


ARKANSAS STATE UNIVERSITY EHS  
LABORATORY CHEMICAL STANDARD OPERATING PROCEDURE

**Chemical Name:** Perchloric acid      **CAS #:** 7601-90-3

**Hazard Classification:** Health Hazard and Physical Hazard

Location Used:	Principal Investigator:
Processes for Which Chemical Is Used:	

**HAZARDS AND PROTECTION**

<p><b>Hazard Information</b></p> <ul style="list-style-type: none"> <li>• Causes severe skin burns and eye damage</li> <li>• May cause fire or explosion</li> <li>• Strong oxidizer</li> <li>• Corrosive to metals</li> </ul>	
<p><b>Routes of Exposure</b></p> <ul style="list-style-type: none"> <li>• Ingestion</li> <li>• Inhalation</li> <li>• Eye absorption</li> <li>• Skin Absorption</li> </ul>	<p>If exposed by:</p> <ul style="list-style-type: none"> <li>• Inhalation: Remove to fresh air. If not breathing, give artificial respiration.</li> <li>• Ingestion: Do not induce vomiting. Rinse mouth with water.</li> <li>• Eye or skin: Remove contaminated clothing. Rinse with plenty of water for 15 minutes. Wash skin with soap and water. If in eyes, continue rinsing with water during transport to hospital.</li> </ul>
<p><b>Symptoms of Exposure</b></p> <ul style="list-style-type: none"> <li>• Burning sensation</li> <li>• Coughing, wheezing, shortness of breath, laryngitis</li> </ul>	<p>If exposed by any route, seek immediate medical attention.</p>
<p><b>Special Use Requirements</b></p> <p>Perchloric acid has special use requirements. These requirements are for use of perchloric acid at any concentration.</p>	<ul style="list-style-type: none"> <li>• Remove any organic materials from the area.</li> <li>• After working with perchloric acid, the area must be decontaminated with a 10% sodium carbonate solution.</li> </ul>
<p><b>Engineering Controls</b></p> <ul style="list-style-type: none"> <li>• Chemical Fume Hood</li> </ul>	<p>Never open perchloric acid outside of a chemical fume hood.</p>

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<p><b>Administrative Controls</b></p> <ul style="list-style-type: none"> <li>• Designated area sign</li> <li>• Particularly hazardous substance label</li> </ul>	<ul style="list-style-type: none"> <li>• Post designated area sign before each use.</li> <li>• Label containers of perchloric acid as a health and physical hazard.</li> <li>• Use as small a quantity as possible.</li> </ul>
<p><b>Personal Protective Equipment</b></p> <ul style="list-style-type: none"> <li>• Gloves</li> <li>• Splash goggles</li> <li>• Lab coat</li> </ul>	<p>Wash hands immediately after use. Splash goggles must be worn when working with solutions of perchloric acid greater than 1%.</p>

**OTHER SAFETY INFORMATION**

<p><b>Transportation</b></p>	<p>Follow guidance given in the laboratory safety manual for transport of chemicals.</p>
<p><b>Storage</b></p> <ul style="list-style-type: none"> <li>• Store in cabinet with other acids, but in a separate secondary container.</li> <li>• Do not store in metal containers.</li> <li>• Do not store near organic materials.</li> <li>• Keep away from heat and open flames.</li> </ul>	<p>Incompatible materials include:</p> <p>Strong bases, strong acids, amines, phosphorus halides, alcohols, organic materials, powdered metals, strong reducing agents</p>
<p><b>Spill/Accident Procedures</b></p> <p>For all spills:</p> <ul style="list-style-type: none"> <li>• Wear nitrile gloves, splash goggles and lab coat</li> <li>• Evacuate the immediate area</li> </ul> <p>Exposure:</p> <ul style="list-style-type: none"> <li>• If anyone exposed requires emergency medical attention, dial 911 (or 9-911 from landline).</li> <li>• Follow procedures outlined in laboratory safety manual.</li> </ul>	<p><b>Small spills (less than 50 mL in a hood):</b> Cover spills of dry chemical with sand or other inorganic absorbent. Do not use organic materials such as paper to absorb! Sweep contents into a non-metal container collection by EHS. If the spill is liquids, cover with absorbent material and then place the absorbent materials in a glass container for collection by EHS. Clean area with soap and water once spill is removed.</p> <p><b>Large spills (greater than 50 mL in a hood or any amount outside a fume hood):</b> If the spill is in a chemical fume hood, contact the EHS director (864-710-2933). If he cannot be reached (does not answer phone, do not leave voicemail), then call 911, pull the fire alarm and exit the building. If the spill is outside of a hood, then call 911, pull the fire alarm and exit the building.</p>
<p><b>Waste Disposal</b></p>	<p>Waste perchloric acid must be collected for disposal.</p>

