A household hazardous product is one whose use or disposal poses a threat to human health or the environment. Hazardous products should not be put in the trash, down the drain, into storm drains or burned unless you are instructed to do so by local waste authorities.

This guide will help you learn to safely handle hazardous products or even find alternatives to hazardous products.

What makes a product hazardous?

Products are considered hazardous if they have one or more of the following properties:

- **Flammable/combustible**
  Can be easily set on fire.
- **Explosive/reactive**
  Can detonate or explode through exposure to heat, sudden shock, pressure or incompatible substances.
- **Corrosive**
  Chemical action can burn and destroy living tissues or other materials when brought in contact.
- **Toxic**
  Capable of causing injury or death through ingestion, inhalation or skin absorption. Some toxic substances cause cancer, genetic mutations and fetal harm.

Signal words

Labels of hazardous products are required by federal law to list signal words. DANGER or POISON indicate that the product is highly toxic, corrosive or extremely flammable. WARNING or CAUTION indicate that the product is moderately or slightly toxic.

General categories of hazardous products

Thousands of consumer products are hazardous, but for ease of remembering, they can be broken into the following general categories:

- **Automotive products**
  Examples: gasoline, motor oil, antifreeze, windshield wiper fluid, car wax and cleaners, lead-acid batteries, brake fluid, transmission fluid.
- **Home improvement products**
  Examples: paint, varnish, stain, paint thinner, paint stripper, caulk, adhesives.
- **Pesticides**
  Examples: insecticide and insect repellent, weed killer, rat and mouse poison, pet spray and dip, flea collars, mothballs, disinfectant, wood preservative.
- **Household cleaners**
  Examples: furniture polish and wax, drain opener, oven cleaner, tub and tile cleaner, toilet bowl cleaner, spot remover, bleach, ammonia.
• Other
Examples: household batteries, cosmetics, pool chemicals, shoe polish, lighter fluid, prescription medicines, arts and crafts materials.

Think before you buy

• Look for safer alternatives to hazardous products.
• Buy the least hazardous product. Let the signal words serve as a guide.
• Buy only as much of a hazardous product as you need to do the job at hand.
• Do not entirely rely on the word "nontoxic" on a product's label. A product that qualifies as nontoxic can still contain hazardous ingredients, but not in large enough amounts to cause an acute reaction. Chronic hazards often are not considered. Read the entire label for additional health warnings and use good judgment when choosing any product.
• Read the label carefully. Hazardous product labels often list the principal hazards from using the product, such as "flammable," "causes burns to skin and eyes," or "vapor harmful." Make sure it is the product you want to buy and that you are not uncomfortable with the ingredients or the instructions. If label directions instruct you to "avoid breathing vapors" or "avoid skin contact," are you able and willing to follow these safety precautions? If accidental ingestion of the product can cause injury or death, can you safely keep it away from small children?
• Buy hazardous products in childproof packaging.
• Check to see if safety equipment is required when using this product. Make sure you have the proper equipment on hand or that you purchase it for use with the product.
• Avoid aerosol products. Aerosol cans disperse the product in tiny droplets that can be deeply inhaled into the lungs and quickly absorbed into the bloodstream. In addition, aerosols can ignite easily and the cans may explode when subjected to high temperature or pressure.

Use it safely

• Read all labels before using hazardous products, paying careful attention to proper use instructions and dangers.
• Twice as much does not mean improved results.
• Do not mix products unless instructed by label directions. Mixing products can cause explosive or poisonous chemical reactions. Even different brands of the same product may contain incompatible ingredients that may react when mixed together.
• If pregnant, avoid toxic chemical exposure. Many toxic products have not been tested for their effects on unborn children.
• During use, keep hazardous products out of the reach of small children. If the phone rings or you are called out of the room, close the product and take it with you or take the child with you. Do not leave products unattended or unsealed.
• Avoid wearing soft contact lenses when working with solvents and pesticides. They can absorb vapors from the air and hold the chemical against your eyes.
• 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.
• Use products in well-ventilated areas to avoid inhaling fumes. Try to keep lids closed as much as possible while working with hazardous products to minimize the fumes. Work outdoors whenever possible. When working indoors, open windows and use an exhaust fan. Position the fan to draw air away from the work area to the outdoors. Take plenty of fresh air breaks. If you feel dizzy or nauseous, tightly seal the product, go outside, and take a break.
• Use protective gloves, goggles and respirators that are appropriate to the task if the product presents hazards to skin, eyes or lungs.
• Clean up after using hazardous products. Carefully seal products and properly refasten all caps.

