



Cornell University Program on Breast Cancer and Environmental Risk Factors in New York State (BCERF)

Safe Use and Storage of Hazardous Household Products

Many products commonly found in and around your home may threaten your health, even when used and stored in a seemingly safe manner. Consider the variety of products in your home: paints, cleaners, oil, batteries, hobby materials, wood preservatives, adhesives, pesticides and more. These products may contain solvents, petroleum products, heavy metals or other toxic chemicals. Although they are helpful, products with these ingredients have the possibility to harm your health.

Proper use and storage of these products, often called hazardous household products, can reduce potential health risks. This fact sheet will help you minimize your risks by explaining how to safely use and store hazardous household products.

Potentially hazardous household products:

- **Paint Products**-paint thinner and remover, oil-based paints, stains, varnish, turpentine
- **Cleaning Agents**-bleach and other disinfectants, furniture polishes and waxes, drain openers, shoe polish, degreasers and spot removers, oven cleaners, septic tank cleaners, toilet bowl cleaners, laundry detergents
- **Car/Auto-Related Products**-antifreeze, oil, waxes and cleaners, batteries, gasoline, windshield washer fluid, engine additives
- **Hobby and Recreational Supplies**-photo developer chemicals, marine paints, lighter fluid, electronic equipment cleaner, pool chemicals, painting supplies, silk-screen materials
- **Pesticides**-bug killers, weed killers, mold and fungus killers, insect repellants, flea-killing products, mothballs, chemical strips, pool cleaners, yard insect foggers, rodent baits and poisons

Are you at risk when using and storing household products?

Skin Exposure

Eye Exposure

Inhalation of dust or fumes

Ingestion, including accidental ingestion by drinking, eating, or smoking when a substance is on your hands



When you don't read and heed product warnings and directions for proper use and storage, your health might be at risk. Health effects vary from minor problems, such as irritated skin or watery eyes, to major ones such as burns, poisoning, or increasing your cancer risk. To be safe, you not only need to use and store products properly, you must understand how you can be exposed to hazardous household products. It might be easier than you think for such a product to enter your body.

You can be exposed by 1) ingestion, including accidental ingestion by drinking, eating or smoking when a substance is on your hands or on the utensil being used; 2) breathing dust or fumes (inhalation); or 3) contact with skin or eyes. The potential for harm from exposure depends on the following factors:



- the type and concentration of chemical in the product
- how much of the chemical you are exposed to
- how frequently you are exposed
- your size, weight and health
- your age

Soon after exposure, some chemicals cause tell-tale symptoms. Common symptoms are nausea, skin irritation, burning eyes, dizziness and headaches. But, don't rely on symptoms to warn you that you have been exposed. Some other possible effects, like cancer or lung damage, take a long time to develop.

Similarly, the harmful effects of hazardous household products that have entered the environment may take a long time to be noticed. When products are not used and stored properly, some products can contaminate food, water and air, thereby threatening ecosystems and your health. Because not all chemicals break down in the environment without harmful effects, some chemicals travel from one plant or animal to another and gradually accumulate. Consequently, a chemical may eventually harm a plant's or animal's ability to reproduce, damage its nervous system or the function of its liver or kidneys.

Federal law regulates most chemicals that are likely to cause environmental problems. However, it is difficult to keep track of the relatively small amounts used by homeowners and renters. Therefore, everyone needs to participate to minimize the impact from hazardous household products. Lowering the amount of hazardous household products released into the environment lowers potential human health risks as well.

How can you minimize risk when purchasing products?

- **Identify your need(s).** When selecting from various brands of the same type of product, read the labels to decide which product most safely meets your needs.
- **Select the least toxic product.** For example, choose a detergent-based cleaner instead of a solvent-based cleaner. It may work just as well.
- **Make sure the label and container are in good condition.**
- **Read the label before you purchase a product.**
- **Know what the words on the label mean.** (see next section)

- **Buy only the amount you need.** Containers may get damaged and leak when products remain unused for long periods of time. Sometimes the products may change chemically. Keep in mind that you should not base your purchase decision on price alone.

What should you know about labels?

Labels generally provide important information regarding how to safely use, store and dispose of products. The information should help you determine if the products fit your needs and if they can be used safely in your situation. Even if the print is small, always take the time to read labels before you purchase or use products. Avoid health problems by following the directions and heeding the signal words as well as any other precautionary statements listed on the label.

Signal words such as *danger*, *warning* and *caution* refer to human safety information. These words relate to the effects of the products on human health. Products labeled *danger* are the most hazardous and may be extremely flammable, corrosive, or toxic. Those products labeled *caution* are the least hazardous. Other words that give clues to products containing potentially hazardous ingredients are the following: irritant, use with adequate ventilation, combustible, caustic, volatile, flammable, avoid inhaling, poison, vapor harmful, and fatal if swallowed. On some labels, these signal words are listed under "precautionary statements." Precautionary statements list hazards to human health, animals, and the environment. Also, they give information regarding the steps you should take to minimize exposure to products.



