



# Conserve 0 Gram

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## Hazardous Materials Health And Safety Update

The Occupational Safety and Health Administration (OSHA) requires that employers in the manufacturing and non-manufacturing sectors establish programs to inform employees about the hazardous materials associated with their jobs and train them in the safe use of such materials. From 1983 to 1987, OSHA's Hazard Communication Standard (HCS) required compliance only by employers in the manufacturing sector. In 1987, the standard was revised to include compliance by employers in the non-manufacturing sector. This **Conserve 0 Gram** discusses how to apply the standard to the National Park Service curatorial workplace.

### **Hazardous Materials**

A hazardous material is a chemical or mixture of chemicals that is toxic, highly toxic, an irritant, a corrosive, a strong oxidizer, a strong sensitizer, combustible, flammable, extremely flammable, dangerously reactive, pressure-generating, or that otherwise may cause substantial personal injury or substantial illness during or as a direct result of any customary or reasonable foreseeable handling or use. Hazardous materials may exist in the curatorial workplace, and in archeology and conservation labs in pure form or in commercial mixtures. Paints, varnishes, insecticides, cleaning materials, preservatives, and adhesives may contain materials having toxicity, flammability, or reactivity hazards. Some of the common hazardous solvents include acetone, kerosene, turpentine, methyl alcohol, mineral spirits, toluene, and xylene. Mineral spirits (e.g., V.M. & P. Naphtha, Stoddard solvent) are often used in cleaning wood furniture. The clear and white lacquers used as a base and protective coating

for catalog numbers contain the solvent acetone. Hazardous chemicals (e.g., arsenic, formaldehyde, and ethyl alcohol) have been or are used in preserving biological specimens.

### **Hazard Communication Standard**

The Hazard Communication Standard, similar to the right-to-know laws passed by several states, provides detailed guidance on implementing a program to communicate essential information on chemical/hazardous materials to employees in the workplace. **HCS requires a written program** that includes hazard identification, warning labels, distribution of Material Safety Data Sheets (MSDS), and employee training. The HCS, published in 29 CFR 1910.1200 (Rev 8/87), includes the following requirements:

1. Manufacturers and distributors of toxic chemicals must provide Material Safety Data Sheets (MSDS) with sales/shipments of hazardous chemicals to employers.
2. Employers must communicate health and safety information to employees exposed to hazardous materials by warning labels, Material Safety Data Sheets, and annual training programs.
3. Wood dust is to be added to the list of hazardous materials.
4. Non-manufacturer employers must comply with Environmental Protection Agency (EPA) requirements to provide Material Safety Data Sheets to local emergency planners and fire departments.

## Compliance

**The** National Park Service has already implemented a Hazard Communication Program (HazCP) that is in compliance with OSHA's revised standard. Refer to NPS-50, Loss **Control Management Guideline**, Release No. 2, Chapter 34. Curatorial staff should work with the Park Safety Officer, the Park HazCP Coordinator, and the Regional Curator to ensure that collection management workplaces, where applicable, are in compliance with the park's written HazCP. Specifically, park curatorial staff and conservators should implement the following steps:

1. **Inventory** all hazardous materials (e.g., lacquers, preservatives) used in museum collections management. A suggested inventory sheet is provided in NPS **Museum Handbook**, Part I (Rev 9/90), Chapter 11.

**NOTE:** A Chemical Safety System computer program (developed by the U. S. Geological Survey to keep track of hazardous materials) can be used to develop a facility's chemical inventory. The program is written in dBase III Plus. Contact the Regional Safety Officer to obtain a copy of this program.

- 2 **Obtain Material Safety Data Sheets** for all hazardous materials and keep them in an easily accessible file in the curatorial workplace. These sheets are vital to a park's HazCP. The revised standard does not require that these sheets be uniform in format, but each sheet should contain the following information:

- Product name and identification of chemical(s)
- Physical and chemical characteristics of each hazardous chemical (e.g., boiling point, melting point, appearance and odor threshold, fire and explosive hazards)
- Health hazards (e.g., known acute and

chronic health effects, exposure limits, known or suspected carcinogenic effects of chemicals)

- Special protective information (e.g., ventilation, protective equipment)
- Spill or leak procedures, handling and storage information

A sample Material Safety Data Sheet is provided in NPS **Museum Handbook**, Part I (Rev 9/90), Chapter 11. To ensure that Material Safety Data Sheets are received with orders, parks should include a request for them on purchase orders to the General Services Administration (GSA) and other vendors.

**NOTE:** New procurements of hazardous chemicals must be cleared through the Park Safety Officer.

3. **Label** all containers of hazardous materials. Labels must be legible. Each label must contain the following information:

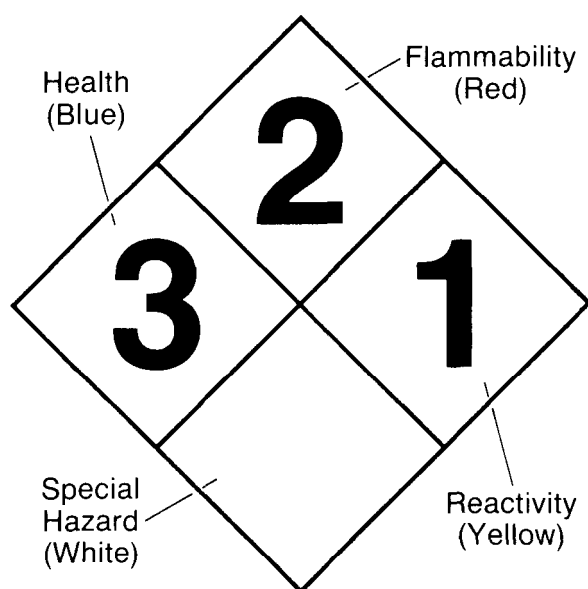
- Identification of hazardous chemical(s)
- Appropriate hazard warnings to ensure staff protection
- Name and address of chemical manufacturer

Provide the name of the material and transfer all basic hazard data from the original container to any new container.

The National Fire Protection Association (NFPA) has developed a hazard symbol that can be used as an effective warning label.

The NFPA Hazard Symbol is a color-coded symbol that can be used to rate the health, fire, and reactivity hazard plus any special hazard of a substance used in curatorial work or material in a museum collection

(e.g., cellulose nitrate film, arsenic treated specimens). The symbol uses a 0 to 4 rating system with 4 being the most hazardous. Refer to the NPS *Museum Handbook*, Part I (Rev 9/90), Chapter 11, for a detailed explanation of this symbol.



**4. Receive training** in the provisions of the Hazard Communication Standard. The training needs to include recognizing hazards and selecting methods of reducing exposure to hazardous materials used in the workplace.

## References

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