Store it safely
Keep products out of the reach of children and animals. Store all hazardous products away from food items in locked cabinets or in cabinets with childproof latches. Keep your poison control number posted by the phone in case of an emergency. In Missouri, that phone number is 800-366-8888.

- Make sure lids and caps are tightly sealed and childproof.
- Make certain all products are clearly labeled before storing them.
- Leave products in their original containers with the contents clearly identified on the labels. Never put hazardous products in food or beverage containers.
- Keep products away from sources of heat, spark, flame or ignition such as pilot lights, switches and motors. This is especially important with flammable products and aerosol cans.
- Store products containing volatile chemicals, or those that warn of vapors or fumes, in a well-ventilated area.
- Never store rags contaminated with flammable solvents (such as wood stain, paint stripper and paint remover) because they can spontaneously start on fire. Follow the directions on the product label regarding the disposal of solvent-covered rags. If there are no directions, place the rags in an airtight, metal container and store the container outside your house away from other structures until it can be picked up with the trash. Another option is to allow the solvent to volatilize by hanging the contaminated rags outside, away from your home and sources of sparks. For additional information and directions, contact your local fire marshal.
- Store gasoline only in safety-approved containers in a well-ventilated area away from all sources of heat, flame, or spark.
- Store LP (liquid propane) gas tanks, such as those used with gas-fueled barbecue grills, outdoors and away from all sources of heat, flame, or spark.
- Know where flammable materials are located in your home and how to extinguish them. Keep a working ABC-rated, or Multi-Purpose Dry Chemical, fire extinguisher in your home.
- Keep containers dry to prevent corrosion. If a product container is beginning to corrode, place the entire container in a plastic bucket with a tight-fitting lid. Pack non-flammable absorbent, such as clay-based kitty litter, around the container. Clearly label the bucket with its contents and appropriate warnings.

Cleaning up spills

These directions apply to liquid pesticides, paints, solvents and other household hazardous products.

- Remove children and pets from the area where the spill occurred.
- Ventilate the area.
- Do not attempt to use cleaning products to clean up the spill.
- At a minimum, wear the appropriate protective gloves for the product. Other safety equipment may be required for volatile solvents, pesticides or corrosive products.
- Contain the spill to a small area by soaking it up with a non-flammable absorbent, such as clay-based kitty litter.
- Put the contaminated absorbent into a non-corroding container. A plastic bucket with a tight-fitting lid is recommended.
- Seal the container and label it with the product name, approximate amount of product, absorbent material used, date, and the word DANGER or POISON.
- Contact local solid waste authorities for information on how to dispose of the contaminated material or save for a household hazardous waste collection.
- After you have absorbed the spill, thoroughly rinse the area several times with water and rags. Then wash the area carefully to remove remaining traces of the product. Never use household brooms or mops to clean the spill since they will become contaminated and must be discarded.

A word on disposal

In most cases, the best thing to do with a leftover product is to use it all according to the label directions or find someone who will use it.
Some household hazardous wastes, including old lead-acid batteries, button batteries, used motor oil and antifreeze can be recycled. For many household hazardous products there may be no safe disposal available. These products must be stored safely until your community holds a household hazardous waste collection.

**Safer alternatives**

### All-purpose cleaner

- **Baking soda**
  Dissolve 4 tablespoons baking soda in 1 quart warm water for a cleaning solution or use baking soda sprinkled on a damp sponge. Baking soda will clean all kitchen and bathroom surfaces.

