

## Guidelines to Adhering to Argonne's Waste Generation Requirements (i.e., instructions that are completely acronym-free)

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You've generated waste. Now you need to:

### 1. Find a waste container.

- a. There are some in the wet lab – *i.e. glass or poly bottles or Ziploc bags.*
- b. Make sure the container material is compatible with the waste.  
*i.e. corrosives and sharps have special considerations.*
- c. The container has to have a tight-fitting lid (not a lid that can just pop off).

### 2. Label the container with the following: (use pre-printed labels if available)

- a. Your name.
- b. The date the waste accumulation started.
- c. The waste contents.
  - i. This is the same as you will put on the Chemical Waste Log, in the "Constituents" section.
- d. Write "Non-hazardous waste" or "Hazardous waste," as applicable.
  - i. How do I know if it's hazardous or not? (as defined by US law, which is what is relevant here) → See the next page of this document.
- e. If it is "Hazardous waste," write the Environmental Protection Agency's listing code (F, K, P, or U), or "ignitable," "corrosive," "reactive," or "toxic," as applicable. → See the next page of this document.
  - i. F-K-P-U Searchable database can be found here and on next page:  
<https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes#PandU>

### 3. Add the waste to the container.

- a. Update the contents list whenever you add additional waste – make sure all waste is compatible!
- b. Stop filling when the container is about 80% full.
- c. Do not mix liquids with solid waste (residue only).

### 4. Duplicate all this information on the Chemical Waste Log.

- a. At the end of the beamtime, follow the *Chem Waste Log Guidance* to fill out the Waste Log and email the pdf **e-form** to Ray at [rziegler@anl.gov](mailto:rziegler@anl.gov) along with the Safety Data Sheets (SDS) for the constituents of the waste.

## How do I know what's considered "Hazardous Waste" or "Non-hazardous waste"?

### Hazardous Waste:





- The waste is on one of the Environmental Protection Agency's four hazardous waste lists (**F, K, P, and U lists**, referred to as "Listed Hazardous Waste")

| Hazardous Waste Classification  | Examples                                | EPA Listing |
|---|---|-------------|
| Nonspecific source hazardous wastes   | methylene chloride, TCE                 | F           |
| Specific process hazardous wastes   | wood preservation, pigment mfg. sludges | K           |
| Acutely toxic discarded chemicals<br>Potential injury/death with only small exposures; IDLH | arsenicals, cyanides                    | P           |
| Toxic discard chemicals Carcinogenic, mutagenic, teratogenic; toxic, but not IDLH           | acetone, creosote                       | U           |



### AND/OR

- The waste is considered **"ignitable," "corrosive," "reactive," and/or "toxic"** (referred to as "Characteristic Hazardous Waste")

| Characteristic   | Hazardous Waste Number |
|--|------------------------|
|  Ignitable (Flash point < 140 degrees F)  | D001                   |
|  Corrosive (pH ≤ 2.0 or ≥ 12.5)  | D002                   |
|  Reactive (normally unstable)<br><small>water rx, forms explosive mixtures with water, generates toxic gases, cyanide or sulfide bearing waste, capable of detonation, Department of Transportation DOT Class A or Class B explosive or forbidden explosive</small> | D003                   |
|  Toxic (determined by Toxicity Characteristic Leaching Procedure analysis)<br><small>8 metals, 7 pesticides/herbicides, 25 other organic compounds</small>  | D004-043               |

*It is highly likely that you have already determined this for the ESAF. Check your ESAF to see if you have indicated "Y" for the "Toxic," "Flammable," "Corrosive," or "Oxidizer" categories.*

### Waste mixtures

- Any amount of **F, K, P, U waste** combined with something else is still **always considered "Hazardous Waste."**
- **"ignitable," "corrosive," "reactive," or "toxic" waste** combined with something else that's "Non-hazardous" **may or may not still be "Hazardous,"** depending upon whether the characteristic is still present. For example, a corrosive waste with a pH of 1.0 (<2.0) is combined with a non-hazardous waste as it is being used. If the resulting pH of the mixture is >2.0 it is no longer considered hazardous. (NOTE: You cannot dilute waste simply to remove a characteristic hazard.)

### Non-Hazardous Waste:

- Anything that is not in the "Hazardous" category described above.