Introduction

The *Everyday Hazmat User's Training Guide* was designed for use by U.S. Department of Agriculture (USDA) Forest Service employees who come in contact with hazardous materials or regulated wastes. Using graphic images and text, this guide provides suggestions on how to manage these hazardous materials and regulated wastes, including labeling, placarding, storing, dispensing, and transporting them. The guide is intended for general use and does not cover specific operations such as dust abatement, or use of drip torches. The guide is divided into four sections.

Introduction—Introduction presents an overview of the *Everyday Hazmat User's Training Guide* and a graphic table of contents to highlight areas of interest, describes how to determine if a product is hazardous, provides background on reading a Material Safety Data Sheet (MSDS), includes a review of the National Fire Protection Association (NFPA) hazard identification, discusses hazardous product numbers, and provides a brief summary of the importance of local environmental recordkeeping.

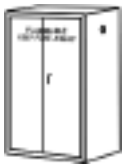
Section I—Common USDA Forest Service Activities is where you will find information on a variety of painting operations and automotive and small engine services, covering products and activities such as lead-acid batteries, used oil, used oil filters, fuel, used antifreeze, tire changes, vehicle washing, degreasing solvents, and recordkeeping suggestions. A list of operational tips is provided for each activity.

Section II—Waste Management is where you will find out how to determine whether a waste is hazardous. You also will find information on common, but regulated wastes, such as mercury-containing lamps (for instance, fluorescent bulbs), aerosol cans, nickel-cadmium (Ni-Cd) batteries, and unknown wastes. A second part of this section covers hazardous waste management and reviews several areas important to facility safety, employee health, and fulfilling regulatory obligations, with recordkeeping suggestions for all areas.

Section III—Hazardous Materials Management is where you will find extensive information on nearly every type of hazardous product found at USDA Forest Service units. Included in this section are details on corrosives, oxidizers, flammable liquids, combustible liquids, flammable solids, compressed gases, and pesticides, followed by suggestions on recordkeeping to fulfill critical regulatory obligations.

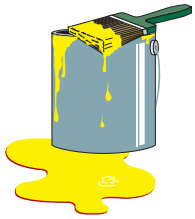
The following two pages will help you find the subject of interest in this guide.

The Everyday Hazmat User's Training Guide Roadmap



Hazardous Materials Storage Cabinets

See page 94.



Painting

See page 14.

Environmental Recordkeeping

See page 8.

Combustible Liquids

See page 58.

Common Regulated Wastes

See page 30.

Handy Tips

See pages 17, 27, 36, 71, and 79.

Automotive & Small Engine Services

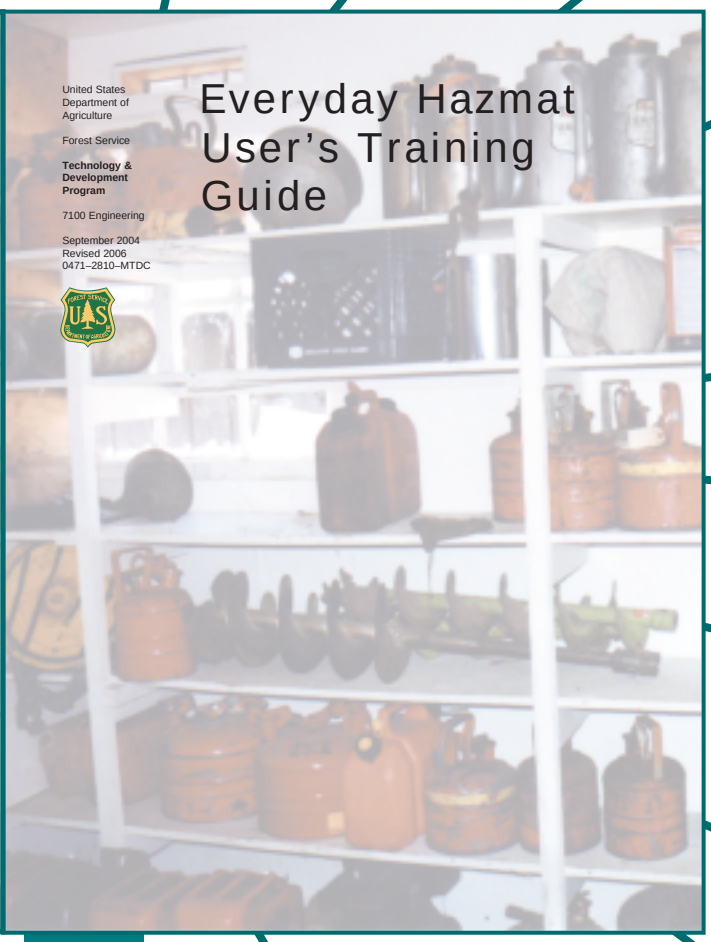
See page 18.