### Drain cleaner

- **Prevention**
  To avoid clogging drains, use a strainer to trap food particles and hair, collect grease in cans rather than pouring it down the drain, and pour a kettle of boiling water down the drain weekly to melt fat that may be building up in the drain.
- **Baking soda and vinegar**
  Put 1/2 cup baking soda and then 1/2 cup white vinegar down your drain and cover the drain. Let set for a few minutes, then pour a kettle of boiling water down the drain to flush it.

### Furniture polish

- **Olive oil and lemon juice**
  Mix 2 parts oil and 1 part lemon juice. Apply and polish with a soft cloth.

### Lime and mineral deposit remover

- **Vinegar**
  Hard lime deposits around faucets can be softened for easy removal by covering the deposits with vinegar-soaked rags or paper towels. Leave rags or paper towels on for about 1 hour before cleaning. Cleans and shines chrome. To remove deposits that may be clogging metal shower heads, combine 1/2 cup white vinegar and 1 quart water. Completely submerge the shower head and boil for 15 minutes. If you have a plastic shower head, combine 1 pint white vinegar and 1 pint hot water. Completely submerge the shower head and soak for about 1 hour.

### Metal cleaner/polish

- **Creme of tartar**
  To remove stains and discoloration from aluminum cookware, fill cookware with hot water and add 2 tablespoons creme of tartar to each quart of water. Bring solution to a boil and simmer ten minutes. Wash as usual and dry.
- **Worcestershire sauce**
  Clean and polish unlacquered brass to a shine with a soft cloth dampened with Worcestershire sauce.
- **Toothpaste**
  To clean tarnish off gold and silver (not silver plate), use toothpaste and a soft toothbrush or cloth. Rinse with clean warm water and polish dry.

### Pests
Boric acid
Boric acid will kill ants and roaches when spread liberally around the points of entry. Boric acid has some toxicity and should not be applied to areas where small children and animals are likely to contact it.

Spot remover

- **Club soda**
  Rinse or sponge blood and chocolate stains immediately with club soda. Repeat as necessary. Wash as usual.

- **Creme of tartar and lemon juice**
  To remove ink stains, put creme of tartar on the stain and squeeze a few drops of lemon juice over it. Rub into the stain for a minute, brush off the powder, and sponge with warm water or launder.

Other sources of information

- **Missouri Department of Natural Resources**, 800-334-6946, ask for Waste Management. Contact for information on disposal regulations and collection programs.
- **Consumer Product Safety Commission**, 800-638-2772. Report any product that causes health problems through its use to the CPSC.

The *Guide to Hazardous Products Around the Home*. The guide was written by the Household Hazardous Waste Project, winner of the 1991 President's Environment and Conservation Challenge Award.

Though much effort has been made to ensure the accuracy of the information contained herein, the Household Hazardous Waste Project assumes no responsibility and disclaims any injury or damage resulting from the use or effect of any product or information specified in this publication.

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Related MU Extension publications

- WM6000, Safe Use, Storage and Disposal of Pesticides
  http://extension.missouri.edu/p/WM6000
- WM6001, Safe Use, Storage and Disposal of Paint
  http://extension.missouri.edu/p/WM6001
- WM6002, Selecting Household Safety Equipment
  http://extension.missouri.edu/p/WM6002
- WM6004, Managing Household Hazardous Waste
  http://extension.missouri.edu/p/WM6004
- WM6005, Store Hazardous Products Safely
  http://extension.missouri.edu/p/WM6005
- WM6006, Identifying Product Hazards: Material Safety Data Sheets
  http://extension.missouri.edu/p/WM6006
- WM6007, Setting Up a Used Antifreeze Collection Site
  http://extension.missouri.edu/p/WM6007
- WM6009, Setting Up a Used Latex Paint Collection Site
  http://extension.missouri.edu/p/WM6009
- WM6010, Setting Up a Used Oil Collection Site
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