

# Hazardous Household Products

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Thousands of household products sold each year contain toxic ingredients. Examples include drain cleaners, oven cleaners, pesticides and furniture polish. Used and disposed of properly, these products add to the convenience and comfort of our lives. However, if used improperly, these products can endanger our health and the air quality in our homes. Disposed of improperly, products containing toxic ingredients can contaminate our land and pollute our water supplies.

Many people think of hazardous waste as only the waste produced in plants and factories, but every home has a supply of potentially hazardous waste. The United States Environmental Protection Agency (EPA) defines a substance as hazardous if it is flammable, can react or explode when mixed with other substances, is corrosive or is toxic. A number of products in kitchens, bathrooms, utility sheds and workshops contain caustic chemicals and solvents which can threaten family health and/or damage the environment. The challenge for today's consumer is to choose wisely when considering which products to purchase for home use.

## Hazardous Household Chemicals

Household products are hazardous if they are:

- **Ignitable** – capable of burning or causing a fire.

- **Corrosive** – capable of eating away materials and destroying living tissue when contact occurs.
- **Explosive and/or Reactive** – can cause an explosion or release poisonous fumes when exposed to air, water or other chemicals.
- **Toxic** – poisonous, either immediately (acutely toxic) or over a long period of time (chronically toxic).
- **Radioactive** – can damage and destroy cells and chromosomal material (known to cause cancer, mutations and fetal harm).

The Federal Hazardous Substances Act of 1960 established labeling requirements for consumer products containing hazardous substances. If a product has a hazardous substance, the label must include a warning and a description of the hazard. Levels of hazards are identified this way:

**Danger** – Substances are extremely flammable, corrosive or highly toxic.

**Poison** – Substances are highly toxic.

**Warning or Caution** – Substances are moderately or slightly toxic.

A statement telling you how to avoid the hazard must appear with safe use instructions. Examples might be **KEEP OUT OF REACH OF CHILDREN** or **USE IN A WELL-VENTILATED AREA**.

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Product labels must include the following information:

**Directions for Use** – This section tells you what the pesticide product controls and where, how and when to use the product. Often, the product manufacturer has included a booklet with the container. Some manufacturers also provide a toll-free number for consumers to use to obtain additional information about their product.

**Precautionary Statements – Hazard to Humans (and to Domestic Animals) Danger** – This section describes potential hazards to people or pets and how to reduce those hazards; for example, wearing gloves. These statements may also provide extra information on how to protect children or pets.

**Environmental Hazards** – If this product is potentially harmful to wildlife, fish, endangered plants or animals or may adversely impact wetlands or water resources, this section will provide additional information on what to do to avoid environmental damage.

**Physical or Chemical Hazards** – This section notes hazards such as corrosiveness or flammability of the product. For example, if the pesticide is flammable, the product should not be used or stored near open flames.

**Storage and Disposal** – This section tells you how to best store the product and what to do with the unused portion of the product and the empty container.

**Keep Out of the Reach of Children** – On the label, you will find one of the following “signal words” – Caution, Warning, Danger or Danger-Poison. The signal word indicates the pesticide’s potential hazard level to humans, with “Caution” being the least harmful and “Danger-Poison” the most harmful.

**First Aid Instructions** – This section tells you what to do first if someone accidentally swallows or breathes the pesticide or gets it on the skin or in the eyes. Labels may also contain a section labeled “note to physician” which provides doctors with specific medical information.

**Active Ingredients** – Identifies the “active ingredient(s)” in the product. The active ingredients are what enable the product to control the pest, clean or disinfect.

**Other Ingredients (inert ingredients)** – Tells you the percentage of “other ingredients” (sometimes called “inert” ingredients) in the product. The names of the other ingredients may not be shown on the label. These other ingredients serve other purposes such as dissolving the active ingredients or affecting how the product works.

**Warranty Statement** – Statement intended to limit a company’s liability or to act as a disclaimer or as a warranty for the product.