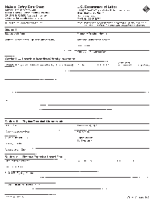
Pesticides

See page 72.

Identification Numbers

See page 10.





Material Safety Data Sheets

See page 6.

Hazardous Wastes

See page 35.

Flammable Solids

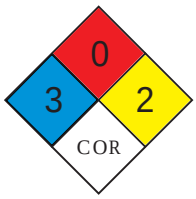
See page 66.

Reference Materials

See page 12.

Oxidizers

See page 44.

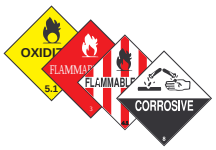


Hazard Identification

See page 9.

Flammable Liquids

See page 50.



Placarding

See page 11.

Compressed Gases

See page 80.

Corrosives

See page 38.

How This Guide Can Help You

You are the one who must know what to do to protect yourself from hazardous chemicals, how to store, dispense, and use hazardous products, and how to properly dispose of hazardous and regulated waste. To assist you, the *Everyday Hazmat User's Training Guide* reviews various operations and types of hazardous materials. In addition, the guide explains what to do with regulated wastes. However, YOU must identify the type of product you are dealing with and take action!

Product Label

Contains user warnings and information about storage requirements.

Product MSDS

Contains everything else you need to know to protect yourself, properly store products, transport products, safely dispose of wastes, and respond to emergencies.

Product Storage

Product Dispensing

Product Disposal

Use this guide to find out about...
Labeling • Placarding • Storing • Dispensing • Transporting

Determining Whether a Product Is Hazardous

Determining whether a product is hazardous is the first step in protecting yourself and managing hazardous materials. Products that are used as a part of routine activities are often taken for granted. The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) has addressed this concern in two ways. First, facilities that use hazardous materials are required to develop and maintain an active Hazard Communication (HazCom) program. This program ensures that employees are trained to deal with hazardous materials, use proper personal protective equipment (PPE), and identify hazardous materials through Material Safety Data Sheets, which are to be made readily available to employees in every work area where hazardous materials are stored or used.

Every product that contains regulated chemicals must have an MSDS that presents a range of information about the steps that must be taken to ensure personal safety. Additionally, OSHA requires every manufacturer of a hazardous product to label those products with health warnings so a worker can quickly determine the nature of dangers that are being encountered.

The facility's HazCom program, the manufacturer's MSDS, and the product labeling help you determine the chemicals in the product you are using, what you must do to protect yourself, and what workers and facility managers must do to ensure proper storage and disposal. You will need the facility's HazCom program, the manufacturer's MSDS, and the product labeling in addition to the *Everyday Hazmat User's Training Guide*.

Labels on products are your first source of safety information. Look closely at the label for words like highly flammable, flammable, combustible, poison, and acid. If you find these words, you will know that you must use caution when dealing with the product, and that the product probably will require special handling, storage, and disposal. If you dispense materials from a container that has been labeled by the manufacturer into another container, the new container must have a label with at least this much information:

- Product name
- Hazard warning
- Emergency contact

A product's Material Safety Data Sheet (MSDS) is the second most important source of information on every product you use. The MSDS contains a listing of chemical constituents in the product, the product's physical characteristics, and much more. This information is critical to ensuring safety for personnel and facilities, and for protecting the environment through careful handling, storage, and disposal. Manufacturers may organize their MSDS differently than the one shown, but every MSDS must contain the same information.

The following two pages will help you find critical information in a product's MSDS.

Material Safety Data Sheets (MSDS)

Check in MSDS section I to make sure you have the right MSDS for the product you are going to use. Call the manufacturer to get the proper MSDS or find the most recent release.

