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# **A Guide to Chemical Clean Outs**

University Police and Safety Office

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# 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](mailto:ndsu.wastehandlingprogram@ndsu.edu)

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

# 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...

NDSU NORTH DAKOTA STATE UNIVERSITY		Hazardous Waste	Waste Ticket No.
Circle Bid/Hall name or write in neatly below			
Dunbar Ladd R1 R1A R2 Sudro CIE Hill HillPrep GEN Askanase Batcheller Dolve Ehly ECE Geoscience Harris Hultz Loftsgard QBB Renaissance Stevens VanEs VDL ServiceCenter PilotPlant Waldron Walster		Start Date: <u>1/11/21</u>	
Bid/Hall: <u>Dunbar</u> Rm/Lab#: <u>400</u>		End/Full Date: <u>1/12/21</u>	
Your Email (Print Neatly): <u>Waste.Generator@ndsu.edu</u>			
Your Cell Phone: <u>(701) 231 - 7759</u>		Please fill in all Shaded Sections	
PI Email (Print Neatly): <u>Principal.Investigator@ndsu.edu</u>			
Hazard Class: Acid A, Caustic C, Flammable F, Halogenated H, Oxidizer O, Toxic T, Water Reactive W			
Hazard Class	Hazardous Chemical Waste Substance	Amount (Mass, Volume or %)	
	<u>Acid</u>	<u>Sulfuric Acid</u>	<u>2 L</u>
		<u>Phosphoric Acid</u>	<u>4 L</u>
Comments/Additional Information on Substance(s): <small>Inducing, But Not Limited To: Shock Sensitive, Storage or Cleanup issues, Strong Stench/Odor, Lacrimation/Fear Shedding, Refrigerate Temperature Sensitive, Carcinogenic, Teratogenic or Mutagenic, etc.</small>			Total Vol. or Mass: <u>6 L</u>
When container is ready, immediately call 231-7759 for container pickup.			
Safety Office Use Only		Initials: _____	
<u>Storage Class</u>	<u>Waste Phase</u>	Pickup Date: ___ / ___ / ___	
A C F H O T W	Liquid Solid		



# Step 5: Call for a Pick-up

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

