

DIMETHYL HYDROGEN PHOSPHITE

DPI

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless
Dimethyl phosphite Dimethylphosphonate NCI-C54773 Phosphonic acid, dimethyl ester		
<p>Keep people away. Avoid contact with liquid and vapor. Wear self-contained breathing apparatus and protective clothing. Call fire department. Restrict ignition sources. Notify local health and pollution control agencies. Protect water intakes.</p>		
Fire	<p>COMBUSTIBLE. Water may be ineffective on fire. Extinguish with dry chemical, alcohol foam, or CO₂. Cool exposed container with water.</p>	
Exposure	<p>CALL FOR MEDICAL HELP</p> <p>VAPOR Harmful if inhaled. Move to fresh air. If breathing has stopped give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Harmful if absorbed through skin or swallowed. Remove contaminated clothing. Flush affected area with soap and plenty of water. IF IN EYES, hold eyelids open and flush with water for 15 minutes.</p>	
Water Pollution	<p>Effect of low concentration on aquatic life is unknown. May be dangerous if it enters water intakes. Notify health and wildlife officials Notify operators of nearby water intakes</p>	

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Collection Systems: Pump; Dredge

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: 34; Esters
- 2.2 Formula: (CH₃O)₂P(O)H
- 2.3 IMO/UN Designation: Currently not available
- 2.4 DOT ID No.: Not listed
- 2.5 CAS Registry No.: 868-85-9
- 2.6 NAERG Guide No.: Not listed
- 2.7 Standard Industrial Trade Classification: 51631

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Self-contained breathing apparatus, rubber boots and heavy rubber gloves
- 3.2 **Symptoms Following Exposure:** Harmful if swallowed, inhaled or absorbed through skin. Exposure can cause nausea, headache and vomiting. Vapor irritating to eyes, mucous membrane and upper respiratory tract.
- 3.3 **Treatment of Exposure:** INHALATION: Call for medical help. Remove victim to fresh air. If breathing has stopped give artificial respiration. If breathing is difficult, give oxygen. SKIN: Wash with soap and plenty of water. EYES: Wash with plenty of water.
- 3.4 **TLV-TWA:** Not listed.
- 3.5 **TLV-STEL:** Not listed.
- 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 2; LD₅₀ = 3.05 g/kg rat
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Suspected tumerogen and may be mutagen.
- 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors are moderately irritating such that personnel will not usually tolerate moderate or high concentrations.
- 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.
- 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

4. FIRE HAZARDS

- 4.1 **Flash Point:** 85°F C.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Water fog, dry chemical, carbon dioxide, alcohol foam.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Water may be ineffective.
- 4.5 **Special Hazards of Combustion Products:** Emits toxic fumes under fire conditions.
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Currently not available
- 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:** 16.7 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 6.0 (calc.)
- 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:** Dry lime, soda ash
- 5.5 **Polymerization:** Will not occur
- 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):** Currently not available
- 6.4 **Food Chain Concentration Potential:** Currently not available
- 6.5 **GESAMP Hazard Profile:**
Bioaccumulation: 0
Damage to living resources: 3
Human Oral hazard: 1
Human Contact hazard: 1
Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 99%
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Currently not available
- 7.5 **IMO Pollution Category:** (B)
- 7.6 **Ship Type:** 3
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed.
- 8.2 **49 CFR Class:** Not pertinent.
- 8.3 **49 CFR Package Group:** Not listed.
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed.
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 110.05
- 9.3 **Boiling Point at 1 atm:** 338°-339.8°F = 170-171°C = 443.2-444.2°K
- 9.4 **Freezing Point:** Currently not available
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 1.200
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** 3.79
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
- 9.12 **Latent Heat of Vaporization:** Currently not available
- 9.13 **Heat of Combustion:** Currently not available
- 9.14 **Heat of Decomposition:** Currently not available
- 9.15 **Heat of Solution:** Currently not available
- 9.16 **Heat of Polymerization:** Currently not available
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

NOTES

DIMETHYL HYDROGEN PHOSPHITE

DPI

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
	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