Material Safety Data Sheet
May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY *(As Used on Label and List)*

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name	Emergency Telephone Number
Address *(Number, Street, City, State, and ZIP Code)*	Telephone Number for Information
	Date Prepared
	Signature of Preparer *(optional)*

Check in MSDS section II to see if any chemicals are listed. If so, this product probably has environmental and health concerns. If any chemicals are listed in this section, the product will become a hazardous waste only if it is declared a waste. If it is used for its intended purpose, it is not a hazardous waste.

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% *(optional)*

Section III — Physical/Chemical Characteristics

Boiling Point		Specific Gravity (H_2O = 1)	
Vapor Pressure (mm Hg.)		Melting Point	
Vapor Density (AIR = 1)		Evaporation Rate (Butyl Acetate = 1)	
Solubility in Water			
Appearance and Odor			

MSDS section III will tell you the specific gravity (multiply the specific gravity by 8.34 pounds and get the weight of the product per gallon); if specific gravity is less than 1.0, the product will float on water. The boiling point is used to determine the class of a flammable product. If vapor density is greater than 1.0, the vapor will settle on the floor or ground. If a pH is listed and it is lower than 2.5 or higher than 12.5, the product will become a hazardous waste only if it is declared a waste; if it is used up for its intended purpose, it is not a hazardous waste.

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Extinguishing Media			
Special Fire Fighting Procedures			
Unusual Fire and Explosion Hazards			

Check in MSDS section IV to find the product's flashpoint to determine if the product is flammable or combustible. If the flashpoint is less than 140 °F, the product will become a hazardous waste only if it is declared a waste; if it is used up for its intended purpose, it is not a hazardous waste.

Check in MSDS section V to see if this product is reactive; if so, the product will be a reactive hazardous waste if it becomes a waste.

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable		
Incompatibility *(Materials to Avoid)*			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur		

Check in MSDS section VI to learn of the nature of any health effects, how they may appear, and what to do if they appear.

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?

Health Hazards *(Acute and Chronic)*

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure

Medical Conditions Generally Aggravated by Exposure

Emergency and First Aid Procedures

Check in MSDS section VII to determine how you are supposed to handle, use, and dispose of this product.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

Waste Disposal Method

Precautions to Be Taken in Handling and Storing

Other Precautions

Section VIII — Control Measures

Respiratory Protection *(Specify Type)*

Ventilation	Local Exhaust	Special
	Mechanical *(General)*	Other

Protective Gloves | Eye Protection

Other Protective Clothing or Equipment

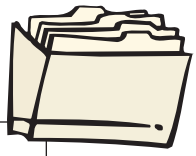
Work/Hygienic Practices

Check in MSDS section VIII to find the steps you need to take to protect yourself when using this product.

Environmental Recordkeeping

Environmental recordkeeping is an important part of the USDA Forest Service's overall environmental management system and is required by a variety of Federal and State environmental regulations. The suggestions summarized below are designed to identify important U.S. Environmental Protection Agency (EPA) and USDA Forest Service forms, and to institute a process to collect critical information.

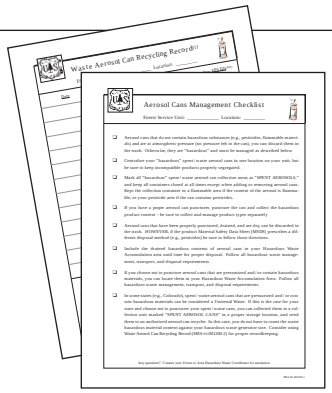
Environmental recordkeeping is not complete without some overall guidance on how to maintain these records, where, and for how long. The following suggestions are for an overall environmental recordkeeping system.

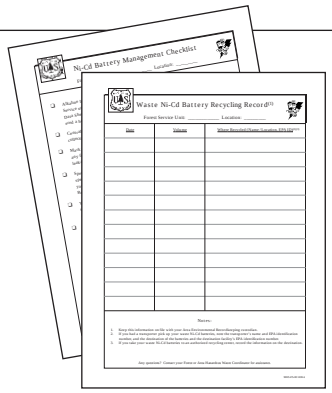


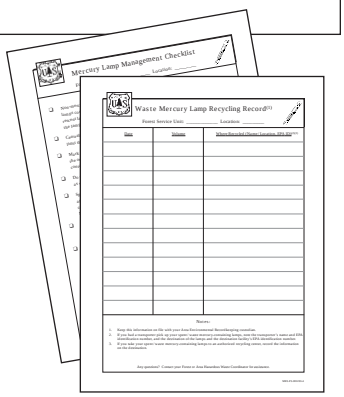
A USDA Forest Service unit's environmental records should be located where they are most convenient for all workers, but accessible whenever there may be a regulatory inspection or management review. Using a file cabinet, establish a series of hanging folders for major areas (EPA identification number and correspondence, hazardous waste manifests, recycling records, training records). Be sure that someone can access these files if the primary recordkeeping custodian is not around.

