## Chemical Segregation and Storage Guide

### Chemical Storage

All chemical containers should be:
- Labeled
- Closed
- Free of residue and corrosion
- Not leaking, broken, or swelling

Avoid storing chemicals:
- On the floor
- On bench tops
- Under sinks (except cleaners)
- On high shelves without lips

### Class of Chemicals

<table>
<thead>
<tr>
<th>Class of Chemicals</th>
<th>Examples</th>
<th>Recommended Storage</th>
<th>Keep Away From</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corrosive INORGANIC Acids</strong></td>
<td>Hydrochloric acid, hydrofluoric acid, phosphoric acid, sulfuric acid, chromic acid, perchloric acid, nitric acid, hydrobromic acid</td>
<td>Acid storage cabinet or deep corrosion-resistant spill trays. Keep away from water sources. Avoid storage directly on metal shelves.</td>
<td>Flammable liquids, flammable solids, bases, <strong>organic acids</strong>, oxidizers, poisons.</td>
</tr>
<tr>
<td><strong>Corrosive ORGANIC Acids</strong></td>
<td>Acetic acid, trichloroacetic acid, formic acid</td>
<td>Acid storage cabinet or deep corrosion-resistant spill trays. Keep away from water sources. Avoid storage directly on metal shelves.</td>
<td>Flammable liquids, flammable solids, bases, <strong>organic acids</strong>, oxidizers, poisons.</td>
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<tr>
<td><strong>Corrosive Bases/Caustics</strong></td>
<td>Ammonium hydroxide, sodium hydroxide solutions</td>
<td>Separate storage cabinet or deep corrosion-resistant spill trays. Keep away from water sources.</td>
<td>Flammable liquids, flammable solids, acids, oxidizers, poisons.</td>
</tr>
<tr>
<td><strong>Explosives</strong></td>
<td>Ammonium nitrate, nitro urea, sodium amide, trinitroaniline, trinitroanisole, trinitrobenzene, picric acid, TNT, trinitrobenzoic acid, azides, perchlorates</td>
<td>Separate storage area from all other chemicals. Secure from falling.</td>
<td>All other chemicals. Heat, open flames, direct sunlight, spark sources, and ignition sources.</td>
</tr>
<tr>
<td><strong>Flammable Liquids</strong></td>
<td>Acetone, benzene, diethyl ether, methanol, ethanol, toluene, hexanes</td>
<td>Flammables storage cabinet (except small working quantities) or approved flammable storage refrigerator.</td>
<td>Acids, bases, oxidizers, poisons. Heat, open flames, direct sunlight, spark sources, and ignition sources.</td>
</tr>
</tbody>
</table>

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### Safety Contacts

- **University of Louisville Police Dept.**
  - Non-Life Threatening: (502) 852-6111
  - Environmental Health and Safety: (502) 852-6670
- **Emergency Manager**: (502) 852-2948
- **Biological Safety Officer**: (502) 852-2959
- **Radiation Safety Officer**: (502) 852-6146
- **Hazardous Waste Coordinator**: (502) 852-2956

DIAL 9-1-1 for Fire or Life-Threatening Emergency
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<tr>
<td><strong>Flammable Solids</strong></td>
<td>Phosphorous, magnesium, carbon</td>
<td>Separate storage area from oxidizers and corrosives.</td>
<td>Acids, bases, oxidizers, poisons. Heat, open flames, direct sunlight, spark sources, and ignition sources</td>
</tr>
<tr>
<td><strong>Oxidizers</strong></td>
<td>Sodium hypochlorite, benzoyl peroxide, potassium permanganate, potassium dichromate, peroxides, perchlorates, chlorates, nitrates, bromates, superoxides</td>
<td>Deep spill containment trays inside non-combustible cabinet separate from flammables, combustible materials, and reducing agents. Separate inorganic oxidizers and organic peroxides via trays.</td>
<td>Reducing agents, flammables, combustibles, organic materials, corrosives. Very strong: glass or inert containers. No cork or rubber stoppers.</td>
</tr>
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<td><strong>Reducing Agents</strong></td>
<td>Lithium aluminum hydride, sodium amalgam, sodium borohydride, diisobutyl aluminum hydride, formic acid, oxalic acid</td>
<td>Deep spill containment trays inside non-combustible cabinet separate oxidizers.</td>
<td>Oxidizers, arsenic, selenides.</td>
</tr>
<tr>
<td><strong>Water Reactive Materials</strong></td>
<td>Sodium metal, potassium metal, lithium metal, lithium aluminum hydride, sodium hydride, borohydrides</td>
<td>Keep away from water sources. Store in desiccators or glove boxes filled with dry gases. Label location of storage area. If flammable solid, store are such. Otherwise, store alone.</td>
<td>Aqueous solutions, oxidizers.</td>
</tr>
<tr>
<td><strong>Poisons</strong></td>
<td>Cyanides, heavy metal compounds, acrylamide, DMSO</td>
<td>Vented, cool dry area in unbreakable chemically resistant secondary container.</td>
<td>Flammable liquids, acids, bases, oxidizers.</td>
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<td><strong>Flammable Compressed Gases</strong></td>
<td>Methane, acetylene, propane</td>
<td>Away from oxidizing gases. &lt;br&gt; Securely chain cylinders. &lt;br&gt; Do not store lecture-size gas cylinders in cabinets with hazardous liquids.</td>
<td>Oxidizing and toxic compressed gases, oxidizing solids.</td>
</tr>
<tr>
<td><strong>Oxidizing Compressed Gases</strong></td>
<td>Oxygen, chlorine, bromine</td>
<td>Away from flammable gases. &lt;br&gt; Securely chain cylinders. &lt;br&gt; Do not store lecture-size gas cylinders in cabinets with hazardous liquids.</td>
<td>Flammable gases.</td>
</tr>
<tr>
<td><strong>Poisonous Compressed Gases</strong></td>
<td>Carbon monoxide, hydrogen sulfide</td>
<td>Away from flammable and oxidizing gases. &lt;br&gt; Securely chain cylinders. &lt;br&gt; Do not store lecture-size gas cylinders in cabinets with hazardous liquids.</td>
<td>Flammable gases, oxidizing gases.</td>
</tr>
<tr>
<td><strong>Inert Compressed Gases</strong></td>
<td>Nitrogen, helium, argon</td>
<td>Securely chain cylinders. &lt;br&gt; Do not store lecture-size gas cylinders in cabinets with hazardous liquids.</td>
<td>Refer to SDS.</td>
</tr>
</tbody>
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**DIAL 9-1-1**

for Fire or Life-Threatening Emergency