

University of Missouri Extension

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Managing Household Hazardous Waste

Editor's note

The Missouri Poison Center, formerly Regional Poison Control Center, name and phone number were updated on 1/23/15.

Marie Steinwachs
Office of Waste Management

Almost every home contains hazardous products. They are used in cleaning, home improvement projects, automobile maintenance, lawn and garden care, and a variety of other tasks. In order to protect our health and environment, we must know how to properly use, store and dispose of these products.

The dangers of household hazardous products and wastes

Look in any storage cabinet in your home. Do you see products such as paint, paint thinner, pesticides, fertilizers, gasoline, windshield wiper fluid, antifreeze, motor oil, brake fluid, adhesives, batteries, furniture polish, drain opener, and oven cleaner? These products are all hazardous because they contain chemicals that are

- Corrosive
- Explosive/reactive
- Flammable
- Toxic

Though usually safe when used according to label directions, these products can become dangerous when people are unaware, or forget, that they are handling hazardous products.

Each year, thousands of people are injured by products in their homes. Accidental poisoning can happen if a product is left within reach of a small child. It can also occur when food, drink, or cigarettes are used while handling hazardous products. Many products have fumes or vapors that can irritate lungs. Hazardous products have caused severe burns, illness, blindness, and even death.

When hazardous household products are no longer usable or wanted, they become household hazardous wastes. Household hazardous wastes make up only a small percentage of household waste, but they are a serious problem.

When disposed of improperly, they pose a threat to sanitation workers and the environment. Household hazardous wastes discarded in the trash may ignite or explode in the collection truck. Trash haulers have been injured from fumes and splashing chemicals. In the landfill, these wastes can leach into surface water and groundwater — the sources for our drinking water.

Disposal of household hazardous wastes down the drain can also pollute drinking water.

In septic systems, hazardous wastes can kill the organisms that make the system work. This may cause untreated wastes to drain into the soil and eventually seep into the groundwater.

Sewage treatment plants have been damaged by household hazardous wastes, resulting in the release of raw sewage and chemicals into streams. Storm drains, which are often used improperly for dumping, are a direct route to nearby waterways. Anything that is poured on the ground may spread or runoff the next time it rains.

Because of the dangers they pose, household hazardous products require special handling and disposal. Our health and environment are at stake, so it is important that each of us take responsibility for the products we use.

What you should do

- Read labels carefully before buying a product. Avoid buying products with labels containing the words: caustic, corrosive, danger, explosive, flammable, poison, toxic, volatile, or warning.
- Use safer products whenever possible. Safer alternative products can be found in stores. Recipes for making your own can be found in books available through most libraries.
- Buy household hazardous products only in the amount you need for the job at hand.
- Follow label directions on how to use a product, and use the recommended amounts. More is not necessarily better, and may be hazardous to your health.
- Avoid hazardous products if you are pregnant.
- Use safety equipment when the label recommends avoiding skin contact, eye contact, or inhalation of vapors.
- Use products up entirely. It is not hazardous waste until it is no longer wanted or usable.
- Share what you cannot use with a friend, neighbor, local business or organization.
- Recycle what can be recycled in your area (waste motor oil, transmission fluid, antifreeze, automotive batteries, button batteries, etc.) Contact local solid waste officials for locations in your area.
- Use this brochure or contact your local solid waste and wastewater authorities to determine how to dispose of specific products.
- Keep products in their original containers with readable labels.
- Safely store the remaining, unusable products in their original containers until a household hazardous waste collection is held in your area.
- Suggest to your elected officials that a household hazardous waste collection program is needed.

What you should not do

- Do not leave products within reach of children or animals.
- Do not allow children to handle or dispose of household hazardous products or waste.
- Do not dump down storm sewers or in the backyard.
- Do not burn or bury.
- Do not put in the trash or pour down the drain before checking the disposal recommendation for that product.
- Do not reuse containers for other purposes.
- Do not mix unless instructed to do so by the label directions.

Store products safely

- Close lids tightly so that products will not dry out, evaporate, or leak.
- Store hazardous products in a locked cabinet away from children and animals.
- Store in a cool, dry area.
- Store away from sources of heat, spark, or flame.
- Store in original containers with label intact.
- If the product container is deteriorating, place the entire container in a plastic bucket or glass jar with a tight-fitting lid. Surround it with a non-flammable absorbent, such as kitty litter, vermiculite, or floor dry, to absorb spills.
- Separate flammables, corrosives, and poisons and store them on separate shelves.

Household hazardous waste collections

Household hazardous waste collection programs will become more available in Missouri as the Missouri Solid Waste Management Law goes into effect.

The law allows the formation of solid waste districts across the state. Each district must prepare a solid waste

management plan. One component of the plan is to minimize and separate household hazardous wastes from the solid waste stream.

