

CARBON TETRACHLORIDE

CBT

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		Watery liquid	Colorless	Sweet odor
Benzoinform Carbon tet Necatorina Perchloromethane Tetrachloromethane		Sinks in water. Poisonous vapor is produced.		
<p>Keep people away. Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind and use water spray to "knock down" vapor. Notify local health and pollution control agencies. Protect water intakes.</p>				
Fire	Not flammable. POISONOUS AND IRRITATING GASES ARE PRODUCED WHEN HEATED. Wear goggles and self-contained breathing apparatus.			
Exposure	CALL FOR MEDICAL AID.			
	<p>VAPOR POISONOUS IF INHALED. Irritating to eyes Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID POISONOUS IF SWALLOWED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p>			
Water Pollution	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and pollution control officials. Notify operators of nearby water intakes.			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Pump; Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 36;
2.2 Formula: CCl₄
2.3 IMO/UN Designation: 6.1/1846
2.4 DOT ID No.: 1846
2.5 CAS Registry No.: 56-23-5
2.6 NAERG Guide No.: 151
2.7 Standard Industrial Trade Classification: 51136

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Organic vapor canister with full face mask; protective clothing; rubber gloves.
- 3.2 **Symptoms Following Exposure:** Dizziness, incoordination, anesthesia; may be accompanied by nausea and liver damage. Kidney damage also occurs, often producing decrease or stopping of urinary output.
- 3.3 **Treatment of Exposure:** EYES AND SKIN: flush with plenty of water; for eyes, get medical attention. Remove contaminated clothing and wash before reuse. INHALATION: immediately remove to fresh air, keep patient warm and quiet and get medical attention promptly. Start artificial respiration if breathing stops. INGESTION: induce vomiting and get medical attention promptly. No specific antidote known.
- 3.4 **TLV-TWA:** 5 ppm
3.5 **TLV-STEL:** Not listed.
3.6 **TLV-Ceiling:** 10 ppm
3.7 **Toxicity by Ingestion:** Grade 2; LD₅₀ = 0.5 to 5 g/kg (rat)
3.8 **Toxicity by Inhalation:** Currently not available.
3.9 **Chronic Toxicity:** Causes severe liver damage and death if ingested.
3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary.
3.11 **Liquid or Solid Characteristics:** Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
3.12 **Odor Threshold:** Greater than 10 ppm
3.13 **IDLH Value:** 200 ppm
3.14 **OSHA PEL-TWA:** 10 ppm
3.15 **OSHA PEL-STEL:** 200 ppm, 5 minute peak in any 4 hours.
3.16 **OSHA PEL-Ceiling:** 25 ppm.
3.17 **EPA AEGL:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:**
Not flammable
- 4.2 **Flammable Limits in Air:** Not flammable
- 4.3 **Fire Extinguishing Agents:** Not pertinent
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion**
Products: Forms poisonous phosgene gas when exposed to open flames.
- 4.6 **Behavior in Fire:** Decomposes to form chlorine and phosgene
- 4.7 **Auto Ignition Temperature:** Not flammable
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not flammable
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not Pertinent
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not Pertinent
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
- 5.2 **Reactivity with Common Materials:** No reaction
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**
Currently not available
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** None
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:** Not listed

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial; technical; USP
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Pressure-vacuum
- 7.5 **IMO Pollution Category:** B
- 7.6 **Ship Type:** 3
- 7.7 **Barge Hull Type:** 3

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Poison
- 8.2 **49 CFR Class:** 6.1
- 8.3 **49 CFR Package Group:** II
- 8.4 **Marine Pollutant:** Yes
- 8.5 **NFPA Hazard Classification:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 3 |
| Flammability (Red)..... | 0 |
| Instability (Yellow)..... | 0 |
- 8.6 **EPA Reportable Quantity:** 10 pounds
- 8.7 **EPA Pollution Category:** A
- 8.8 **RCRA Waste Number:** U211
- 8.9 **EPA FWPCA List:** Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 153.83
- 9.3 **Boiling Point at 1 atm:** 170°F = 76.5°C = 349.7°K
- 9.4 **Freezing Point:** -9.4°F = -23.0°C = 250.2°K
- 9.5 **Critical Temperature:** 541.4°F = 283°C = 556.2°K
- 9.6 **Critical Pressure:** 660 psia = 45 atm = 4.6 MN/m²
- 9.7 **Specific Gravity:** 1.59 at 20°C (liquid)
- 9.8 **Liquid Surface Tension:** 27.0 dynes/cm = 0.027 N/m at 20°C
- 9.9 **Liquid Water Interfacial Tension:** 45.0 dynes/cm = 0.045 N/m at 20°C
- 9.10 **Vapor (Gas) Specific Gravity:** 5.3
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.111
- 9.12 **Latent Heat of Vaporization:** 84.2 Btu/lb = 46.8 cal/g = 1.959 X 10⁶ J/kg
- 9.13 **Heat of Combustion:** Not pertinent
- 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:** 5.09 cal/g
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** 3.8 psia

NOTES

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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
35	101.700	35	0.201	30	0.724	35	1.307
40	101.400	40	0.203	40	0.715	40	1.247
45	101.099	45	0.206	50	0.707	45	1.192
50	100.700	50	0.208	60	0.698	50	1.140
55	100.400	55	0.210	70	0.690	55	1.091
60	100.099	60	0.212	80	0.682	60	1.045
65	99.750	65	0.215	90	0.673	65	1.001
70	99.410	70	0.217	100	0.665	70	0.961
75	99.080	75	0.219	110	0.656	75	0.922
80	98.740	80	0.221	120	0.648	80	0.886
85	98.410	85	0.223	130	0.640	85	0.852
90	98.070	90	0.226	140	0.631	90	0.820
95	97.730	95	0.228	150	0.623	95	0.790
100	97.389	100	0.230	160	0.615	100	0.761
105	97.059	105	0.232	170	0.606	105	0.734
110	96.719	110	0.235			110	0.708
115	96.379	115	0.237			115	0.683
120	96.040	120	0.239			120	0.660
		125	0.241			125	0.638
		130	0.243			130	0.617
		135	0.246			135	0.597
		140	0.248			140	0.578

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
77	0.080	40	0.815	40	0.02339	0	0.123
		50	1.088	50	0.03059	25	0.126
		60	1.435	60	0.03958	50	0.128
		70	1.874	70	0.05069	75	0.130
		80	2.422	80	0.06431	100	0.132
		90	3.102	90	0.08087	125	0.134
		100	3.937	100	0.10080	150	0.136
		110	4.955	110	0.12470	175	0.138
		120	6.190	120	0.15300	200	0.139
		130	7.672	130	0.18650	225	0.141
		140	9.442	140	0.22560	250	0.143
		150	11.540	150	0.27130	275	0.144
		160	14.010	160	0.32410	300	0.145
		170	16.910	170	0.38500	325	0.147
		180	20.300	180	0.45470	350	0.148
		190	24.210	190	0.53410	375	0.149
		200	28.740	200	0.62430	400	0.150
		210	33.930	210	0.72610	425	0.151
						450	0.152
						475	0.152
						500	0.153
						525	0.153
						550	0.154
						575	0.154
						600	0.155