

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>	Liquid	Clear to amber	Mild dithiophosphate acid (technical grade). Pure is odorless.
	Sinks and mixes slowly with water.		
<p>Keep people away. Avoid contact with liquid.                  Wear goggles and self-contained breathing apparatus.                  Stop discharge if possible. Call fire department.                  Notify local health and pollution control agencies.                  Protect water intakes.</p>			
<b>Fire</b>	Not flammable. May decompose rapidly with violence above 150°C. POISONOUS GASES ARE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus.		
<b>Exposure</b>	CALL FOR MEDICAL AID.  LIQUID POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. 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. SPRAY POISONOUS IF INHALED. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.		
<b>Water Pollution</b>	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><b>1. CORRECTIVE RESPONSE ACTIONS</b></p> <ul style="list-style-type: none"> <li>Dilute and disperse</li> <li>Stop discharge</li> <li>Contain</li> <li>Do not burn</li> </ul>	<p><b>2. CHEMICAL DESIGNATIONS</b></p> <ul style="list-style-type: none"> <li>2.1 CG Compatibility Group: Not listed.</li> <li>2.2 Formula: C<sub>12</sub>H<sub>10</sub>O<sub>6</sub>P<sub>2</sub>S<sub>4</sub></li> <li>2.3 IMO/UN Designation: 6.1/2783(&gt;2.5%); 9/2783(&lt;2.5%)</li> <li>2.4 DOT ID No.: 2783</li> <li>2.5 CAS Registry No.: 563-12-2</li> <li>2.6 NAERG Guide No.: 152</li> <li>2.7 Standard Industrial Trade Classification: 51631</li> </ul>
<p><b>3. HEALTH HAZARDS</b></p>	
<p>3.1 <b>Personal Protective Equipment:</b> Wear safety glasses and gas masks. In fires full face masks of the oxygen-producing type should be worn.</p> <p>3.2 <b>Symptoms Following Exposure:</b> Absorption can occur through all portals, including intact skin. Symptoms occur most rapidly after respiratory exposure or massive exposure directly to eye. Early symptoms are headache, weakness, excess perspiration, nausea, blurring of vision and tightness in the chest. Later symptoms include vomiting, abdominal cramps, muscular twitching, diarrhea, and coma.</p> <p>3.3 <b>Treatment of Exposure:</b> Obtain medical aid. INHALATION: If needed, administer artificial respiration and oxygen. EYES: Irrigate with water. SKIN: Remove clothing immediately and bathe with warm water and soap. INGESTION: Gastric lavage and saline catharsis. OTHER: Give 2 to 4 mg Atropine (IV or IM). Repeat dose every 10 minutes until patient is fully atropinized.</p> <p>3.4 TLV-TWA: 0.4 mg/m<sup>3</sup> (skin).</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 <b>Toxicity by Ingestion:</b> Grade 3; LD<sub>50</sub> = 50 to 500 mg/kg.</p> <p>3.8 <b>Toxicity by Inhalation:</b> Currently not available.</p> <p>3.9 <b>Chronic Toxicity:</b> With chronic intoxication, minor additional exposure may lead to an acute serious episode due to asymptomatic cumulative depression of cholinesterase activity.</p> <p>3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Spray not irritating to eyes and throat. (Vapor pressure low eliminating vapor hazard.)</p> <p>3.11 <b>Liquid or Solid Characteristics:</b> No appreciable hazard. Practically harmless to the skin.</p> <p>3.12 <b>Odor Threshold:</b> Pure-odorless. Emulsifiable 0.6 mg/l.</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>	

