A Guide to Chemical Clean Outs

University Police and Safety Office
What Can I Dispose?

- Unwanted or Expired Chemicals
  - Pesticides
  - Paint (Oil or Latex based)
  - Cleaning Chemicals (e.g. drain cleaner, detergents)
  - Laboratory Chemicals (e.g. solvents, solid chemicals)
  - The Safety Office will collect almost ANY* chemicals!

*Chemicals must be in a durable container with a screwed-on lid. No unknown chemicals can be collected.
Before You Begin...

• Contact the Safety Office
  – Phone: (701) 231-7759

• Waste Minimization
  – Check with colleagues to ensure no one can use the unwanted chemicals before disposal.
  – Reduce waste generation whenever possible.
### Step 1: Create an Inventory

- Create an inventory of all the chemicals you want to dispose of.
  - Include Full Chemical Name, CAS Number (if available), Any Notes on Compound (Manufacturer, Condition, etc.)
  - Email Inventory To: ndsu.wastehandlingprogram@ndsu.edu

<table>
<thead>
<tr>
<th>Compound</th>
<th>Amount</th>
<th>CAS Number</th>
<th>Composition Information (SDS Section 3)</th>
<th>Hazard Class (Primary)</th>
<th>Hazard Class (Secondary)</th>
<th>NOTES (Condition, Manufacturer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>2 L</td>
<td>7664-93-9</td>
<td></td>
<td>Acid</td>
<td></td>
<td>Alfa Aesar</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>4 L</td>
<td>7664-38-2</td>
<td></td>
<td>Acid</td>
<td></td>
<td>Sigma</td>
</tr>
<tr>
<td>Toluene</td>
<td>2 L</td>
<td>108-88-3</td>
<td></td>
<td>Flammable</td>
<td>Toxic</td>
<td>Alfa Aesar</td>
</tr>
<tr>
<td>Formaldehyde 37%</td>
<td>500 mL</td>
<td>50-00-0</td>
<td></td>
<td>Flammable</td>
<td>Toxic</td>
<td>Sigma</td>
</tr>
<tr>
<td>1, 4 - Dioxane</td>
<td>100 mL</td>
<td>603-024-00-5</td>
<td></td>
<td>Flammable</td>
<td>Toxic</td>
<td>Alfa Aesar</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>4 L</td>
<td>8498-08</td>
<td></td>
<td>Flammable</td>
<td>Possible Peroxide Former</td>
<td>Possible Peroxide Former</td>
</tr>
<tr>
<td>Potassium permanganate</td>
<td>100 g</td>
<td>7722-64-7</td>
<td></td>
<td>Oxidizer</td>
<td>Toxic</td>
<td>Sigma</td>
</tr>
<tr>
<td>Ammonium Persulfate</td>
<td>100 g</td>
<td>7727-54-0</td>
<td></td>
<td>Oxidizer</td>
<td>Toxic</td>
<td>EMD OmniPur</td>
</tr>
<tr>
<td>Potassium Nitrate 99%</td>
<td>500 g</td>
<td>7757-79-1</td>
<td></td>
<td>Oxidizer</td>
<td></td>
<td>Alfa Aesar</td>
</tr>
<tr>
<td>1-Methyl-2-pyrroldinone</td>
<td>1 kg</td>
<td>872-50-4</td>
<td></td>
<td>Toxic</td>
<td>Flammable</td>
<td>Sigma</td>
</tr>
<tr>
<td>perfluoro-compound fc-72™</td>
<td>5 kg</td>
<td>355-42-0</td>
<td>Perfluoro-n-hexane</td>
<td>Toxic</td>
<td>Irritant</td>
<td>Sigma</td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>50 g</td>
<td>26628-22-8</td>
<td></td>
<td>Toxic</td>
<td>Reactive</td>
<td>Sigma</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>50 g</td>
<td>471-34-1</td>
<td></td>
<td>Non Hazardous</td>
<td></td>
<td>JT Baker</td>
</tr>
<tr>
<td>NaCl</td>
<td>4 kg</td>
<td>7647-14-5</td>
<td></td>
<td>Non Hazardous</td>
<td></td>
<td>JT Baker</td>
</tr>
</tbody>
</table>
Step 2: Categorize Chemicals

- **Hazard Class Identification:**
  - Categorize your chemicals into Hazard Classes
    - Toxic (T)
    - Flammable (F)
    - Oxidizer (O)
    - Water Reactive (W)
    - Acid (A)
    - Caustic (C)
    - Halogenated Solvent (H)
  - The Safety Office can assist in proper chemical categorization and review of disposal inventory.
Step 3: Separate Chemicals

- Separate Chemicals Based on Hazard Class and Package into Sturdy Boxes.
  - Only chemicals in the same hazard class can be packaged in the same box.
    - Example: Flammables can only be placed in a box with other flammables.
    - Never store chemicals from two different hazard classes in the same box. (e.g. Never place an acid and caustic in the same box)
Step 3: Separate Chemicals

(Continued)

- The Safety Office will provide boxes.
- Do not over-pack boxes.
  - Do not stack chemicals on top of each other.

Guidelines for Packaging:
- Don’t mix hazard classes!
- Don’t stack chemicals.
- Ensure containers are intact and have a tight screw lid.
- Make sure all chemicals are labelled.

Do not stack Chemicals!

Properly Packaged!
Step 4: Label Containers

- Fill out a “Hazardous Waste Ticket” for each Box
- Must Include:
  - Full Chemical Name of Each Chemical in the Container
  - Quantity
    - Mass of Solid or Volume of Liquid
  - Hazard Classification
    - Toxic, Flammable, Acid, etc...

Example Hazardous Waste Ticket
Step 5: Call for a Pick-up

- Attach a completed “Hazardous Waste Ticket” to each box.
- Call 231-7759 to request a pick-up.