

Section II

Waste Management

This section of the *Everyday Hazmat User's Training Guide* contains guidelines for hazardous waste activities common to most USDA Forest Service facilities. Hazardous waste management is prescribed by Federal regulations, as well as USDA Forest Service handbooks and policies. Care should be taken to ensure full compliance. The guidelines in this report include some of the more common areas and are not intended to be a comprehensive review of all related regulations, or to include all situations. You are responsible for full compliance, so if you have any questions about the material presented, or some unique situation, contact your unit management. While most State regulations parallel Federal regulations, some States have more restrictive requirements; they are not included in these guidelines.

Many regulatory and work and facility safety concerns can be avoided by using products that are not hazardous or do not create hazardous wastes or air or water pollutants—known as *green* products. Visit the USDA Forest Service Technology and Development Program's Web site for some specific suggestions:

http://www.fs.fed.us/eng/t-d.php?link=everyday_hazmat/green.htm

The following guidelines are based on EPA and OSHA regulations, and IFC and NFPA requirements; your State and local governments may have additional requirements. Your local fire marshal may choose to selectively adopt IFC and NFPA requirements, or may have additional requirements.



Common Regulated Wastes

Any waste that is flammable, reactive, corrosive, or toxic is considered a hazardous waste (see page 99). Some common wastes in most USDA Forest Service units are now regulated. These wastes include lamps that contain mercury (such as fluorescent lamps), nickel-cadmium (Ni-Cd) batteries, and even aerosol cans. Wastes that are of particular concern include containers with unknown contents found in many boneyards. These containers must be handled carefully.

Common Regulated Wastes

Common Regulated Wastes—What Are They?

Wastes from some routine activities within the USDA Forest Service have new environmental significance and must be handled differently now. This guideline summarizes some of these common wastes, presents selected regulatory restrictions, and recommends specific changes to reduce costs.

Mercury-containing lamps are found in most buildings. As these lamps are removed, they have traditionally been discarded in the trash. These lamps must be handled more carefully to ensure worker safety, protect the environment, and comply with regulations.

Aerosol cans can be found throughout the USDA Forest Service. If an aerosol can is still under pressure, or if its contents are hazardous, you cannot throw it into the trash. The proper way to handle it is discussed in this guideline.

Nickel-cadmium batteries are another common waste in most USDA Forest Service units. Because these batteries contain nickel and cadmium, they cannot be thrown into the trash. Look at these guidelines for recommendations.

Lastly, there are unknown wastes that are buried in boneyards and storage sheds that need immediate attention. Hazardous products that become a waste also need special management.



Ni- Cd Batteries
(See page 31.)



Aerosol Cans
(See page 32.)



Fluorescent Lamps
(See page 33.)



Unknown Wastes
(See page 34.)



Hazardous Wastes
(See page 35.)




Handy Tips
(See page 36.)



Nickel-cadmium batteries are often found in radio communication equipment used by USDA Forest Service units. These batteries can no longer be thrown into the trash because their ingredients make them hazardous and could pollute the soil in a landfill. The proper method for managing Ni-Cd batteries is summarized in this guideline.



Ni-Cd Batteries

Ni-Cd Batteries

Ni-Cd Battery Collection Areas

When you remove a Ni-Cd battery from service, you must store it in a container that is marked with *WASTE BATTERIES, USED BATTERIES, or UNIVERSAL WASTE—BATTERIES*. The container must be composed of a material that will not leak if the batteries are damaged.

Do NOT discard Ni-Cd batteries in the trash.

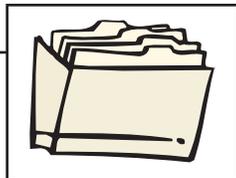


Storage Limits

You can keep your discarded Ni-Cd batteries in your unit if they are stored properly until it is cost effective to transport them to a recycling center. Ideally, they would not be stored longer than 1 year.

Ni-Cd Battery Recycling

Recycling is the best management practice for your discarded Ni-Cd batteries. Be sure to use a licensed recycler; you can transport your Ni-Cd batteries in USDA Forest Service vehicles. Keep recycling information, including dates, amounts, destination, transporter, and recycler in your recordkeeping files.



Keep these records in your files.

