



Handling Household Hazardous Waste



Division of Environmental and Financial Assistance
Office of Compliance Assistance and Pollution Prevention
April 2015

Table of Contents

Introduction	3
Handling Used Oil.....	4
Handling Gasoline, Kerosene, Diesel Oil and Heating Oil	6
Household Batteries.....	9
Lead-Acid Batteries	11
Pesticides	13
Storing and Disposing of Paint	16
Electronic Equipment.....	19

Introduction

Many households handle various types of hazardous material. In the process, hazardous waste may be generated and if handled improperly, safety may be compromised and pollution may occur. This guide is a brief introduction to the commonly encountered wastes and materials in households and provides information on how to properly handle various situations and prevent danger to the household and potential harm to the environment.

This guide can be viewed as whole or as seven distinct pieces each covering a topic of interest. Users are encouraged to print out only the section that they may need to reduce potential for paper waste.

Handling Used Oil

If you own a car, tractor, lawnmower, boat or recreational vehicle, you probably know that it's important to change the oil regularly to keep the motor running properly and extend its useful life. But did you know that it's just as important to dispose of the used oil safely? According to the U.S. Environmental Protection Agency, about 200 million gallons of used motor oil are improperly disposed by consumers in the United States each year.



Improper Disposal Concerns

Improper disposal of used oil can cause harmful pollution of the soil, rivers, lakes and ground water, as well as damage local water treatment plants. Dumping used oil onto the ground can contaminate underground water supplies and is nearly impossible to clean up. Used oil does not readily dissolve in water and is slow to degrade in the environment. One gallon of oil can produce an oil slick up to eight acres in size. Used oil from a single oil change can ruin one million gallons of water (a year's supply for 50 people) or make four acres of soil unusable for planting for decades.

Recycling Used Oil

Although oil picks up metals and acids as it circulates through the engine block and crankcase of an internal combustion motor, it does not lose its lubricating properties. These contaminants can be removed through the re-refining process. Recycling used oil for use as an industrial fuel or re-refining it as a lubricant conserves natural resources, saves energy, and is beneficial to the environment. It takes 42 gallons of crude oil to produce 2.5 quarts of lubricating oil, while one gallon of used oil will produce the same 2.5 quarts.

Using Good Maintenance Practices

If you do your own vehicle or equipment maintenance, it's important to think about where and how you do this. Even small drips and spills can add up to a problem. Some tips for good vehicle maintenance:

- Avoid doing maintenance in an area that's close to a surface water or near a water well, if you have one.
- Do maintenance in a location where spills and drips from your vehicles and equipment can be contained.
- Use drip pans to collect oil while you are doing maintenance work.
- Soak up small drips and spills with sawdust or kitty litter. Properly dispose of absorbent materials along with your trash.

- **DO NOT** dump your used oil directly on the ground.
- **DO NOT** dump your used oil down a street or storm drain. Most storm drains lead directly to a waterway.
- **DO NOT** burn used oil in a burn barrel.
- **DO NOT** burn used oil from vehicles in an oil-fired space heater at your home. Burning used oil in a heater that it is not designed for can cause problems with the equipment and create a fire hazard.
- **DO NOT** use used oil to kill weeds on your property or to control dust on drives or roadways.

Proper Handling of Used Oil

After changing the oil in your vehicles or equipment:

1. Pour the used oil into a clean plastic reusable container and seal it shut. **Never** mix used motor oil with other materials such as gasoline, fuel oil, paint products, antifreeze, brake fluid, pesticides or other household chemicals. Once motor oil is contaminated with these products, it is nearly impossible to recycle.

2. Remove the oil filter, turn it upside down and drain it at a 45 degree angle into the oil catch pan overnight. Seal the filter in a plastic zipper bag, coffee can with lid, or other leak-proof container. If your community does not offer curbside recycling, contact your local service stations or scrap dealers for recycling outlets. If you've completely drained the filter and can't find someone to take it for recycling, you can dispose of it along with your regular trash. Make sure it's been well-drained first.
3. Take the container of used oil to a used motor oil collection center. Many service stations and other outlets that sell new motor oil allow consumers to deposit used oil in their collection tanks. Others have set up drop-off sites where residents may take small amounts of used oil and deposit it into special containers for recycling. For more information about local opportunities, contact your local solid waste management district (listed under county government in the blue pages of the phone book or [visit Ohio EPA's website](#)).
4. Many Valvoline Instant Oil Change, Advance Auto Parts, AutoZone, and BP ProCare (full-service stations only) locations will accept used oil. Check for other local companies that may accept used oil by going to [earth911.com](#). Always call ahead to make sure the local business will accept your used oil and find out if there are any special instructions you need to follow.
5. After depositing your used oil, take the reusable container home with you to use the next time you change your oil.

Improper disposal of used oil costs money. You pay in higher consumer prices, taxes for environmental cleanups and increased health care costs when wastes are improperly managed. Recycling saves money and protects the environment. So help be a part of the solution, not part of the problem.