While most Federal regulations require maintaining environmental records for 5 years, it would be best to maintain environmental records indefinitely.

Throughout this guide, we refer to specific USDA Forest Service checklists and forms. USDA Forest Service and U.S. Department of the Interior, Bureau of Land Management employees can find these forms at the Everyday Hazmat Web page on the USDA Forest Service Technology and Development Program's Web site: *http://www.fs.fed.us/eng/t-d.php?link=everyday_hazmat*. The forms are in the Adobe Acrobat (PDF) format. You can download the forms and print them from your computer. The forms are in the appendix that begins on page 105.



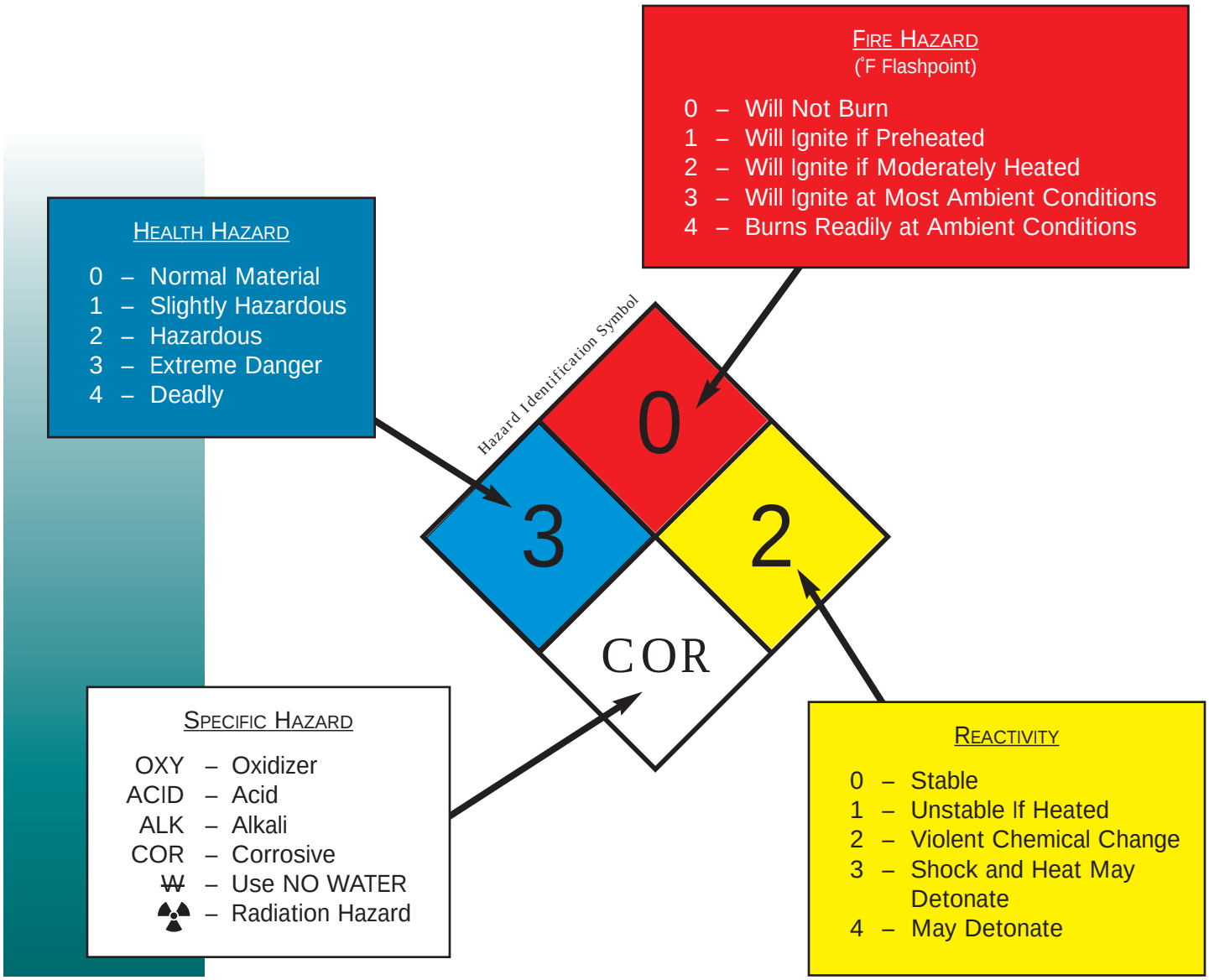




Hazard Identification

Products come in all types of containers and are formulated with a wide range of chemicals. Through the combination of chemical ingredients and resulting physical properties, these products take on their own unique combination of hazards to the user. Manufacturers and distributors of these products are required by law to inform all users of these hazards. The NFPA has devised a simple graphic means of communicating this information known as the *hazard identification* symbol.

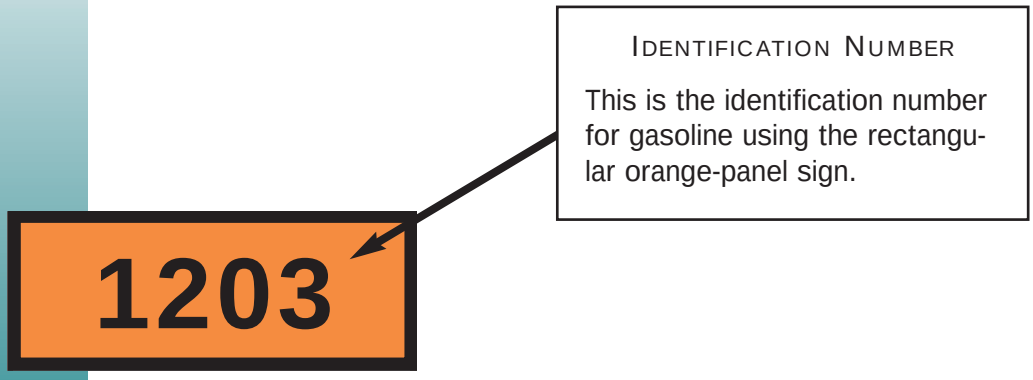
As prescribed by the OSHA HazCom standard, original product labels are not to be removed or defaced. If they do become unreadable or come off, you must put a new label on the container identifying the product's hazards or dangers. One way to do so is to use a *hazard identification* label containing the proper information. The information required for you to complete an accurate *hazard identification* label can be found in the product's MSDS.



Product Shipment Identification Numbers

