Chemical Waste Training Supplement

This chemical waste management training page is a supplement to the online training module for handling hazardous chemical waste.

Types of chemical waste most often encountered

- Solid waste (examples: silica gel, alumina, Celite, inorganic drying agents)
- Aqueous waste (pH must be between 5.5 – 12 to be put into a standard waste stream)
- Organic waste

Less commonly encountered are gaseous compounds, unidentifiable chemicals (e.g., old, unlabeled sample vials or reagent bottles with worn labels), highly reactive or hazardous chemicals (e.g., elemental mercury). For these types of waste, you should refer to the online training module and contact EH&S directly with any questions.

Requirements for Segregation of Chemical Waste

Solid and liquid waste should be segregated from one another. You should not add solids to your liquid waste stream, and solids should be dry before being added to the solid waste container.

You do not need to segregate your liquid wastes. Aqueous and organic wastes can be combined, so long as the components are not reactive when mixed. This is true for all waste streams (compatibility based upon reactivity). Halogenated waste does not have to be separated either.

This can make your liquid waste handling very simple. If mixtures will not result in a violent reaction, you only need to record what is being added to a waste stream and make sure the waste label indicates these components.

A note about “compatibility”: You should consider the reactivity of your chemicals with those already in the waste stream/container. A running list of chemicals added to the waste container can help with this. In general, you should consider whether your waste compounds are air reactive, water reactive, oxidizers (or reactive to oxidizers), reactive to strong acids or bases. MSDS sheets, EH&S, and your PI can be useful resources.

Suggested Storage Locations for Chemical Waste

It is not recommended that flammable waste be stored in the hood. Also note that flammable waste counts against your allowable flammables storage.

Alternatively, you can keep a temporary waste collection in your hood while you are working. Commonly this is a 4 L bottle fitted with a funnel that has a lid. The temporary waste should be a single bottle that is used in the hood, and then emptied into a carboy or designated for waste pickup (temporary = must empty into carboy at the end of each day). Note that non-flammable secondary
storage containers are recommended (as opposed to plastic bins as shown in the picture)

Each lab should have an **in-lab storage location** (e.g., under a bench, in a cabinet, away from the hoods) and always use secondary containment vessels. If your waste contains flammables, then the waste volume counts toward the allowable amount of flammable liquids in your area. When possible, storage of flammable waste in the chemical storage areas is recommended.

**Suggested Methods for Temporary and Long-term Waste Streams**

Every waste container must be labeled and its contents described (identity and amounts). The state of Washington requires that contents are listed before the bottle is filled. Suggestion for temporary waste containers, such as those you might have in your hood: keep a running list of components on the side of your hood or on your hood sash. Once you are finished with the waste container, the **label should be updated**.

If this container becomes the final storage container, then it should be capped, put in the waste pickup location, and scheduled for single collection.

Carboys are a very efficient method for collecting and storing your liquid waste. Carboys are 20 L plastic storage containers that are designated for routine pickup.

Routine pickup means:

- You have requested a Routine Chemical Waste label from EH&S and they have issued your Routine a unique routine number.
- You will receive an empty carboy when yours is picked up.
- The contents of the carboy must match the Routine label, or you have to contact EH&S to request a modified label (e.g., if someone added waste to the carboy that was not on the label).
- IMPORTANT: the label can indicate RANGES for each component, so the carboy can contain from 0 to X% of each compatible chemical.

**Set-up and Management of a New Routine Waste Stream**

Routine waste streams can be requested from the EH&S website, see the [list of collection request forms](#).

Longer lists of chemicals with ranges for the % contents can be submitted by attaching a word/PDF document to the new routine request and indicating see attached on the form

Routine waste streams can be modified by sending an email to chmwaste@u.washington.edu with the Routine Number and the desired change. In some cases it is easier to cancel an existing routine and generating a new one instead of modifying it. Check with EH&S if you have questions.

Routine waste streams can be requested for pickup by using the routine waste collection request form found at the above link. The pickup time for a routine is much faster than the pickup time for individually submitted waste containers.
You may use other containers (e.g., smaller than a 20 L carboy) and still generate a Routing Number via EH&S. This can simplify waste management and increase frequency of pick up. Note that EH&S only returns empty 20 L carboys, not smaller containers.

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