For More Information

- U.S. EPA used oil management: epa.gov/epawaste/conserves/materials/usedoil/index.htm
- Earth911: earth911.com
- Advanced Auto Parts recycling: shop.advanceautoparts.com/o/storeservices
- AutoZone recycling program: autozone.com/autozone/inourstores/services.jsp

Handling Gasoline, Kerosene, Diesel Oil and Heating Oil

Gasoline, kerosene, diesel oil and home heating oil can often be found stored around the house. Each fuel has a different use and different properties. It's important to know how to safely handle and dispose of what you have around the house to protect yourself and the environment.

Each fuel is capable of supporting combustion, which means they can ignite under certain circumstances, so they must be treated with care. All four fuels release vapors that are not only flammable but also can be toxic in enclosed spaces.

If you must handle these fuels, be sure to do so in a space with good ventilation and no ignition source (pilot light, open flame of any kind, electrical spark, hot engine or lighted cigarette, pipe or cigar). Do not store or handle these fuels in the house. Use eye protection and gloves that resist these fuels. Remember, the vapors from these fuels can have toxic effects; so if the smell is strong, stop what you're doing, close the containers and leave the area until the smell dissipates. Reconsider what you were doing and make changes to maintain safety. Always keep these fuels out of the reach of children.

Gasoline

If you buy gasoline for use in small engines (lawnmower, leaf blower, snow blower, generator, etc.), buy no more than you will need for the purpose. Always store gasoline in containers approved for gasoline storage. Be sure the container has a pour spout to avoid spills. Do not fill the container to the point that there is no air space since the gasoline vapor needs a place to expand. Label the storage container to identify its contents, especially if you have mixed oil with the gasoline for a two cycle engine. Do not store the gasoline container in the house or around an ignition source and keep containers out of the reach of children.



At the end of the season, use all the gasoline, if possible, and do not store it for extended periods. Allow the engine to burn up the gasoline in its tank and use whatever is left in the storage can in your car. Gasoline stored for a long time without an added stabilizer can collect water (from condensation), rust and dirt, lose its ability to make engines start easily, and form varnish or gum in the container, tank or engine. If you clean up a gasoline spill with rags or paper towels, be sure to allow the rags or paper towels to remain outside to evaporate all the gasoline before throwing them in the trash.

Old gasoline that has been stored for a while can be reconditioned and used. Allow any visible water to settle to the bottom of the container and then pour the gasoline into another container leaving the water behind. Let the water and any residual gasoline evaporate outside before putting gasoline back into the empty container. As an alternate to remove water, you can add dry gas as recommended on the dry gas label. Remove any dirt or rust by passing the gasoline through several layers of cloth or coffee filters. Allow the cloth or coffee filters to dry outside before disposal in the trash. The reconditioned gasoline can be used by mixing it with fresh gasoline at a rate of one part reconditioned gasoline to five parts new gasoline. If your engine is fuel injected, be sure to check the manufacturer's recommendations before using reconditioned gasoline.

What is Flash Point?

The flash point of a material is a good indicator of how likely it is to catch on fire if there is an ignition source nearby. At the flash point, the material will have just enough vapor available to support a flame. The lower the flash point, the more of a fire danger the material is.

Gasoline is the most dangerous with a flash point of about - 45° F. Kerosene is the next most dangerous with a flash point of about 100° F. The flash point for diesel oil and home heating oil is about the same, 125° F.

If you cannot reuse your gasoline, you need to properly dispose of it. Take it to a local household hazardous waste collection site. See end of this fact sheet for more information.

Important

DON'T pour gasoline, kerosene, diesel oil, or home heating oil down the drain, down the storm sewer or on the ground.

DON'T use gasoline, kerosene, diesel oil, or home heating oil to kill weeds around your property. Contaminants from these can move through the soil and contaminate water resources.

Landfills in Ohio will not accept bulk liquid waste, so **DON'T** throw containers of liquids in your trash.

Kerosene

Kerosene is used to supply light for kerosene lamps in emergency situations. It may also be used for cooking in camp stoves or to supply heat in portable stoves. Follow manufacturer's instructions when using a stove or lamp that burns kerosene. The burning process can release carbon monoxide and be dangerous in an enclosed space.

Always store kerosene in an approved labeled container and keep out of the reach of children. Keep the container tightly closed and stored away from sources of ignition (pilot light, open flame of any kind, electrical spark, hot engine or lighted

cigarette, pipe or cigar). If kerosene is stored for an extend period, treat it like old gasoline to remove visible water or dirt as necessary.

If you cannot reuse your kerosene, you need to properly dispose of it. Take it to a local household hazardous waste collection site.

Diesel Oil

Unless you have a diesel oil fueled backup electric generator or diesel tractor, you will not be likely to store much, if any, diesel oil. But if you do store diesel oil, remember to store it in an approved labeled container, away from ignition sources (pilot light, open flame of any kind, electrical spark, hot engine or lighted cigarette, pipe or cigar). Keep diesel oil out of the reach of children.

Stored diesel oil can collect dirt and rust as well as water. But diesel oil can also support the growth of microorganisms if water is present. These micro-organisms can form films that can plug fuel filters and fuel injectors. If you must store diesel oil for extended periods, check with your supplier for a recommended stability additive that contains an antioxidant, biocide and corrosion inhibitor.

The best way to dispose of old diesel oil is to use it the way it was intended. If you can no longer use it, offer your old diesel oil to another owner of a diesel engine. Alternately, contact your supplier and ask if he will take your old diesel oil back.