**Manufacturer’s Address** – The name and address (and sometimes phone number) of the manufacturer or distributor of the product.

**Net Weight/Net Contents Statement** – Identifies how much product is in the container.

**For pesticides specifically:**

**EPA Registration Number (EPA Reg. No.)** – All pesticide products sold in the U.S. must be registered with the EPA.

**Establishment Number (EPA Est. No.)** – A number identifying the particular facility where the final phase of production of the pesticide product took place.

Hazardous household products can be grouped into four major categories:

- *Automotive products* can include motor oil, brake and transmission fluid, antifreeze, car batteries, gasoline, kerosene, diesel fuel and car wax with solvent.
- *Household cleaners* can include drain cleaners, oven cleaners, toilet cleaners, spot removers, silver polishes, furniture polishes, cleansers and powdered cleaners, window cleaners, bleach, liquid cleaners and dyes.
- *Paints and solvents* can include latex, oil-based, auto and model paint, paint stripper, primer, rust remover, turpentine, varnish, wood preservative, mineral spirits and glues.
- *Pesticides.* A *pesticide* is any substance intended to control, destroy, repel or attract a pest. Pests can be insects, mice and other animals, weeds, fungi or microorganisms such as bacteria and viruses.

Table 1 lists some of the hazardous household products found in homes.

Table 1. Hazardous Household Products	
▶ Aerosol product	▶ Paints
▶ Air fresheners and deodorizers	▶ Pesticides (insect and weed control)
▶ Antifreeze	▶ Pet supplies (flea and tick control)
▶ Ammonia	▶ Metal polish
▶ Batteries (lead acid, dry cell, button)	▶ Moth balls and flakes
▶ Bleach	▶ Motor oil/gasoline
▶ Car wax and polish	▶ Shoe polish
▶ Disinfectants	▶ Spot removers
▶ Drain cleaners	▶ Smoke detectors
▶ Floor care products (cleaners, waxes, stripper)	▶ Toilet bowl cleaners
▶ Furniture polish	▶ Upholstery and rug cleaner
▶ Oven cleaner	▶ Window cleaners
▶ Paint thinner and stripper	▶ Wood stain/varnish

## Exposure to Hazardous Products

Hazardous substances may enter your body in three ways: ingestion, inhalation and absorption through the skin.

**Toxins are ingested** by eating or drinking hazardous substances or contaminated food and water. Ingestion is a major cause of poisoning in children six and under as well as senior adults. Keep hazardous products out of the reach of children and in a locked area. Always keep hazardous products in their original containers. Never put hazardous substances in food containers.

When working with hazardous products, avoid putting anything in your mouth. Don't eat, don't smoke, don't drink and don't store consumables in the work area.

When you are finished, remove any contaminated clothing and wash your hands (and other exposed body parts) with soap and water.

**Toxins can be inhaled.** Aerosol products may contain hazardous or toxic propellants, and the fine mist they produce may be easily inhaled. Gases, vapors and sprays that are inhaled pass directly

through the lungs and enter the blood. That is why good ventilation is essential.

When you are working inside, use a fan to direct air away from the work area to open windows. Air conditioners do not provide sufficient ventilation since they recirculate air, even when set on "vent." Thus, they do not remove contaminants. If you can smell a toxic chemical, your ventilation is not sufficient (although some harmful chemicals have no odor). Always check the product label for respirator requirements.

### **Toxins can be absorbed through the skin.**

Hazardous products containing irritants or corrosives injure the skin and then are absorbed. Some hazardous chemicals can be absorbed without causing any damage to the skin. Wear gloves and/or protective clothing. Your eyes also are vulnerable to injury. Many hazardous products can cause eye damage if splashed into the eye. Oven cleaners, drain cleaners and paint thinners are just three examples.

**Your eyes can absorb toxins rapidly.** Wear goggles when working with these products. Regular eyeglasses do not provide enough protection. Do not wear contact lenses (especially soft lenses) when working with hazardous products. The lenses absorb the vapors and then hold the irritant against your eye. Safety goggles can be purchased at most hardware, automotive supply and farm equipment stores.