Adapted from Home*A*Syst, An Environmental Risk-Assessment Guide for the Home

Absence of signal words or other warnings doesn't necessarily imply that products are safe. For example, old products or products not designed for household use may not provide consumer information on the label. Also, vague or possibly misleading terms such as "ozone safe" or "environmentally friendly" may not mean what they suggest. If you are unsure about a product, you may want to request a Material Safety Data Sheet (MSDS) or other relevant information from the manufacturer, or consult a poison control center. Also, call

the phone number given on the product, or contact a local health agency or county Cooperative Extension office.

Pesticide labels offer more complete and regulated information than labels on other hazardous products. In fact, the pesticide label is the law. Pesticide users, whether in or out of the home, are forbidden to use a pesticide in a way contrary to its labeling. The information and instructions on pesticide labels come from decades of research. To minimize health and environmental risks, always read the label and follow the directions each time you use a product.

How can you minimize risk when using products?

You can minimize risks to your health and the environment when using hazardous household products by heeding the following guidelines:

- Always read the label and follow directions and warnings. Do not use products for reasons other than those listed on the label.
- Ensure proper ventilation if you use products indoors. Open more than one window or use fans to blow air from work place to a window. Make sure air is not recirculating indoors.
- Wear appropriate protective clothing. Follow the label's directions regarding the recommended types of gloves, outer clothing, eye and respiratory protection.
- Use the right amount. Twice as much does not work twice as well.
- Never mix products or different brands of the same product. For example, chlorine bleach and ammonia in toilet bowl cleaners produce toxic fumes when mixed together.
- If pregnant, or nursing, avoid exposure to chemicals as much as possible.
- Protect food by putting away or covering.
- Keep children and pets away from application area during use and for the recommended amount of time following use.
- Use the product up or give the excess to someone else.
- Don't pour products down the drain or other waterways unless they're intended to go down the drain with water, such as drain cleaner.
- Follow the label's directions on the correct disposal of empty containers.

How do you safely store hazardous household products?

When storing household products, the main concerns are child safety, indoor air quality and the prevention of damage to household equipment or the environment. Store hazardous household products in a locked cabinet or one inaccessible to children. Even relatively harmless laundry detergents can make children sick if they ingest some. Store products by type and in a place with good ventilation. For example, pesticides should be on the highest shelf while paints should be on a different shelf. If hazardous products are stored in the garage, its doors should be kept shut and locked when children are playing nearby. If you can smell a household product while it is in storage, the lid may be loose or ventilation may be insufficient to protect your health. Routinely check storage areas to make sure that containers are closed tightly and that the sides of the containers are not bulging.

If you answer "no" to even one of the following questions, you may not be storing products safely. Do you



- Keep products out of reach of children and pets, preferably in a locked, secure area?
- Store products in their original containers?
- Clearly label and date any alternative containers?
- Keep containers tightly sealed and dry?
- Store products away from any well or waterway?
- Keep products in a well-ventilated area and away from sources of ignition?
- Store batteries and flammable chemicals in an area shaded from direct sunlight?
- Store products by type?



For more information ...

Managing hazardous household products ... Contact your local, county, or state government. Also, your county Cooperative Extension office may have information.

Managing pesticides ... For detailed guidance on pesticide management see Guides to Pollution Prevention: Non-Agricultural Pesticide Users, United States Environmental Protection Agency, 1993, document EPA/625/R-93/009. This 58-page guide, which includes nine worksheets, is available from the National Center for Environmental Publications and Information, P.O. Box 42419, Cincinnati, OH 45242-2419. Fax: (513) 489-8695.

Protective Clothing When Using Pesticides: See BCERF Fact Sheet #21 on *Avoiding Exposure to Household Pesticides: Protective Clothing* that should be worn when using pesticides in home and garden.

Disposal ... Call the manufacturer or contact your local government or sewage treatment facility. Also, many communities sponsor hazardous household products pick-up days. Check to see if containers are recyclable.

Household and Institutional Product Information Council. Phone: (202) 872-8110.


Home*A*Syst is an environmental risk assessment guide for the home which is very easy to use and an excellent source of information. To purchase the book, contact NRAES at phone: (607) 255-7654, e-mail: NRAES@cornell.edu. Or write to NRAES, Cooperative Extension, 152 Riley-Robb Hall, Ithaca, NY 14853-5701.

An extensive bibliography on *Safe Use and Storage of Hazardous Household Products* is available on the BCERF web site: <http://www.cfe.cornell.edu/bcerf/>

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