If you cannot reuse your diesel oil, you need to properly dispose of it. Take it to a local household hazardous waste collection site. See end of this fact sheet for more information.

Home Heating Oil

Home heating oil is a major source of residential heat in some areas of Ohio. It is usually stored in larger tanks and supply lines are run from the tank to a filter and furnace. The tank, supply lines and furnace should be installed by a professional installer and should be inspected and maintained on a regular basis. A properly maintained tank and supply lines should not have any odor of heating oil. If you smell heating oil, inspect the tank and supply lines for leaks. A leak found early and repaired can save a lot of money in cleanup costs later.

By the way it is used, home heating oil is meant to be stored for extended periods. But water and sludge can collect in the storage tank. Keep the tank close to full to reduce water accumulation from condensation in the summer.

Remove sludge on a schedule supplied by your installation professional or oil supplier. If no longer needed, have the tank and supply lines removed by a professional firm. If the tank is steel, the metal can be recycled.

If you cannot reuse your home heating oil, you need to properly dispose of it. Take it to a local household hazardous waste collection site. See end of this fact sheet for more information.

How Can I Safely Dispose of Fuels from my Home?

If you decide to get rid of your old fuels instead of reconditioning or reusing them, you can drop them off at a household hazardous waste collection site sponsored by your local solid waste district. More information on household hazardous waste disposal, including a list of solid waste management districts and collection events is available through [*Ohio EPA's website*](#).

Another excellent source of information for recycling your household hazardous wastes, including fuels and other materials, is at [*earth911.com*](#). This website has a lot of information for homeowners and you can search by ZIP code to find recycling options in your area.

Additional Resources

- For emergencies or spills, contact the Ohio Environmental Protection Agency at (800) 282-9378.
- Gasoline management and reconditioning: [*eriecounty.oh.gov/departments-and-agencies/environmental-resources/department-of-environmental-services/recycling/how-what-where-to-recycle/special-material-recycling/gasoline-and-fuel/*](http://eriecounty.oh.gov/departments-and-agencies/environmental-resources/department-of-environmental-services/recycling/how-what-where-to-recycle/special-material-recycling/gasoline-and-fuel/)
- Fuel oil information: [*dhs.wisconsin.gov/eh/ChemFS/fs/fueloil.htm*](http://dhs.wisconsin.gov/eh/ChemFS/fs/fueloil.htm)
- Heating oil information: [*nora-oilheat.org*](http://nora-oilheat.org)
- General information: [*usa.gov/Citizen/Topics/Family/Homeowners.shtml*](http://usa.gov/Citizen/Topics/Family/Homeowners.shtml) (Go to Energy, Heating and Cooling section)

Household Batteries

According to the U.S. Environmental Protection Agency (U.S. EPA), billions of batteries are purchased and used in the United States each year. And if we are not careful, all of these batteries could end up in landfills or be incinerated with the trash to release mercury, lead, cadmium, nickel and other metals to the environment. Disposal would not only create environmental and health problems, but be a waste of metals and plastics that can be recycled over and over again to make new batteries.



The U.S. Department of Health and Human Services' Agency for Toxic Substances and Disease Registry states that the metals in batteries can have serious health effects if not managed correctly. Mercury at high levels can damage the brain, kidneys and a developing fetus. Lead can harm the nervous system, kidneys and reproductive system. Cadmium can damage the lungs and kidneys, and irritate the digestive tract. Exposure to large amounts of zinc can cause stomach cramps, anemia and changes in cholesterol levels. And each metal can have a direct, harmful effect on the environment.

On May 13, 1996, the Mercury-Containing Rechargeable Battery Management Act (the Battery Act) was signed into law by the president of the United States. This Act phased out mercury in rechargeable batteries, encouraged efficient and cost-effective recycling or proper disposal of used nickel-cadmium batteries, small sealed lead-acid batteries, rechargeable alkaline batteries (with mercury), zinc-carbon batteries (with mercury), button cell mercuric oxide batteries and other mercuric oxide batteries. The law also requires that consumer products using rechargeable batteries must be designed so that the batteries can be easily removed.

Reduce Battery Usage

One of the best ways to prevent batteries from having an impact on health and the environment is to reduce the number of batteries you use. Here are some tips to help you.

- Buy only what you need.
- Rechargeable (secondary) batteries are best for applications where they will get a lot of use: cordless tools, cameras and video recorders, etc. Single-use (primary) batteries should be used for emergency applications and occasional use: flashlights, emergency radios, smoke detectors, etc.
- If you buy extra primary batteries for future or emergency use, be sure they have a use-by date as far in the future as possible.
- Store them in a cool place, but don't let them freeze. Many dry-cell primary batteries can be stored for up to seven years in the package before they expire.
- Always buy batteries with no mercury added labels.
- Don't store secondary batteries - they don't store well and are designed for frequent use.
- Consider using toys, radios and flashlights that do not need additional batteries. Mechanical toys and even solar-powered toys are now readily available. Some small radios use a hand crank or solar cells to generate power. You can also buy flashlights that convert mechanical motion or solar energy into light energy. In each case, the toy, radio or flashlight may come with rechargeable internal batteries that store a charge.