## Selection, Use and Storage of Hazardous Household Products

### Select the Right Product

When shopping for products, your selection can be your first step toward minimizing danger. Follow these guidelines:

- Read the label. Make sure you want the product. Are the ingredients safe to use in and around your home?
- Make sure the product will do the job you need to have done.
- Buy the least hazardous product for the job. Let the signal words (Danger/Poison, Warning, Caution) be one of your guides.
- Check the label to see if a product has several uses. Then you can avoid buying a different product for each job.

- Read the label to make sure you know how to properly dispose of the container. Pressurized cans may explode when crushed, punctured or burned.
- Remember, the word “non-toxic” is for advertising only. It does not mean the product meets any federal regulations for non-toxicity.

## Use It Safely

It may be impossible to totally eliminate hazardous products in your home. The following guidelines will help when using hazardous products to keep your home and environment safe:

- Read the directions on the label and follow them. Twice as much does not mean twice the results.
- Use the product only for the tasks listed on the label.
- Wear protective equipment recommended by the manufacturer.
- Handle the product carefully to avoid spills and splashing. Close the lid as soon as the product is used. This will control vapors and reduce chances of spills. Secure lids tightly.
- Use products in well-ventilated areas to avoid inhaling fumes. Work outdoors if possible. When working indoors, open windows. Use a fan to circulate the air toward the outside. Take plenty of fresh-air breaks. If you feel dizzy, headachy or nauseous, take a break and get away from the source of the fumes.
- Do not eat, drink or smoke while using hazardous products. Traces of hazardous chemicals can be carried from hand to mouth. Smoking can start a fire if the product is flammable.
- Do not mix products unless directions indicate that you can safely do so. This can cause explosive, poisonous or problematic chemical reactions. Even different brands of the same product may contain incompatible ingredients.
- If pregnant, avoid toxic chemical exposure as much as possible. Many toxic products have not been tested for their effect on unborn infants.
- If possible, avoid wearing contact lenses when working with solvents and pesticides. They can absorb vapors and hold the chemical near your eyes.

- Carefully and tightly seal products when you have finished. Escaping fumes can be harmful, and spills can occur.

## Storage

Excess products generate risks for accidental poisonings, fire and environmental damage to the home and yard. They may have accumulated as a result of a “discount” or “sale” purchase, lack of experience with products, unsatisfactory results or discontinued activities.

As time passes, products can lose effectiveness and/or corrode their containers. When containers leak, they may contaminate other materials stored in adjacent areas, causing more waste or hazards. In addition, vapors released from open or leaking containers of flammable materials increase fire hazard and may be toxic to members of the household.

A product’s age may be difficult to determine, especially if the consumer doesn’t recall when it was purchased. Older products commonly exhibit heavy layers of dust, separated layers of liquids and solids, clogged nozzles or labels that are faded or missing. Some products retain their usefulness regardless of age. When in doubt, check with the manufacturer.

## Disposal of Hazardous Household Products

The best disposal of a product is to use all of it for its designated purpose. But in many cases, the product is not something the current owner wants to use. Some citizens may have access to permanent or periodic household chemical collection events. Check with public works, sanitation departments or the local county extension office to see if collection events are available in your area.

If no collection event is available, several ideas are offered here.

Find someone who could use the products. Donate old paint to local officials for paint up, clean up events; schools and community theater groups may be able to use paint. Some communities offer household chemical swaps – where usable products are given to those who may have a use for them.

“Dry paint” can be disposed of in regular household garbage. If a small amount of paint is in the can, remove the lid and let it dry. Mix sand or animal litter in paint to help it dry and solidify. Thin



layers of paint can be poured into old cardboard boxes and allowed to dry; once a layer is dry, add another.

Some products can be poured down the drain with plenty of water. Read the label to determine if this is recommended. If you have a septic tank, exercise additional caution when dumping these items down the drain. In fact, certain chemical substances cannot be used with a septic tank. Read the label to determine if a product could damage septic tanks. Place empty containers in the trash.

