The Waste-Paper

The Hazardous Waste Disposal Monthly Update

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Photo Chemicals…so what do I do with them?

The wastes generated from photographic film developing must be managed appropriately and the disposal method can vary. The developing process can be broken down, in a very general way, into two processes: developing and fixing.

The solutions or "baths" used to develop photographic film (**developer, stop bath**) may be flushed with copious amounts of water down the drain.

The second process by which the photographic image is fixed may never be disposed of via sink disposal. **Fixers, toners, reducers and/or intensifiers cannot be poured down the drain** because of silver and other heavy metal content. Many dark rooms on campus are equipped with silver recovery units. For those areas, the fixer solutions may be poured down the drain attached to the silver recovery unit or, in the case of Visual Arts, may be poured directly into the tabletop recovery unit. If the facility does not have a silver recovery unit, the wastes must be collected for disposal as hazardous waste.

In most cases, the silver filtration units consist of two 5 gallon buckets that are stacked and connected via tubing. The upper bucket acts as a reservoir for the filtration unit housed in the second bucket. Fixers and the like are poured into the reservoir and slowly gravity feed through the second bucket. The filter removes the suspended silver and the resulting solution empties into the sink drain. Any darkroom managers/users interested in information about silver recovery units can contact Steve Elwood at extension 6271, or by e-mail at selwood@princeton.edu.

Remember, any unused photo chemicals should be managed via the University's hazardous waste program.

EHS HAZARDOUS WASTE CONTACTS	
Main Office	8-5294
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Marcia Leach (Waste-Paper)	8-5296
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EHS Web Page http://www.princeton.edu/ehs	

Who's That Voice?

Here is an opportunity to match a face to a voice. Marcia Leach is the EHS office manager and is the voice that greets you when you call the main office number.

Marcia joined the University in January of 1981 where she spent 18 years working for the Office of Undergraduate Admissions as the Systems Coordinator. Marcia joined EHS in 2002. Among a myriad of other regular duties, Marcia also aids in web design and is the tireless sword wielding editor of your favorite publication, *The Wastepaper*. Marcia is also a self admitted fitness buff who enjoys swimming and yoga, as well as running with her dog Jake. She has to keep in shape for her many editorial chops.

If you have questions regarding *The Waste Paper* or the EHS web page, give Marcia a call or email her at marcians@princeton.edu

This Month's Waste Pickup Will Be Held on Thursday, March 25, 2004.

Empty Chemical Containers

Waste minimization is a responsibility of everyone who generates hazardous waste. Empty containers or apparatus are occasionally brought down to the hazardous waste pick-ups, but often do not need to be handled as hazardous waste if certain procedures are followed.

Empty Containers

Containers that are empty or that have a slight residue are not hazardous waste. According to the EPA hazardous waste regulations, a container that has held any hazardous waste, except those identified as **acutely hazardous wastes** (see http://web.princeton.edu/sites/ehs/chemwaste/spec_list.htm#plist) is **empty** if:

- All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, or
- No more than 3 percent by weight of the total capacity of the container remains in the container if the container is less than or equal to 110 gallons in size

Empty chemical containers should not necessarily be disposed of in the regular solid waste dumpsters. Generally, the container must be **triple rinsed** with water or other suitable solvent and air-dried before disposal. For volatile organic solvents (e.g. acetone, ethanol, ethyl acetate, ethyl ether, hexane, methanol, methylene chloride, petroleum ether, toluene, xylene, etc.) not on the list of acutely hazardous wastes, the emptied container can be air-dried in a ventilated area (e.g. a chemical fume hood) without triple rinsing. Intact glass or plastic containers (with caps removed) can then be placed in recycling. If a container has a visible residue, it should be placed in the regular trash rather than recycled.

In a few cases, the washings must be collected and disposed of as hazardous waste. Generally, if the chemical is on the list of acutely hazardous wastes or if the material is known to have high acute toxicity, the washings must be collected. For more information about disposal of empty chemical containers, please visit http://web.princeton.edu/sites/ehs/chemwaste/mtcontainers.htm

Empty Pipette Tips

There have been instances in the recent past where conscientious lab workers have been collecting basically empty pipette tips in jars for disposal. As long as the tips have not been used for biological or radioactive materials or acutely hazardous wastes, they can be disposed via regular lab trash. Unfortunately, collecting hundreds of these tips in a large container over time can result in a liquid layer at the base of the jar, causing the entire jar to have to be handled as hazardous waste.

If you have any questions please contact Joan Hutzly 8-6251 or hutzly@princeton.edu or Steve Elwood 8-6271 or selwood@princeton.edu

For more waste minimization tips, see the Environmental Issues web page at http://web.princeton.edu/sites/ehs/about/environmental.htm