1.0 Purpose
SOP-BCR-1.13 offers comprehensive procedures and precautions for use of laboratory acids.

2.0 Scope
BCR-SOP-1.13 covers all personnel, resources and equipment in the experimental BCR lab.

3.0 Materials & Locations

<table>
<thead>
<tr>
<th>Description</th>
<th>Storage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Acids (nitric, sulfuric, hydrochloric, acetic, phosphoric)</td>
<td>Acids are stored in the metal cabinet under the fume hood in room 026-328S/026-320S.</td>
</tr>
</tbody>
</table>

4.0 Procedure and applicable engineering controls

4.1 Potential Hazards, Safety and Engineering controls:
- Avoid skin contact as serious burns may occur.
- Always use appropriate PPE including labcoat or apron, nitrile, PVC or neoprene gloves, and chemical splash goggles when using large amounts.
- All work with concentrated chemical acids must be done in a fume hood. Make sure the bottle is in the hood so that fumes can not escape and be inhaled.
- A safety shower/eyewash station is located at the entrance to room 026-328S and 020-326W. These must be accessible and operational when using corrosive liquids.

4.2 Storage Requirements:
- Store mineral acids together, separate from oxidizing agents and organic materials. Store acetic acid and other organic acids with the combustible organic liquids. Bottles of acid should be stored in an acid (corrosive) cabinet. While acids and bases are both considered to be corrosive, care must be taken to not store acids and bases in the same cabinet. It is particularly important to avoid storing ammonium hydroxide and strong mineral acids together.
- Inorganic acids include, Chlorosulfonic acid, Hydrofluoric acid, Hydrochloric acid, Hydrogen fluoride, Hydrogen chloride, Nitric acid, Sulfuric acid, Phosphoric acid.
- Organic acids include: Acetic acid, Butyric acid, Formic acid, and Propionic acid.

4.3 Spill and Accident Measures:
- If skin is exposed to an acid, rinse the affected area with plenty of water while removing contaminated clothing and shoes. Rinse for a minimum of 15 minutes. Seek medical attention through Occupational Health Services at C380 Med Inn Building (734)764-8021.
- If eyes are exposed to an acid, splashes may cause tissue destruction, wash eyes for at least 15 minutes, lifting the upper and lower eyelids. Seek medical attention immediately.
- **Small Spills:** Do not attempt to cleanup a spill if you feel unsure of your ability to do so or if you perceive the risk to be greater than normal laboratory operations. If cleanup is feasible cover the spill with a broad spectrum absorbent; chemical spill kits are available near the entrance to room 026-328S. When the absorbent is removed wash contaminated area with sodium bicarbonate and water. Dispose of all materials in acid-safe containers and call OSEH for pick up.
- **Large Spills:** Notify others in the area of a spill. Turn off ignition sources in the area. Evacuate area and post entrance ways to spill area. Call OSEH Haz Mat at
(763-1131) or DPS after hours at (9-1-1) for spill response. Restrict persons from area of spill or leak until cleanup is complete.

4.4 Waste Disposal Steps:
- Laboratory Acids must be disposed of by OSEH. A clear hazardous material label must be put on the container and it must be packaged in a secondary container. A chemical manifest will need to be created and can be found in the Haz Mat Manual. **Call OSEH at 3-4568 for pickup of waste.**

5.0 Applicable References (inc. MSDS and waste disposal where applicable)
- Please refer to MSDS for more information on safety and precautions for using a specific laboratory acid. MSDS can be found online or in the binder in 026-328S.
- Please refer to BCR-SOP-1.4 for more info on Spill Containment and cleanup.

6.0 Change Description

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>7/13/12</td>
<td>Updated room locations</td>
</tr>
</tbody>
</table>