Reuse Batteries

Rechargeable batteries are now available in a variety of types, sizes and voltages. According to U.S. EPA, more than 350 million rechargeable batteries are purchased annually in the United States. Even though rechargeable batteries can contain lead, cadmium, nickel, mercury and zinc, they can be used over and over again. If used properly, they can replace many single-use batteries. They can also be recycled after they have reached the end of their useful life to save the metals and plastics.



Remember, when buying and using rechargeable batteries:

- Always be sure the item that you plan to use them in will accept rechargeable batteries by checking the label on the item.
- Rechargeable batteries are best when they are used often and recharged frequently. Rechargeable batteries lose their charge faster than primary batteries (up to 3 percent each **day** for rechargeable batteries, compared to 2 to 25 percent each year for primary batteries).
- Recharge and use the batteries as recommended by the manufacturer. Improperly charging batteries can shorten battery life and can cause leaks or damage to the battery or device in which it is used.
- Don't try to recharge a primary battery.
- If several batteries are used in the device, be sure they are the same type, voltage, age and charge. Mixing batteries can reduce the useful life of the good batteries. Don't mix rechargeable and primary batteries. Don't mix old and new batteries.
- Keep rechargeable batteries cool, but don't allow them to freeze. Keep them out of the sun and don't store them in a hot car on a summer day.
- Remove batteries from the device if it will no longer be used.

Recycle Batteries

Lead/acid batteries, nickel-cadmium (NiCd) batteries, nickel-metal hydride (Ni-MH) batteries, lithium-ion (Li-ion) batteries and other types of rechargeable batteries can be recycled.

The Rechargeable Battery Recycling Corporation has made arrangements to accept batteries and cell phones collected by stores and outlets from consumers at call2recycle.org. Enter your zip code to find a store or outlet near you that will take your rechargeable batteries. You can also go to the Earth 911 website at earth911.com and enter your zip code to find a recycler in your area.

Manage Batteries

The mechanism for recycling single-use (primary) batteries is not as well developed in the United States as it is for rechargeable (secondary) batteries. Only a few companies will accept zinc-carbon, alkaline, lithium metal or other primary batteries.

Retriev Technologies will accept lead, silver, nickel based, lithium, mercury, alkaline and other types of batteries for a fee. Learn more at retrievtech.com or by calling (855) 4RETRIEV.

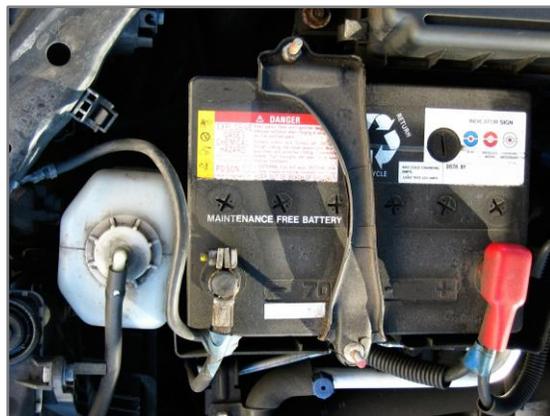
Another firm which accepts batteries for recycling is Battery Solutions in Howell, Michigan. Learn more at batteryrecycling.com or by calling (800) 852-8127. Some solid waste districts in Ohio will accept batteries at their household hazardous waste collection events. Review what is acceptable at their website or call them for further information about approved methods of handling household batteries. A list of solid waste districts and contact information can be found [on Ohio EPA's website](#).

If it is not possible to recycle your primary batteries, they can be disposed of with the household trash. Never try and break open any batteries to remove their contents. Do not place batteries of any type in fire. They can burst and release their contents to the environment.

Lead-Acid Batteries

What are lead-acid batteries?

Lead-acid batteries, also known as storage or wet cell batteries, are used primarily in cars and other motor vehicles. Homeowners doing repair work on their cars, boats or other vehicles generate dead or spent lead-acid batteries when they no longer hold a charge. Lead-acid batteries contain predominantly lead and acid. The typical battery weighs 36 pounds, contains about 21 pounds of lead, three pounds of plastic and one gallon of sulfuric acid, a corrosive liquid. Other components include rubber separators, lead oxides and sulfates. The battery components are contained in a corrosion and heat-resistant housing usually composed of plastic (polycarbonate, polypropylene or polystyrene).



Why should I be concerned about disposing of batteries?

If lead acid batteries are improperly disposed or illegally dumped, over time they can corrode and release sulfuric acid, lead and other heavy metals, polluting soil and water resources such as lakes, rivers, streams and ground water. If lead-acid batteries are burned, lead can be released into the air and remain in the ash. Workers who collect curb-side trash containing lead-acid batteries or who handle batteries at transfer stations and landfills may be harmed from the leaking acid. To help protect the environment and recover valuable components that can be reused, every effort should be made to send your lead-acid batteries to a recycler.

Did you know...?

1. Used vehicle batteries need to be handled carefully because they contain highly corrosive sulfuric acid, lead and other toxic metals.
2. Many of the components of a lead-acid battery can be recovered by battery recyclers and reused to make new batteries.
3. Sixty-five percent of lead in the municipal solid waste stream comes from batteries.

