

1,3-DICHLOROPROPANE

DPC

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION
Common Synonyms Trimethylene chloride Trimethylene dichloride	Watery liquid Colorless Sweet odor Sinks in water. Flammable, irritating vapor is produced.	<p>Keep people away. Avoid inhalation. Shut off ignition sources and call fire department. Stay upwind and use water spray to "knock down" vapor. Avoid contact with liquid and vapor. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>FLAMMABLE. POISONOUS GASES ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Wear goggles and self-contained breathing apparatus. Extinguish with foam, dry chemical, or carbon dioxide. Cool exposed containers with water.</p>				8. HAZARD CLASSIFICATIONS
Exposure	<p>CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Irritating to skin and eyes. Harmful if swallowed. 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.</p>				8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: Yes 8.5 NFPA Hazard Classification: Not listed 8.6 EPA Reportable Quantity: 100 pounds 8.7 EPA Pollution Category: B 8.8 RCRA Waste Number: U084 8.9 EPA FWPCA List: Yes
Water Pollution	<p>Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>				9. PHYSICAL & CHEMICAL PROPERTIES
1. CORRECTIVE RESPONSE ACTIONS Stop discharge Contain Collection Systems: Pump; Dredge Do not burn	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: CH₂ClCH=CHCl 2.3 IMO/UN Designation: 3.2/1279 2.4 DOT ID No.: 1279 2.5 CAS Registry No.: 142-28-9 2.6 NAERG Guide No.: 130 2.7 Standard Industrial Trade Classification: 51138</p> <p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Rubber gloves, self-contained breathing apparatus, coveralls or laboratory coat. 3.2 Symptoms Following Exposure: INHALATION: May cause some central nervous system depression. EYES: May cause some pain and irritation. SKIN: Mild irritation. 3.3 Treatment of Exposure: Call a doctor. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. EYES: Flush with running water for 15 minutes. SKIN: Wash thoroughly with soap and water. INGESTION: Gastric lavage or emesis and catharsis. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Currently not available. 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Alters pancreatic function. 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. 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 skin. 3.12 Odor Threshold: Currently not available 3.13 IDLH Value: Not listed. 3.14 OSHA PEL-TWA: Not listed. 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed</p>				<p>5. CHEMICAL REACTIVITY</p> <p>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</p> <p>6. WATER POLLUTION</p> <p>6.1 Aquatic Toxicity: (est.) Threshold range 1 to 100 ppm. 6.2 Waterfowl Toxicity: Currently not available 6.3 Biological Oxygen Demand (BOD): Currently not available 6.4 Food Chain Concentration Potential: Currently not available 6.5 GESAMP Hazard Profile: Bioaccumulation: 0 Damage to living resources: 1 Human Oral hazard: 1 Human Contact hazard: I Reduction of amenities: X</p> <p>9.1 Physical State at 15°C and 1 atm: Liquid 9.2 Molecular Weight: 112.99 9.3 Boiling Point at 1 atm: 248.7°F = 120.4°C = 393.6°K 9.4 Freezing Point: -147.1°F = -99.5°C = 173.7°K 9.5 Critical Temperature: (est.) 597.8°F = 314.3°C = 587.5°K 9.6 Critical Pressure: (est.) 613.7 psia = 41.75 atm = 4.23 MN/m² 9.7 Specific Gravity: 1.1878 at 20°C 9.8 Liquid Surface Tension: 33.93 dynes/cm = 0.03393 N/m at 20°C 9.9 Liquid Water Interfacial Tension: 41.1 dynes/cm = 0.0411 N/m at 20°C 9.10 Vapor (Gas) Specific Gravity: 3.90. 9.11 Ratio of Specific Heats of Vapor (Gas): (est.) 1.094 at 20°C (68°F) 9.12 Latent Heat of Vaporization: At boiling point, 129 Btu/lb = 71.71 cal/g = 3.0 X 10⁵ J/kg 9.13 Heat of Combustion: -6676 Btu/lb = -3709 cal/g = -155 X 10⁵ J/kg 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</p>

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
59	74.969		C		C		C
60	74.853		R		R		R
61	74.740		R		R		R
62	74.629		E		E		E
63	74.523		T		T		T
64	74.421		L		L		L
65	74.320		Y		Y		Y
66	74.224		N		N		N
67	74.131		O		O		O
68	74.040		A		A		A
			V		V		V
			A		A		A
			V		V		V
			A		A		A
			B		B		B
			L		L		L
			E		E		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	0	-1.071	40	0.02206	1000	0.381	
N	10	-1.664	50	0.01194	1025	0.385	
S	20	-0.257	60	0.00182	1050	0.390	
O	30	-0.850	70	0.00830	1075	0.394	
L	40	0.557	80	0.01842	1100	0.398	
U	50	0.036	90	0.02854	1125	0.403	
B	60	0.629	100	0.03866	1150	0.407	
L	70	1.222	110	0.04878	1175	0.412	
E	80	1.815	120	0.05890	1200	0.416	
	90	2.408	130	0.06902	1225	0.421	
	100	3.000	140	0.07915	1250	0.425	
	110	3.593	150	0.08927	1275	0.429	
	120	4.186	160	0.09939	1300	0.434	
	130	4.779	170	0.10951	1325	0.438	
	140	5.372	180	0.11963	1350	0.443	
	150	5.965	190	0.12975	1375	0.447	
	160	6.558	200	0.13987	1400	0.452	
	170	7.151	210	0.14999	1425	0.456	
	180	7.744	220	0.16011	1450	0.460	
	190	8.337	230	0.17023	1475	0.465	
	200	8.930	240	0.18035	1500	0.469	
	210	9.522			1525	0.474	
	220	10.115			1550	0.478	
	230	10.708			1575	0.483	
	240	11.301			1600	0.487	
					1625	0.492	