The Missouri Hazardous Waste Law also prohibits small quantities of hazardous wastes from sanitary landfills after Jan. 1, 1994. Contact your local elected officials to find out what type of household hazardous waste management program is being planned for your area.

How to read this chart

This chart contains disposal recommendations for many common household hazardous products. Always remember, the best disposal option for most hazardous products is not to dispose of them at all! Avoid buying hazardous products. If you must use them, use the products up, share them with a friend or neighbor, or find a business or organization that can use the products.

Note

Among the items that should not be shared are banned or restricted pesticides, prescription medicines, syringes, and products that are not in original containers or whose labels are not readable.

This chart should be used only as a guideline. Contact your local officials to determine what disposal options exist in your area.

Properties

Hazardous properties may vary depending on the product's ingredients. Refer to the product label for specific product hazards.

Products are considered hazardous if they contain chemicals with one or more of the following properties:

- **Corrosive**
chemical action can burn and destroy living tissues or other materials that come in contact
- **Explosive/reactive**
can detonate or explode through exposure to heat, sudden shock, pressure, or incompatible chemicals
- **Flammable**
can be easily set on fire
- **Toxic**
capable of causing injury or death through ingestion, inhalation, or absorption through the skin

Disposal method

Reuse means to use the product again. Household solvents, such as paint thinner and paint brush cleaner, can be used over and over. Let the used solvent sit undisturbed in a sealed container until the paint particles settle to the bottom. Carefully pour off the clean solvent and use it again.

Warning

Since these solvents are flammable, this activity should be done outdoors or with plenty of fresh air and adequate ventilation, and away from sources of heat, spark, or flame.

The sludge that remains after pouring off the clean solvent should be kept in the sealed container and saved for a household hazardous waste collection, or may be able to go to the landfill if it is completely dry (check with your local solid waste officials).

Triple-rinse container is the prescribed treatment method for empty pesticide containers. To triple-rinse, fill the container 1/4 full with water (or the solvent recommended on the product label), close it tightly, and shake or invert so

the rinse reaches all inside surfaces. Repeat this procedure two more times. Rinse water should be used to make up the pesticide mixture or applied to the area you are treating following the same precautions used with the full-strength pesticide. Plastic containers should be punctured to prevent reuse. Discard the rinsed container with your trash, or see if the local recycling center will accept triple-rinsed glass or plastic containers.

Warning

Do not triple-rinse pesticide containers in a household sink, or outside near drinking water wellheads. If you cannot reuse the rinse water, save unrinsed containers for a household hazardous waste collection.

Recycle is the preferred option for any household hazardous product that can be recycled. Contact your local solid waste officials for recycling locations in your area. Try contacting jewelers or hearing aid service stores to see if they will accept button batteries for recycling. Automotive service centers may accept used motor oil, auto batteries, antifreeze, kerosene, and transmission fluid. Theater and art groups, or housing "fix-up" organizations may be happy to receive leftover paint.

Save for collection indicates those products that should be saved for a household hazardous waste collection. Contact your local solid waste officials to find out when a collection may be held in your area. If you must wait for a collection, store products safely in their original containers with the labels intact.

Flush down drain indicates that a product can be poured down the drain with plenty of water. Contact your wastewater officials before pouring to determine if this recommendation is suitable in your area. If you have a septic tank, additional caution should be taken. Read the product label to determine whether the product might damage your plumbing or your septic system. If you are uncertain, see if the local wastewater plant will accept the product, or save it for a household hazardous waste collection. Never mix wastes while pouring them down the drain. Always pour small amounts at a time to avoid splashing, and flush with plenty of water.

Put in trash indicates that a product is suitable for landfill disposal. Generally speaking, empty containers can be thrown away. Liquids should never be disposed of in the trash. Some products are acceptable for landfill disposal if they are hardened or dried up. Contact your local solid waste officials before throwing any hazardous product away.

For more information

- **Missouri Department of Natural Resources**

P.O. Box 176

Jefferson City, Mo. 65102

800-334-6946 (ask for the Hazardous Waste Program)

573-751-3176

For information on hazardous waste disposal regulations and assistance with conducting household hazardous waste collection programs.

- **Missouri Department of Health**

P.O. Box 570

Jefferson City, Mo. 65102

573-751-6102

For health information on hazardous materials use, storage and disposal.

- **Missouri Poison Center**

800-222-1222

Provides emergency first-aid advice for accidental or suspected poisoning, and information on acute and chronic health effects of toxic chemical exposure.

- **MU Extension Centers** can provide information on recycling, yard waste composting, and household hazardous waste.