Empty containers and some items can be disposed of safely in a sanitary landfill. Make sure containers are properly rinsed with water before placing in trash.

Certain products are recyclable. Check for recycling opportunities in your area. Examples of products that can be recycled are used motor oil, anti-freeze, latex paint and automotive and rechargeable household batteries.

## Compact Fluorescent Light Bulbs

Compact fluorescent light bulbs, or CFLs, contain a very small amount of mercury and should be disposed of properly, ideally recycled. Mercury currently is an essential component of CFLs and allows the bulb to be an efficient light source. No mercury is released when the bulbs are intact or in use.

Be careful when removing the bulb from its packaging, installing it or replacing it. Always screw and unscrew the lamp by its base (not the glass), and never forcefully twist the CFL into a light socket.

Many household chemical recycling centers accept CFLs. CFL manufacturers may provide mail-back or take-back opportunities in the future.

If no local option exists in your area, dispose of CFLs in your household garbage. To reduce the risk of bulb breakage or contamination and to protect yourself from cuts, wrap the bulb in a sealed plastic bag and discard it with your trash.

If a bulb breaks, handle it sensibly and be certain to sweep up all the glass fragments (do not vacuum, because that can disperse particles). Place the broken pieces in a plastic bag and wipe the area with a damp paper towel to pick up any stray shards of glass or powder. It is also recommended to ventilate the room before and after cleanup.

## Prescription Drugs and Medicines<sup>1</sup>

Take unused, unneeded or expired prescription drugs out of the original containers.

Mix them with an undesirable substance, such as used coffee grounds or kitty litter. Place them in impermeable, nondescript containers, such as empty cans with lids or sealable bags. Then place in the trash.

Take advantage of community pharmaceutical take-back programs. Some communities have pharmaceutical take-back programs or community solid-waste programs that allow the public to bring unused drugs to a central location for proper disposal. Ask if your pharmacy will take back unused medications. Where these exist, they are a good way to dispose of unused pharmaceuticals.

Refer to printed material accompanying the medication for specific instructions.

## Most Important of All: Use Common Sense

### Store It Safely in Your Home

- Follow label directions for proper storage conditions.
- Leave the product in its original container with original label attached.
- Never store hazardous products in food or beverage containers.
- Make sure lids and caps are tightly sealed.
- Store hazardous products on high shelves or in locked cabinets out of reach of children and animals.
- Store incompatibles separately. Keep flammables away from corrosives.
- Store volatile products – those that warn of vapors and fumes – in a well-ventilated area out of reach of children and pets.
- Keep containers dry to prevent corrosion.

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<sup>1</sup>Office of National Drug Control Policy, Washington, D.C. (February 2007).

- Store rags used with flammable products (furniture stripper, paint remover, etc.) in a sealed, marked container.
- Keep flammable products away from heat, sparks or sources of anything that could ignite them.
- Know where flammable materials in your home are located and know how to extinguish them.

## What Do You Do If You or Someone You're With Has an Accident With Any Household Products?

If someone splashes a household chemical in the eyes, rinse out the eyes for 15 to 20 minutes in the shower or under a faucet. Then call your poison control center, 1-800-222-1222. When needed, call 911 or your local emergency ambulance number.

If someone splashes a household chemical on the skin, take off the wet clothing and rinse the skin for

15 to 20 minutes in the shower or under a faucet. Then call your poison control center, 1-800-222-1222.

If someone drinks a household chemical, give him or her half a glass of water to drink. Then call the poison control center, 1-800-222-1222.

**If someone is not breathing or won't wake up, call 911 or your local emergency ambulance number.** Be prepared for any emergency in the home. Keep your local emergency number, local ambulance number and the local poison control center telephone numbers with you or posted near chemical storage areas.

## References

United States Environmental Protection Agency. *Recognition and Management of Pesticide Poisonings*. Edited by R. Reigart and J. Roberts, 5th Ed. 1999.

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