<p><b>4. FIRE HAZARDS</b></p> <p>4.1 <b>Flash Point:</b> Not pertinent</p> <p>4.2 <b>Flammable Limits in Air:</b> Not flammable</p> <p>4.3 <b>Fire Extinguishing Agents:</b> Not pertinent</p> <p>4.4 <b>Fire Extinguishing Agents Not to Be Used:</b> Not pertinent</p> <p>4.5 <b>Special Hazards of Combustion Products:</b> When heated to decomposition emits toxic fumes of oxides of sulfur and phosphorus.</p> <p>4.6 <b>Behavior in Fire:</b> Unstable at elevated temperatures. It tends to decompose rapidly with violence above 150°C.</p> <p>4.7 <b>Auto Ignition Temperature:</b> Not flammable</p> <p>4.8 <b>Electrical Hazards:</b> Not pertinent</p> <p>4.9 <b>Burning Rate:</b> Not pertinent</p> <p>4.10 <b>Adiabatic Flame Temperature:</b> Currently not available</p> <p>4.11 <b>Stoichiometric Air to Fuel Ratio:</b> Not pertinent</p> <p>4.12 <b>Flame Temperature:</b> Currently not available</p> <p>4.13 <b>Combustion Molar Ratio (Reactant to Product):</b> Not pertinent</p> <p>4.14 <b>Minimum Oxygen Concentration for Combustion (MOCC):</b> Not listed</p>	<p><b>7. SHIPPING INFORMATION</b></p> <p>7.1 <b>Grades of Purity:</b> 47.7% emulsifiable concentrate 2.2% emulsion 8% granular 25% wettable powder</p> <p>7.2 <b>Storage Temperature:</b> Do not store formulation 4EC below 0°F and formu- lation 8EC below 20°F</p> <p>7.3 <b>Inert Atmosphere:</b> Currently not available</p> <p>7.4 <b>Venting:</b> Currently not available</p> <p>7.5 <b>IMO Pollution Category:</b> Currently not available</p> <p>7.6 <b>Ship Type:</b> Currently not available</p> <p>7.7 <b>Barge Hull Type:</b> Currently not available</p>
<p><b>5. CHEMICAL REACTIVITY</b></p> <p>5.1 <b>Reactivity with Water:</b> No reaction</p> <p>5.2 <b>Reactivity with Common Materials:</b> Not flammable</p> <p>5.3 <b>Stability During Transport:</b> Subject to slow oxidation in air.</p> <p>5.4 <b>Neutralizing Agents for Acids and Caustics:</b> Not pertinent</p> <p>5.5 <b>Polymerization:</b> Not pertinent</p> <p>5.6 <b>Inhibitor of Polymerization:</b> Not pertinent</p>	<p><b>8. HAZARD CLASSIFICATIONS</b></p> <p>8.1 <b>49 CFR Category:</b> Not listed.</p> <p>8.2 <b>49 CFR Class:</b> Not pertinent.</p> <p>8.3 <b>49 CFR Package Group:</b> Not listed.</p> <p>8.4 <b>Marine Pollutant:</b> No</p> <p>8.5 <b>NFPA Hazard Classification:</b> Not listed</p> <p>8.6 <b>EPA Reportable Quantity:</b> 10 pounds</p> <p>8.7 <b>EPA Pollution Category:</b> A</p> <p>8.8 <b>RCRA Waste Number:</b> Not listed</p> <p>8.9 <b>EPA FWPCA List:</b> Yes</p>
<p><b>6. WATER POLLUTION</b></p> <p>6.1 <b>Aquatic Toxicity:</b></p> <ul style="list-style-type: none"> <li>0.095 ppm/96-hour/LC<sub>50</sub> 550/Bluegill</li> <li>0.23 ppm/48-hour/TLm/Bluegill</li> <li>0.018 mg/l/24-hour/TLm/Scud</li> <li>0.0094 mg/l/48-hour/TLm/Scud</li> <li>0.13 ppm/96-hour/LC<sub>50</sub>/Bluegill</li> <li>2.4 ppm/96-hour/LC<sub>50</sub>/Fat head minnow</li> <li>0.13 ppm/96-hour/LC<sub>50</sub>/Guppy</li> <li>0.00001 ppm/48-hour/LC<sub>50</sub>/Daphnia magna</li> </ul> <p>6.2 <b>Waterfowl Toxicity:</b> Mallard LC<sub>50</sub> = &gt; 5000 ppm Acute oral LD<sub>50</sub> = &gt; 1600 mg/kg</p> <p>6.3 <b>Biological Oxygen Demand (BOD):</b> In raw river water, 90% remained after 1 week 75% remained after 2 weeks 50% remained after 8 weeks</p> <p>6.4 <b>Food Chain Concentration Potential:</b> Build-up in food chain unlikely.</p> <p>6.5 <b>GESAMP Hazard Profile:</b></p> <ul style="list-style-type: none"> <li>Bioaccumulation: +</li> <li>Damage to living resources: 4</li> <li>Human Oral hazard: 3</li> <li>Human Contact hazard: II</li> <li>Reduction of amenities: XXX</li> </ul>	<p><b>9. PHYSICAL &amp; CHEMICAL PROPERTIES</b></p> <p>9.1 <b>Physical State at 15° C and 1 atm:</b> Liquid</p> <p>9.2 <b>Molecular Weight:</b> 384.48</p> <p>9.3 <b>Boiling Point at 1 atm:</b> Decomposes above 150°C.</p> <p>9.4 <b>Freezing Point:</b> Pure: 19.4°F = -7°C = 266.2°K Technical: 8.6°F = -13°C = 260.2°K</p> <p>9.5 <b>Critical Temperature:</b> Currently not available</p> <p>9.6 <b>Critical Pressure:</b> Currently not available</p> <p>9.7 <b>Specific Gravity:</b> 1.220 at 20°C (Pure); 1.215 to 1.230 at 20°C (Technical)</p> <p>9.8 <b>Liquid Surface Tension:</b> Currently not available</p> <p>9.9 <b>Liquid Water Interfacial Tension:</b> Currently not available</p> <p>9.10 <b>Vapor (Gas) Specific Gravity:</b> 13.26</p> <p>9.11 <b>Ratio of Specific Heats of Vapor (Gas):</b> Currently not available</p> <p>9.12 <b>Latent Heat of Vaporization:</b> Currently not available</p> <p>9.13 <b>Heat of Combustion:</b> Currently not available</p> <p>9.14 <b>Heat of Decomposition:</b> Currently not available</p> <p>9.15 <b>Heat of Solution:</b> Not pertinent</p> <p>9.16 <b>Heat of Polymerization:</b> Not pertinent</p> <p>9.17 <b>Heat of Fusion:</b> Currently not available</p> <p>9.18 <b>Limiting Value:</b> Currently not available</p> <p>9.19 <b>Reid Vapor Pressure:</b> Currently not available</p>
<p>NOTES</p>	

# ETHION

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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
	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		N O T  P E R T I N E N T		N O T  P E R T I N E N T		C U R R E N T L Y  N O T  A V A I L A B L E