Ni-Cd Battery Management Checklist
Forest Service Unit: _____ Location: _____

- Alkaline batteries can be discarded in the trash. Most lithium batteries can be discarded in the trash, but first check the battery's Material Safety Data Sheet. All forms of spent/waste nickel-cadmium (Ni-Cd) batteries must be considered a hazardous waste and managed separately.
- Container your spent/waste Ni-Cd battery collection in managed areas, try to limit the collection area to one location on your unit.
- Mark all collection containers with the words "SPENT Ni-Cd BATTERIES." You can use any form of container as long as it protects the batteries from damage and can collect any leakage from the batteries.
- Spent/waste Ni-Cd batteries can be considered a Universal Waste. If you manage your spent/waste Ni-Cd batteries as a Universal Waste, you do not have to count them against your unit's hazardous waste generation rate. Consider using Waste Ni-Cd Battery Recycling Board (MDS-000200-0) for proper recordkeeping.
- You can transport, ship, or make arrangements for pickup, your spent/waste Ni-Cd batteries. They must be transported to an authorized Ni-Cd battery recycler if you are managing them as a Universal Waste.
- If you choose not to manage your spent/waste Ni-Cd batteries as a Universal Waste, you must locate your spent/waste Ni-Cd battery collection area in your Hazardous Waste Accumulation Area. Follow all hazardous waste management, transport, and disposal requirements.

Any questions? Contact your Director or Area Director/State Coordinator for assistance.

Sample checklist and recordkeeping form for personnel handling spent Ni-Cd batteries. See the appendix.

Other Batteries

Alkaline batteries can be recycled or discarded in the trash. Most lithium batteries in use at USDA Forest Service units are nonhazardous and can be recycled or discarded in the trash. Be sure to check with the manufacturer because some special lithium batteries are regulated.



Containers with unknown contents can be found at some USDA Forest Service units, often in their original container, but with no label. Other times you might find an open 55-gallon drum in a boneyard. Are its contents just water? You must use certain precautions when you find unknown wastes.



Unknown Wastes

Unknown Wastes

Do NOT discard containers with unknown contents in the trash.

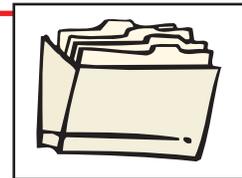


A Potentially Dangerous Situation

- *Never* open a closed container to determine its contents!
- Notify your hazmat coordinator of the container.
- *Never* move a container with unknown contents.
- Immediate action is required, especially if damaged or rusted containers might leak.
- Be absolutely sure your information is accurate before relying on prior knowledge to determine the contents of an unmarked container.
- A laboratory analysis of unknown substances may be required to determine the contents of unmarked containers; leave this task to experts.
- If your unknown wastes are determined to be hazardous, refer

What If the Unknown Wastes Are Just Used Oil?

Usually a container with unknown contents turns out to contain a nonhazardous or easily managed substance like used oil or antifreeze. BUT, until you *know* what the waste is, you must assume it is one of the most dangerous substances that can be found—it just might be!



Keep these records in your files.



Hazardous wastes are highly regulated by Federal and State laws. Hazardous wastes usually begin as hazardous products and become wastes when they are no longer usable. While it is wise to minimize hazardous wastes, dealing with them is straightforward. Some suggestions are presented in this guideline.



Hazardous Wastes

Hazardous Wastes

Do NOT discard hazardous wastes in the trash.



How To Determine if a Waste Is Hazardous

If the product to be discarded has a flashpoint below 140 °F, or a pH below 2.5 or above 12.5, it is a hazardous waste; you can find this information on the product's MSDS.

If the product contains chemicals regulated by the EPA, it is a hazardous waste. Look in section II of the MSDS (page 6) to determine whether the product has such chemicals. If any such chemicals are listed, the product *will* become a hazardous waste; if no chemicals are listed, it will probably *not* be a hazardous waste.

If you are uncertain, ask your hazmat coordinator for help.

Expected User Actions for a Hazardous Waste

- Make sure the hazardous waste has the original product label; label it again if necessary.
- Move the material to your unit's designated hazardous waste accumulation area.
- Make sure the container is securely closed.
- Inform the hazardous waste accumulation area manager that you have just moved some hazardous waste into the area. The container will need to be labeled as a hazardous waste with the date it was moved to the area. The container must be checked to make sure it is sound and securely closed. The accumulation area log will need to be updated.



Minimize hazardous wastes by buying nonhazardous (**green**) products.



Handy Tips

Buy only the quantity you need for a task.

Use up or transfer obsolete hazardous products to other USDA Forest Service units that can use them, to avoid having them become hazardous wastes.

Keep all records; the records could be important in the future.

Involve everyone in hazardous waste management and explain the cost of management to help everyone appreciate the expense of using hazardous products.

Move to low-mercury and high-efficiency fluorescent lamps and electronic ballasts to conserve energy.

Do a ranger district cleanup to find all old products and unknown containers.

Look for **green** products at the USDA Forest Service **green** purchasing Web site: http://www.fs.fed.us/eng/t-d.php?link=everyday_hazmat/green.htm