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ENVIRONMENTAL MANAGEMENT GUIDE FOR SMALL LABORATORIES



3.4 Non-Hazardous Solid Waste

Small labs generate a variety of nonhazardous solid wastes. These wastes (commonly referred to as solid waste) include office trash, used packing materials, garbage from cafeterias and lab unique wastes such as broken glassware, used filter or weight papers and empty chemical containers, discarded tubing, discarded equipment and other materials.

Labs are subject to requirements related to the collection and storage of solid waste as well as ensuring that the waste is disposed of properly. Most labs arrange to have these wastes disposed of through municipal or private haulers at a permitted municipal waste landfill or incinerator. Onsite landfills and incinerators are uncommon for small labs due to stringent regulatory requirements.

Regulatory Considerations

RCRA Subtitle D encourages environmentally sound solid waste management practices that maximize reuse of recoverable materials and foster resource recovery. Although solid waste is predominately regulated by state, tribal or local governments, EPA has promulgated some regulations governing solid waste management. In particular, 40 CFR 243 establishes minimum levels of performance for solid waste collection operations including storage, safety, collection equipment, collection frequency and management. 40 CFR 246 establishes guidelines for source separation of high-grade office paper and corrugated paper. Many state, tribal or local regulations include additional requirements for segregating and recycling certain materials (i.e., glass, newspapers, and aluminum).

Management Issues

What Can Be Thrown in the Trash?

Certain materials are prohibited from disposal as solid waste in the regular trash.

- **No Hazardous and Polychlorinated Biphenyl (PCB) Wastes.** Landfills and municipal solid waste incinerators are prohibited from accepting hazardous and PCB wastes. (40 CFR 258.20).
- **No Liquid Wastes.** Bulk or non-containerized nonhazardous liquid wastes are prohibited from disposal at a landfill (40 CFR 258.28). Whenever possible, do not dispose of liquids in the trash. Make sure any liquid wastes are limited to small containers such as would be found in household trash (e.g., soda in a can or cups, hand-washing detergent container with some residue).
- **Other Prohibited Wastes.** The disposal facility may prohibit other wastes such as green waste (e.g., landscaping wastes) or bulky waste (e.g., appliances and equipment) from disposal in the regular trash based on state, tribal or local requirements.

Empty Containers

Make sure containers that contained hazardous materials such as chemical containers and cleaning supply containers are completely empty per the RCRA definition (see Hazardous Wastes, Section 3.3).

Waste chemicals do not go in the regular trash!

Storage and Collection

Waste containers for garbage or recycling must be of adequate size and number to handle the amount of waste being generated. The solid waste must be stored in a manner that does not constitute a fire, health, or safety hazard and must be contained or bundled so as not to result in a spill. In addition, containers storing food wastes must be covered, leak proof, and maintained to prevent a nuisance (odor, sight), and control vectors such as animals and insects.

Is the cover on your outside dumpster closed?

The solid waste must be collected with sufficient frequency to inhibit the propagation or attraction of vectors or the creation of a nuisance. Food waste must be collected at least weekly. Bulky wastes must be collected at least once every three months.

Waste Transport and Disposal

The lab is responsible for the proper disposal of its solid waste. If using a private hauler, lab staff should make sure the vehicles being used are enclosed or can otherwise prevent spills, and that they are adequately maintained. The lab staff should also make sure that the waste is being disposed at a permitted municipal waste landfill or incinerator.

Recycling

RCRA mandates source separation for high-grade paper and corrugated containers under certain circumstances. State, tribal or local governments may also have recycling requirements.

In office facilities employing more than 100 people, the facility is required to separate and sell high-grade office paper (40 CFR 246). The EPA encourages smaller facilities to implement this practice as well as the recycling of other materials such as mixed paper, newspaper, glass, aluminum and plastic if it is economically feasible, even if it is not required by state, tribal or local regulation. Lab facilities should establish central collection points for these materials in common areas such as a break room, hallway alcove or office area. Individual containers for office paper should also be provided for all employees. All central collection containers should be clearly labeled.

Pollution Prevention and Non-Hazardous Waste

P2 and waste minimization strategies for non-hazardous waste include reducing, reusing, and recycling. Recycling strategies are discussed in the previous section. Implement reduction strategies in the office as well as lab areas. Some suggestions include:

- Print and copy on both sides of the paper;
- Make all manuals, memos, and training aids available in electronic format only;
- Distribute presentation electronically on CD, diskette, or the Internet;
- Fax directly from your computer;
- E-mail documents as attachments and edit on screen;
- Share periodical subscriptions with colleagues;
- Purchase materials in bulk;

- Use resealable containers in transportation;
- Ensure there are no purchasing policies or procedures that discourage reduction strategies; and
- Talk to suppliers about minimizing packaging.

Suggestions for reusing non-hazardous waste include:

- Use corrugated boxes to move supplies or as temporary recycling bins;
- Use incoming packaging for outgoing packaging;
- Recycle office furniture; and
- Return containers to the manufacturer or distributor.

Remember that the key to a successful solid waste management program is employee awareness. Ensure staff is trained on what can and can not go in the regular trash, that staff are aware of and are encouraged to buy smart, reuse, recycle, and reduce. Training should include the identification of types of wastes, use of collection containers, proper labeling, and the importance of source separation, recycling, and reusing.

NON-HAZARDOUS WASTE PROGRAM CHECKLIST

Action	Notes
1. Ascertain whether the solid waste collection facilities meet regulatory requirements including: an adequate number of containers; containers in good condition; and food waste containers that are liquid-tight and closed when not in use, collected at least weekly.	
2. Verify the establishment of a recycling program that meets Federal, state, tribal or local requirements.	
3. Confirm that the solid waste from the lab is going to a permitted landfill or incinerator.	
4. Determine if the lab has a waste minimization program in effect for solid waste collection and packaging.	