Lead-Acid Battery Law

Ohio law prohibits the disposal of some lead-acid batteries in solid or hazardous waste landfills. The law requires that these used lead-acid batteries are recycled in Ohio.

Batteries covered by the law include those used in cars, motorcycles, boats and other forms of motive power. The law exempts batteries used in products such as computers, electronic games, telephones, radios and similar household electronics.

For questions and information about this law, please contact Ohio EPA's Division of Materials and Waste Management at (614) 644-2621 or view their fact sheet at epa.ohio.gov/portals/32/pdf/LeadAcidBatteryGuidance.pdf.

How do I safely handle and store lead-acid batteries at my home?

If you do remove lead-acid batteries from vehicles, it is very important that you handle and store these carefully to protect yourself, your family and the environment. There are harmful health effects if you are exposed to lead through ingestion, inhalation or direct contact with skin. Lead absorbed into the blood can cause high blood pressure in adults and neurological damage in children. Direct contact with sulfuric acid can cause severe burns, and the fumes can damage lung tissue and cause blindness.

Why should I have my lead-acid batteries recycled?

Almost all elements of a spent lead-acid battery can be reclaimed and reused to make new batteries. The lead is nearly 100 percent recyclable and usually finds its way back into new batteries many times. Plastic components can be reclaimed. The sulfuric acid can also be recycled. Many automotive stores, scrap-metal dealers, service stations and lead smelters will accept spent lead-acid batteries for recycling.

To locate lead-acid battery recyclers in your area

- Look in the yellow pages under auto parts. Most auto parts dealers recycle batteries.
- Call your local solid waste management district listed under the county government section of the yellow pages.
- You can get a list of solid waste management districts on [Ohio EPA's website](#).
- Homeowners can also search the Earth911 website to find local recyclers in their area by ZIP code. Visit [earth911.com](#).

Tips for Safely Handling Lead Acid Batteries

DO minimize contact by wearing heavy rubber gloves, clothing that covers exposed skin, boots, and eye protection.

DO take the battery to a recycling center as soon as possible after removing it from your vehicle.

If you must store the battery, **DO** keep it dry and do not expose it to freezing temperatures.

DO store the battery in a leak-proof container away from children and pets.

NEVER try to crack open lead-acid batteries yourself.

NEVER burn lead-acid batteries.

NEVER dump your batteries directly on the ground, in a ditch or bury them.

Other Helpful Links

American Automobile Association, Great Battery Roundup

Held every year in conjunction with Earth Day, the AAA Great Battery Roundup is designed to encourage motorists to take old automotive or marine lead-acid batteries to a local collection point where they can be safely recycled and formed into new batteries. To help with the recycling effort, local AAA offices establish battery collection points and offer free vehicle battery checks. Visit [exchange.aaa.com/community-outreach/in-the-environment](#) for more information.

Pesticides

Pesticides are chemicals used to kill or control household and garden pests such as weeds, insects and rodents. Most pesticides are designed to work on a wide number of pests. This also makes the pesticides harmful to useful insects, animals and plants.

Improper pesticide disposal can harm humans, pets, livestock and the environment. Throwing pesticides in the trash, on the ground or pouring them down the drain can pollute lakes, streams and drinking water.

When you consider using pesticides, first ask yourself these questions:

- Do I really need a pesticide to get the job done?
- What is the least toxic product that I can use?
- How much do I need to buy?

To avoid possible health and environmental problems, carefully follow the instructions on the household pesticide container and use only as much as the manufacturer recommends to get the job done. If you must use a pesticide, it's important that you use, store and dispose of it properly.



Using Pesticides Properly

Because of the hazardous nature of some pesticides, the United States Environmental Protection Agency (U.S. EPA) has cancelled, suspended, or otherwise restricted their use. To find out if any of the pesticides you currently have in your home are restricted, contact your county cooperative extension service office, the Ohio Department of Agriculture at (800) 282-1955 or agri.ohio.gov/apps/odaprs/pestfert-PRS-index.aspx or U.S. EPA, Office of Pesticide Programs at (800) 621-8431 or epa.gov/pesticides/.

Facts

Most pesticides are designed to work on a wide number of pests. This can make the pesticides harmful to useful insects, animals and plants as well. Throwing pesticides in the trash, on the ground or pouring them down the drain can pollute lakes, streams and drinking water.

Follow these safety tips when you buy or use pesticides:

- CAREFULLY read the label before buying or using any pesticide. Make sure you buy the proper pesticide to use on the “pests” you wish to control.
- Buy only as much as you need so there won't be any left over to store or dispose.
- Follow all the safety instructions on the label and wear protective clothing.
- Wash your hands after handling or applying any pesticide. Make sure you use soap and water, because water alone may not be enough.
- Do not mix different pesticides unless instructed to do so in the directions.
- Avoid wearing contact lenses when you or anyone else is using pesticides. Contacts can absorb some pesticides or trap them against your eyes.
- Keep children and pets away from treated areas.
- Do not water a treated area right after applying pesticides unless the directions tell you to do so.
- If you use a pesticide indoors, air out the area completely after use. Clean all surface areas and tools that came in contact with the pesticide with water and detergent to remove any residues.
- Use the amount listed on the label. Too much may be an environmental or health risk and too little may not be effective.
- Use the pesticide for its intended purpose.