Many products have a unique *identification number* that must be posted on tanks and vehicles carrying more than 119 gallons of flammable or combustible liquids or more than 1,001 pounds of hazardous materials. Identification numbers are *not* required on consumer quantities of materials or limited quantity materials. Usually you will see *identification numbers* on a rectangular orange panel (6.3 inches high and 15.7 inches wide, with a 0.6-inch black outer border); sometimes you will see identification numbers imprinted across the center of a primary hazard placard. The letters *UN* in identification numbers are associated with proper shipping names considered appropriate for international and domestic transportation. The letters *NA* are associated with proper shipping names recognized only for international transportation to and from Canada.

You will see *identification numbers* on tanks and vehicles that may deliver or pick up products from your facility. If you have a portable tank mounted on a vehicle that may be transporting fuel, you should consider using the rectangular orange panel with the correct *identification number*, or the primary hazard placard with the proper *identification number*; this *identification number* must go on opposite sides of the tank if the tank is smaller than 1,000 gallons, and on all sides if the tank is 1,000 gallons or larger. In later sections of this guide, we have associated the proper *identification number* with various product names.



IDENTIFICATION NUMBER

This is the identification number for gasoline using the rectangular orange-panel sign.

Hazardous Materials Placards

The U.S. Department of Transportation Hazardous Materials Regulations have established a family of placards, or graphic symbols, that uniquely identify certain chemicals and products. These placards are found on packages that have been prepared for shipment, and are often found on trucks transporting hazardous materials. These placards also can be used as signs to identify the contents of hazardous materials storage units. Most placards must measure at least 10.8 inches on each side, and conform to the color, lettering, and graphic symbols established by regulation.