Product	Properties	Disposal method
Automotive products		

Antifreeze	Toxic	Recycle or contact your local wastewater treatment plant to see if you can flush down drain.
Auto battery	Corrosive, toxic	Recycle.
Brake fluid	Toxic	Save for collection.
Car wax, polish	Corrosive, flammable, toxic	Save for collection; place in trash only if hardened.
Degreaser	Flammable, toxic	Save for collection.
Diesel fuel	Flammable, toxic	Recycle or save for collection.
Gasoline	Flammable, toxic	Save for collection. Use approved safety container; keep away from flame, spark and heat.
Kerosene	Flammable, toxic	Recycle or save for collection.
Motor oil	Toxic	Recycle. Do not mix with anything else.
Transmission fluid	Flammable, toxic	Recycle or save for collection.
Windshield wiper fluid	Flammable, toxic	Save for collection.
Home improvement products		
Adhesive and glue (solvent-based)	Flammable, toxic	Save for collection; place in trash only if hardened.
Paint brush cleaner (solvent-based)	Flammable, toxic	Reuse, or save for collection.
Paint — latex (water-based)	Toxic	Save for collection; place in trash only if hardened. Check with local officials.
Paint — oil (solvent-based)	Flammable, toxic	Save for collection; place in trash only if hardened and has no heavy metals. Check with local officials.
Paint thinner	Flammable, toxic	Reuse, or save for collection.
Stain and varnish	Flammable, toxic	Save for collection.
Wood preservative	Flammable, toxic	Save for collection.
Cleaners		
Ammonia-based	Corrosive, toxic	Flush down drain.
Bleach-based	Corrosive, toxic	Flush down drain.
Disinfectant	Corrosive, toxic	Flush down drain or save for collection.
Drain cleaner	Corrosive, reactive, toxic	Flush down drain or save for collection.
Floor wax/stripper	Flammable, toxic	Save for collection.
Furniture polish	Flammable, toxic	Save for collection.
Metal cleaner	Corrosive, flammable, toxic	Save for collection.
Oven cleaner	Corrosive, toxic	Save for collection.
Spot remover	Corrosive, flammable, toxic	Save for collection.
Toilet bowl cleaner	Corrosive, toxic	Flush down drain.
Window cleaner	Toxic	Flush down drain.
Pesticides		
Container (empty)	Toxic	Triple-rinse.
Fertilizer (with pesticide)	Corrosive, toxic	Save for collection.
Flea collar and spray	Toxic	Put in trash if used up, or save for collection.
Fungus-control chemicals	Toxic	Save for collection.
Insect-control chemicals	Toxic	Save for collection.

Moth balls	Toxic	Save for collection.
Rat and mouse poison	Toxic	Save for collection.
Weed and brush killers	Toxic	Save for collection.
Personal care products		
Aftershave and perfumes	Flammable, toxic	Flush down drain.
Hair permanent lotions	Toxic	Flush down drain.
Nail polish	Flammable, toxic	Save for collection; place in trash only if hardened.
Nail polish remover	Flammable, toxic	Save for collection.
Prescription medicines	Toxic	Save all prescription medications for a collection day.
Syringes	Can transmit diseases or cause puncture wounds	Place in trash Store in rigid, puncture-resistant leak-proof container. Seal prior to disposal.
Miscellaneous		
Aerosol can (empty)	Explosive if heated, flammable, toxic	Place in trash.
Air fresheners	Flammable, toxic	Save for collection, or place in trash if used up.
Ammunition	explosive	Contact law enforcement officials for proper disposal in your area.
Artist and hobby paint	Flammable, toxic	Save for collection.
Batteries, household (alkaline, ni-cad, lithium)	Corrosive, reactive, toxic	Save for collection; recycle button batteries.
Fabric dye	Corrosive, toxic	Flush down drain if diluted; save for collection if concentrate.
Fireworks	Explosive	Soak in water until saturated, then put in trash.
Gas cylinder	Explosive, flammable	Contact local officials. Always store outdoors.
Photography chemicals (B&W)	Corrosive, toxic	Flush down drain if diluted and mixed; save for collection if unmixed.
Swimming pool chemicals	Corrosive, explosive, toxic	Save for collection or contact local wastewater treatment plant for disposal.
Smoke detector (ionizing)	Radioactive	Return to manufacturer.
Thermometer	Toxic	Save for collection.

This publication was compiled for the citizens of Missouri by the Household Hazardous Waste Project, Missouri Environmental Improvement and Energy Resources Authority, MU Extension, Missouri Department of Natural Resources and the Missouri Department of Health. This publication was developed in 1992. Disposal recommendations may change with new laws and information. Contact the above agencies if you have any questions.

#information

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>

- WM6003, Household Hazardous Products
<http://extension.missouri.edu/p/WM6003>
- 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
<http://extension.missouri.edu/p/WM6010>
- WM6011, Storm Drains and Water Quality
<http://extension.missouri.edu/p/WM6011>

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