Storing Pesticides Safely

- Keep pesticides in their original containers. If the original container is damaged, place the container inside a larger container sealed with a plastic lid (zip-lock baggie works well), a box lined with two plastic bags, or a metal container with a lid.
- Clearly label the outside of the container with the name and quantity of the pesticide and the date. Always try to keep the original label if possible.
- Store pesticides in a dry, locked cabinet or on a high shelf away from children and pets.
- Keep pesticide containers from getting wet or frozen.

Proper Pesticide Disposal

- Use all of a pesticide before buying more.
- If you can't use all of a pesticide yourself, find someone who can. Contact neighbors, friends, greenhouses, plant nurseries, park departments and garden clubs. Make sure any pesticides you give away are in their original containers with readable instructions.
- Empty pesticide containers should be rinsed at least three times. Use the rinse water as you would the regular strength pesticide. You can put the rinsed container in the trash.
- Pesticides that cannot be used should be taken to a community household hazardous waste collection event. Call your local solid waste management district for information (located in the blue pages under County Government in your phone directory). Or, [visit Ohio EPA's website](#) for a list of local contacts.

Alternatives to Chemical Pesticides

Sometimes you may need to buy pesticides, but first try to use an alternate method. The general steps listed below show how you often don't need pesticides when you identify and monitor pests, when you plan ahead and take preventative steps, and when you use nonchemical controls. For detailed information, call your local extension agent.

- Identify pests carefully. Many pests may turn out to be harmless or actually useful. Learn all you can about the pests you do have.
- Encourage useful insects in the garden by planting small flowered plants, providing food for those insects, and reducing the use of pesticides.
- Buy useful insects to release in your garden.
- Tolerate small numbers of pests.
- Remove the things that make pests feel at home, such as moisture in the basement or food left out. Use physical barriers to keep pests out of the area. Use traps to capture pests without chemicals or remove pests manually, such as with clippers or water spray.
- Encourage ecological variety by planting a wide variety of plants and grow plants that are resistant to insects and diseases in your area (ask your local nursery for tips).
- Rotate annual plantings of flowers and vegetables so that insect populations do not build up in an area.
- Keep weeds down by mulching and hand pulling.
- If you choose to use a chemical, use the least toxic one possible, and always make spot rather than general applications.
- Check an organic gardening book, an environmental store, or a health food store for more ideas on alternate uses for pesticides.

Important

Pesticides should **NEVER** be burned, buried, mixed together, poured on the ground, dumped in water, or poured down the drain. This could lead to pollution of drinking water, lakes and streams, or dangerous exposure to pesticides for humans, animals or plants.

For More Information

Your county's cooperative extension office or solid waste management district will have more information (both listed under County Government in the blue section of your phone directory). Solid waste management district contacts are also at [*Ohio EPA's website*](#).

Ohio Department of Agriculture, Pesticide and Fertilizer Regulation Section- [*agri.ohio.gov/apps/odaprs/pestfert-PRS-index.aspx*](http://agri.ohio.gov/apps/odaprs/pestfert-PRS-index.aspx)

Ohio State University Extension Office, Proper Pesticide Use — [*extension.osu.edu/topics/garden/proper-pesticide-use-ipm*](http://extension.osu.edu/topics/garden/proper-pesticide-use-ipm)

U.S. EPA website, Controlling Pests — [*epa.gov/pesticides/controlling/index.htm*](http://epa.gov/pesticides/controlling/index.htm)

[*Earth 911.com*](http://Earth911.com) — For more information about recycling options for your household hazardous wastes.

*This information was based on the Minnesota Pollution Control Agency' household hazardous waste fact sheets and the Missouri Household Hazardous Waste Project "Guide to Hazardous Products Around the Home."

Storing and Disposing of Paint

Paint is made by mixing dry coloring matter (called pigment) with water, oil, or some other base to dissolve it. The dissolving substance is called a solvent. The two major types of paints are oil-based and water-based paints. Oil-based paints usually use a petrochemical product, such as mineral spirits, toluene or xylene, as a solvent. Oil-based paints include enamels, varnishes, shellacs, lacquers, stains and sealers. Water-based paints, such as latex and water colors, use water as the solvent.

Most homeowners have an average of three gallons of paint stored in their homes. Most of this paint is old and unusable. By volume, paint is the largest category of waste brought to household hazardous waste collection programs.



Why Should I Be Concerned about Old Paint Being Stored Around My House?

Paint contains pigments, solvents and other additives that can be harmful to you and the environment if not properly handled and disposed. In older paints, lead was commonly added to make the paint harder, last longer, and weather better. Because of the harmful health effects of lead, manufacturers have been banned for several years from adding lead to household paints. Until 1990, mercury was used in about 30 percent of latex paints as a preservative and pesticide. In August 1990, mercury was banned by the U.S. Environmental Protection Agency in latex paints used indoors. Paints containing mercury may be used but now require a warning label.

Both lead and mercury may be found in paint that has been stored for several years. In addition, you should avoid breathing or being exposed to solvents contained in oil-based paints. Instead of storing old paint around your house, find a use for it or locate a space to safely dispose of or recycle it.