Hazardous materials placards shall, with some exceptions, be used when you transport hazardous materials. Placards are required when any container exceeds 119 gallons, regardless of weight. Placards are not required on a vehicle or freight container loaded with less than 1,001 pounds of most hazardous materials, including some explosives, flammable gases, nonflammable gases, flammable liquids, combustible liquids, flammable solids, spontaneous combustibles, oxidizers, some forms of organic peroxides, poisons, and corrosives. Those hazardous products that *always* require placarding during shipment include some explosives, poisonous gases, *dangerous when wet* products, some forms of organic peroxides, poisons with inhalation hazards, and radioactive products. There are some specific requirements on shipments of combinations of hazardous materials; contact your hazmat coordinator for clarifications. If placards are required on your vehicles when transporting hazardous materials, the placard must be displayed on each end and each side of the vehicle. There are many different types and combinations of placards, so if you are in doubt, contact your hazmat coordinator.

Numbers at the bottom of many of the placards identify classes of the type of hazardous product that is defined by the general placard design, wording, color, and symbols.

Important Reference Materials

This guide includes information from many sources. These sources include Federal regulations (defined by the Code of Federal Regulations, CFR); International Fire Code (IFC); NFPA; USDA Forest Service policies, procedures, publications, and guidance materials; and other materials. While this guide is intended to provide the information you need to address most activities involving hazardous materials and regulated wastes, you may need to contact your unit's hazmat coordinator for clarification or assistance with specific situations. The following references could be added to your library of environmental information to help you clarify unique and troublesome situations.

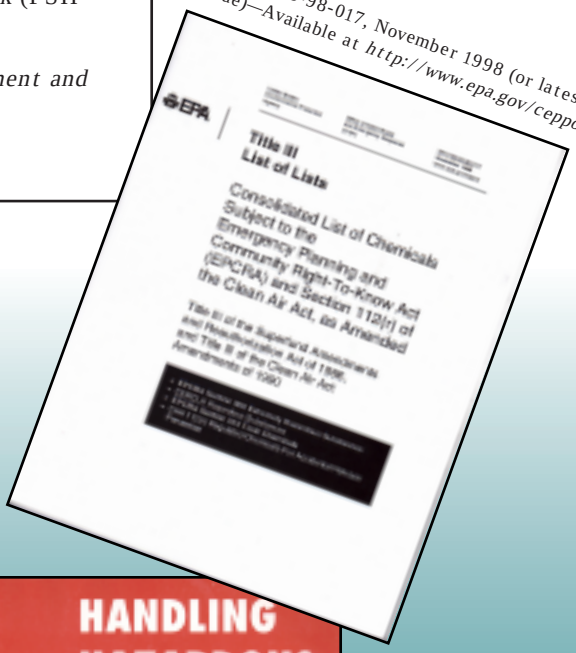
Don't forget these important USDA Forest Service documents:

Interagency Transportation Guide for Gasoline, Mixed Gas, Drip-Torch Fuel, and Diesel (0651–2806–MTDC)

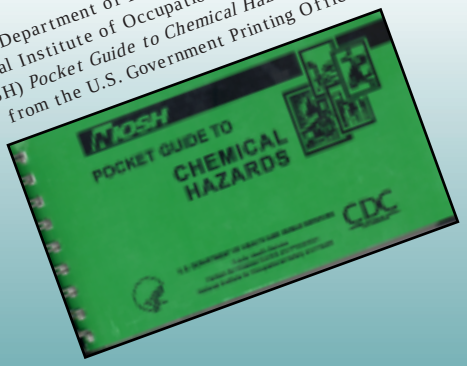
USDA Forest Service *Health and Safety Code Handbook* (FSH 6709.11)

USDA Forest Service Handbook, *Pesticide-Use Management and Coordination Handbook* (FSH 2109.14)

EPA 550-B-98-017, November 1998 (or latest issue)—Available at *http://www.epa.gov/ceppo*



U.S. Department of Health and Human Services National Institute of Occupational Safety and Health (NIOSH) *Pocket Guide to Chemical Hazards*—Available from the U.S. Government Printing Office



There are several publications on placards, hazardous product identification numbers, and hazard identification symbols—this one is available from J.J. Keller & Associates.

This is another useful guide to hazardous materials to keep in your work areas and vehicles—this one is available from J.J. Keller & Associates.