

METHYL PHOSPHONOTHIOIC DICHLORIDE

MPD

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms MPTD	Liquid	Colorless	Sharp Unpleasant Odor Sinks and mixes violently with water.
Evacuate. Keep people away. Avoid contact with liquid and vapor. Notify local health and pollution control agencies.			
Fire	Combustible. Irritating gases may be produced when heated. Extinguish with dry chemicals or carbon dioxide. DO NOT USE WATER OR FOAM ON FIRE. Cool exposed containers with water.		
Exposure CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Will burn skin and eyes. If swallowed will cause nausea and vomiting. 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.			
Water Pollution	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.		

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS
Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize	2.1 CG Compatibility Group: Not listed. 2.2 Formula: <chem>CH3PSCl2</chem> 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: 1760 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: 154 2.7 Standard Industrial Trade Classification: 51631
3. HEALTH HAZARDS	
3.1 Personal Protective Equipment: Use extreme care when handling this compound. Avoid any contact with liquid or vapor. Rubber or neoprene gloves; respiratory protection; goggles	
3.2 Symptoms Following Exposure: Inhalation causes irritation of nose and throat; effects are quite similar to those of phosgene. Ingestion causes irritation of mouth and stomach. Delayed, painful eye irritation may occur from exposure to vapor; liquid causes severe irritation. Contact with skin causes irritation and burns.	
3.3 Treatment of Exposure: Get medical attention after all exposures to this compound. INHALATION: remove victim to fresh air; alert physician to delayed effects similar to those of phosgene. INGESTION: give large amount of water and induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water.	
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: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Currently not available 3.11 Liquid or Solid Characteristics: Currently not available 3.12 Odor Threshold: Currently not available 3.13IDLH 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	

4. FIRE HAZARDS	7. SHIPPING INFORMATION
4.1 Flash Point: >122°F O.C.	7.1 Grades of Purity: Technical
4.2 Flammable Limits in Air: Currently not available	7.2 Storage Temperature: Ambient
4.3 Fire Extinguishing Agents: Dry chemical or carbon dioxide	7.3 Inert Atmosphere: No requirement
4.4 Fire Extinguishing Agents Not to Be Used: Water or foam	7.4 Venting: Open
4.5 Special Hazards of Combustion Products: Irritating hydrogen chloride, sulfur dioxide and other fumes may be formed in fire.	7.5 IMO Pollution Category: Currently not available
4.6 Behavior in Fire: Currently not available	7.6 Ship Type: Currently not available
4.7 Auto Ignition Temperature: Currently not available	7.7 Barge Hull Type: Currently not available
4.8 Electrical Hazards: Currently not available	8. HAZARD CLASSIFICATIONS
4.9 Burning Rate: Currently not available	8.1 49 CFR Category: Corrosive material
4.10 Adiabatic Flame Temperature: Currently not available	8.2 49 CFR Class: 8
4.11 Stoichiometric Air to Fuel Ratio: 16.7 (calc.)	8.3 49 CFR Package Group: Currently not available
4.12 Flame Temperature: Currently not available	8.4 Marine Pollutant: No
4.13 Combustion Molar Ratio (Reactant to Product): 5.0 (calc.)	8.5 NFPA Hazard Classification: Not listed
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed	8.6 EPA Reportable Quantity: Not listed.
9. PHYSICAL & CHEMICAL PROPERTIES	
9.1 Physical State at 15°C and 1 atm: Liquid	
9.2 Molecular Weight: 149	
9.3 Boiling Point at 1 atm: Currently not available	
9.4 Freezing Point: -14.1°F = -25.6°C = 247.6°K	
9.5 Critical Temperature: Not pertinent	
9.6 Critical Pressure: Not pertinent	
9.7 Specific Gravity: 1.42 at 20°C (liquid)	
9.8 Liquid Surface Tension: Currently not available	
9.9 Liquid Water Interfacial Tension: Not pertinent	
9.10 Vapor (Gas) Specific Gravity: Not pertinent	
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent	
9.12 Latent Heat of Vaporization: (est.) 110 Btu/lb = 60 cal/g = 2.5 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: Currently not available	
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	
6. WATER POLLUTION	
6.1 Aquatic Toxicity: Currently not available	
6.2 Waterfowl Toxicity: Currently not available	
6.3 Biological Oxygen Demand (BOD): Currently not available	
6.4 Food Chain Concentration Potential: None	
6.5 GESAMP Hazard Profile: Not listed	

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
68	88.639		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

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
	R E A C T S	60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140	0.043 0.053 0.063 0.076 0.091 0.108 0.128 0.151 0.178 0.208 0.242 0.282 0.326 0.376 0.433 0.496 0.567	60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140	0.00116 0.00139 0.00166 0.00198 0.00234 0.00276 0.00324 0.00378 0.00441 0.00511 0.00591 0.00680 0.00781 0.00893 0.01019 0.01158 0.01313		N O T P E R T I N E N T