 486°K								
6.2 Waterfowl Toxicity: Currently not available	9.4 Freezing Point: 61.7°F = 16.5°C = 289.5°K								
6.3 Biological Oxygen Demand (BOD): 78% (theor), 20 days; 100% (theor), 20 days; 50% (theor), 20 days	9.5 Critical Temperature: Currently not available								
6.4 Food Chain Concentration Potential: Low potential	9.6 Critical Pressure: Currently not available								
6.5 GESAMP Hazard Profile:	9.7 Specific Gravity: 1.454 at 20°C (liquid)								
Bioaccumulation: Z	9.8 Liquid Surface Tension: Currently not available								
Damage to living resources: 3	9.9 Liquid Water Interfacial Tension: Currently not available								
Human Oral hazard: 1	9.10 Vapor (Gas) Specific Gravity: 6.25								
Human Contact hazard: I	9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available								
Reduction of amenities: X	9.12 Latent Heat of Vaporization: 113 Btu/lb = 62.9 cal/g = 2.64 X 10 ⁵ J/kg								
		9.13 Heat of Combustion: Currently not available							
		9.14 Heat of Decomposition: Not pertinent							
		9.15 Heat of Solution: Not pertinent							
		9.16 Heat of Polymerization: Not pertinent							
		9.17 Heat of Fusion: Currently not available							
		9.18 Limiting Value: Currently not available							
		9.19 Reid Vapor Pressure: Currently not available							

NOTES

1,2,4-TRICHLOROBENZENE

TCB

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
C U R R E N T L Y N O T A V A I L A B L E			C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
I N S O L U B L E		100 125 150 175 200 225 250 275 300 325 350 375 400	0.014 0.040 0.095 0.200 0.375 0.658 1.087 1.712 2.593 3.797 5.406 7.511 10.216	100 125 150 175 200 225 250 275 300 325 350 375 400	0.00043 0.00117 0.00264 0.00523 0.00946 0.01597 0.02551 0.03896 0.05735 0.08185 0.11378 0.15459 0.20594		C U R R E N T L Y N O T A V A I L A B L E