Look for Alternatives to Disposal First

At some point, most of us end up with extra paint. We usually keep the paint in case we need to do touch-ups. Eventually, we throw the paint away, but there are better options.

- Use excess paint to apply a second coat, for touch-ups, or to paint a closet, garage, basement, attic, or some other out-of-the-way spot.
- Give extra paint to someone who can use it: a home hobbyist or friend who may need a small amount of paint for a project; local theater groups, community groups, house rehabilitation organizations, low-income housing programs and schools.
- Return extra paint to the store. Some stores will accept unopened paint. Some paint companies have become involved in recycling paints by remixing and repackaging.
- Take extra paint to a paint exchange or swap and drop program.

Facts

By volume, paint waste represents a large volume of household hazardous waste.

In older paints, lead was commonly added to make the paint harder, last longer, and weather better. Until 1990, mercury was used in about 30 percent of latex paints as a preservative and pesticide.

Paints manufactured today are more environmentally friendly and by following the tips below for use and storage, homeowners can reduce the amount of paint waste requiring disposal.

- Some communities have or will start permanent locations for donating and taking paint. Call your local solid waste management district (listed under County Government in the phone book or at [Ohio EPA's website](#)) or local extension agent for any programs in your community.

If You Do Need to Dispose of Paint from Your Home

If you want to dispose of paint from your home, a good first step is to contact your local solid waste management district to see if you can take it to your local household hazardous waste collection event. Because of the large volume of paint waste from homes, some household collection events no longer take paint. In addition, because paint waste is usually disposed of in a landfill after it is treated anyway, some collection centers advise homeowners to do this on their own, instead of bringing paint waste to them. You should check with your local solid waste management district on collection events in your area and whether they take paint waste.

You can find a listing of local solid waste management districts and a list of household waste collection events at [Ohio EPA's website](#).

Homeowners can also search the [Earth911 website](#) for paint recycling options in their area by ZIP code. This site also includes a lot of good information about paint recycling, use and storage.

If you throw paint away from your home, follow these steps to make disposal safer for the environment. It's important to know that although household wastes such as paint can go to a solid waste landfill, you need to take steps to solidify the waste first, because landfills generally cannot accept liquid wastes. When you are working with paint, make sure you are in a well-ventilated area and are away from children and pets.

For small quantities (less than one gallon):

- Brush the left-over paint on cardboard or newspaper to use it.
- Allow the empty can to dry with the lid off in a well-ventilated area protected from open flame, children, pets and rain. If the amount of the paint is less than one-fourth of the container, the paint should be able to dry in the can. Stirring the paint every few days will speed up drying.

For large quantities (more than one gallon):

- Pour one-half inch layers of paint into a cardboard box lined with plastic. Allow the paint to dry before the next layer of paint is added. Adding an absorbent material, such as kitty litter or sawdust, will speed the drying process.
- Purchase a commercially available paint hardener and add it to the can of liquid paint.

For paint that has separated:

- Pour the clear liquid off the top into a cardboard box lined with plastic. Add enough kitty litter or other absorbent material to absorb all the liquid. Let the remaining paint dry in the can by following the above instructions.
- Whenever setting a dried paint can out for collection, leave the lid off the can so the collector can see the paint is hardened.

Lead in Paint

Although the Consumer Products Safety Commission banned the use of lead in consumer paints in 1978, older homes, especially those built prior to 1978, may have lead-based paint on interior surfaces.

According to U.S. EPA, lead-based paint dust and chips from old paint that is peeling or being removed are dangerous if swallowed or inhaled, especially to small children and pregnant women. For more information about lead-based paints, visit www2.epa.gov/lead.

Paint Thinners

Used paint thinners, such as turpentine and mineral spirits can be reused. Pour into a clear glass container and seal with a tight lid. Allow the paint particles to settle to the bottom. Pour the clear liquid into the original container for reuse, then dispose of the residue after allowing it to dry. Adding an absorbent material such as kitty litter or saw dust will speed up drying.

The Next Time You Purchase Paint

To avoid adding old paint cans to your collection, follow the recommendations listed below for purchasing, storing and disposing paint properly.

- Buy only what you need
- Read the label carefully. Purchase the type of paint best suited for your needs, but consider the solvents and additives in the paint.
- Whenever possible, use a water-based paint, since these paints usually don't require the use of hazardous solvents, such as paint thinner, for cleanup.
- Ask the paint store for advice; current formulations of latex paints can be used for most applications without loss of quality or durability.

Extend the Life of Paint through Good Storage Practices

Once you purchase paint, you can extend the life of the remainder by following these good storage practices:

- Store paint in a dry location where temperatures are above freezing.
- Avoid storing paint cans directly on cement floors because the bottom of the can will rust much faster on cement than on other surfaces.
- Clean the rim of the can completely and then replace the lid firmly. Store the paint can upside down to prevent air from entering the container. This will keep the paint usable longer.
- If the stored paint can be mixed and spread smoothly, it's probably usable. Oil-based paint is usable for up to 15 years. Latex paint remains usable for up to 10 years, assuming it has never been exposed to freezing and thawing.

Have Additional Questions?

If you have additional questions about handling paint waste or other household hazardous waste, you can contact Ohio EPA's Division of Materials and Waste Management at (614) 644-2621.

Tips for Properly Handling Paint Waste from Your Home

Always work in a well-ventilated area and away from children and pets.

NEVER work near a source of ignition (open flame, cigarettes, etc.), particularly when handling paints that contain chemical solvent.

NEVER mix chemicals such as cleaners, oils, degreasers, etc., with your paint waste.

NEVER throw paint waste in a burn pile or burn barrel.

NEVER dump liquid paint waste on the ground or down a sewer.

Electronic Equipment

Electronic waste, or e-waste, is one of the fastest growing sources of waste in the United States. As our electronic equipment becomes outdated, it's important to think carefully about reusing and recycling materials where possible.

Advances in technology result in newer equipment continually becoming available for home use. Whether you are looking at computers, monitors, fax machines and copiers, television sets, stereo/audio equipment, cell phones, smartphones, personal digital assistants (PDAs), or game consoles, there always seems to be a newer or better model with innovative features.

E-waste often has hazardous or toxic components that pollute the environment if they are improperly managed. Some of these components, such as heavy metals, are also valuable materials that can be extracted, recycled and reused to make new equipment. As our old electronic equipment becomes outdated, it is important that we think carefully about reusing and recycling materials, instead of just throwing equipment in landfills.



What to do with your old electronic equipment

If your old electronic equipment no longer meets your needs, you have a number of options.

1. Extend the life of your existing electronics through repair, upgrade or tune-up.

Upgrades to existing electronic equipment can add years of use. Check with a local electronics or computer store to see if your electronics can be configured to more appropriately fit your needs. You can often improve the performance of computers through file maintenance and removing unnecessary software. You may also be able to extend the life of your electronic equipment by updating the components yourself or asking a retailer to install new components. You can extend the life of cell phones by installing a new battery from a reputable provider. In the case of computers, even if an older model is not able to handle the newest technology, it still may be perfectly adequate for searching the Internet, word processing, using spreadsheets or otherwise meeting a student's needs.

2. Give the electronics to someone who can use it

There may be other people who can use your old equipment or collectors looking for replacement parts. When you are finished with your old electronic equipment, check to see if friends, family or others want it. In all cases you should use software or use a service to cleanse your device and remove personal data. Several not-for-profit organizations make used computers and cell phones available to those in need. In some cases, you may be able to sell your equipment. As a starting point, check out these sites.

- Community lists, like Craig's list
- Internet auction sites, like E-Bay
- Charitable groups may pick up your used electronics at no cost – check out our [Computer and Electronic Non-Profit and Charity Refurbishers](#) for ones near you

Sustainable electronics

When it is time to purchase a new electronic device, the choices we make can affect the environment. Some manufacturers consider the impact their products have on the environment and make their products so that they are easier to recycle, more energy efficient and, when disposed of, less harmful to the environment. Here are some examples.

The [EPEAT program](#) is a comprehensive environmental rating registry that helps identify greener computers and other electronic equipment.

[Energy Star](#) products are more energy efficient than other similar products.

3. Recycle

If you can't find anyone who is interested in using your old electronic equipment, it is time to recycle it. Most electronics are accepted for recycling including batteries, cell phones, computers, lamps and printer cartridges. The [*Responsible Recycling Practices \(R2\) and the e-Stewards® standards*](#) identify recyclers that meet the accredited standards for safely recycling and managing electronics. Some companies are willing to pay for your used electronics. The following resources may help you find a recycler.

- [*Plug into e-Cycling*](#) - a partnership between U.S. EPA , consumer electronics manufacturers and retailers offering consumers opportunities to donate or recycle their used electronics.
- [*Earth911.com*](#) - lets you search for electronic waste recyclers that service your zip code.
- [*Call2recycle.org*](#) - The Rechargeable Battery Recycling Corporation has made arrangements to accept cell phones and batteries collected by stores and outlets from consumers. Enter your zip code to find a store or outlet near you that will take your cell phone.
- Ohio EPA maintains a list of [*Computer and Electronic Component Recyclers*](#).

4. Properly dispose of electronic wastes

Electronics contain many materials that are hazardous to the environment when they are disposed. If you cannot give away or recycle your electronic equipment, Ohio EPA recommends using community hazardous waste collection days or retailer electronic waste collection programs. Ohio EPA maintains [*a list of local electronic waste and household hazardous waste collection programs*](#).

Also check with local businesses to determine if they are Plug into e-Cycling partners or have any collection programs that suit your needs.

Where can I get more information?

If you have any questions about managing your household electronic waste, visit Ohio EPA's [*electronic waste webpage*](#) or contact the Office of Compliance Assistance and Pollution Prevention at (800) 329-7518.

What About My Business?

Businesses have different requirements for recycling or disposing of computers and other electronic equipment. For more information, check out the [*Management of Electronic Waste from Businesses*](#) fact sheet.

This guide was produced by:

Division of Environmental and Financial Assistance

50 W. Town St., Suite 700

P.O. Box 1049

Columbus, Ohio 43216-1049

Telephone: (800) 329-7518 or (614) 644-3469

[*epa.ohio.gov/defa*](http://epa.ohio.gov/defa)

Please feel free to contact us with your comments and suggestions on this guide.

Ohio EPA is an Equal Opportunity Employer