



## DISPOSAL OF HAZARDOUS HOUSEHOLD WASTE

**W**hen you care for yourself, your family, home, car, yard, and garden, you use a variety of chemical products. Many of these products contain hazardous chemicals. When you no longer want these products, they become hazardous waste.

The U.S. Environmental Protection Agency (EPA) defines four major types of hazardous waste:

- **Corrosive wastes** can cause a chemical action that eats away materials or living tissue. Battery acid is an example.
- **Toxic wastes** can cause illness or death. Some such wastes are more dangerous than others. Exposure to a small concentration of a highly toxic chemical may cause symptoms of poisoning. Pesticides, cleaning products, paints, photographic supplies, and many art supplies are examples.
- **Ignitable waste** can catch fire spontaneously or burn easily. Examples include charcoal lighter fluid, gasoline, kerosene, and nail polish remover.
- **Reactive waste** can react with air, water, or other substances to cause rapid heating or explosions. Acids that heat up rapidly and spatter when mixed with water are examples.

EPA estimates that the average household disposes of one pound of hazardous waste each year. In South Carolina that means that 1,150,000 pounds of hazardous household wastes must be handled each year.

### WHEN IS A PRODUCT HAZARDOUS?

Most household products are not harmful if used according to label directions. However, they can become harmful if used improperly, stored improperly, or if unused portions are disposed of improperly.

### HOUSEHOLD PRODUCTS AND THE WASTE STREAM

Most people dispose of hazardous products by throwing them in the trash, pouring them down the drain, burning them, pouring them in a ditch, dumping them on a vacant lot, or burying them in a field. These practices are dangerous.

Waste from hazardous products can contaminate lakes, rivers, streams, and groundwater (the places below the ground where water accumulates before it goes to a river, stream, or well). This can create serious problems for South Carolinians. Why? Because about 66 percent of the water South Carolinians use in their homes each day comes from surface water. The remaining 34 percent comes from groundwater. Often only a small amount of hazardous materials can cause serious problems. It only takes one gallon of oil to ruin one million gallons of water.

### WHAT HAPPENS WHEN HAZARDOUS HOUSEHOLD WASTE IS ...

#### 1. Thrown in the Garbage?

Most of the residential trash in South Carolina is collected door-to-door or is taken to a transfer station by individuals. Ultimately the trash is taken to a county landfill. Most landfills are not designed for hazardous household wastes. These wastes can leak into water supplies and/or cause air pollution.

Hazardous household waste may cause a fire or explosion, or give off dangerous fumes. Sanitation workers have been seriously burned, lost their eyesight, or suffered lung damage while compacting

hazardous materials. Equipment has also been damaged.

## 2. Poured Down the Drain?

When you pour hazardous household products down the sink or flush them down the toilet the hazardous materials enter either a septic system or a municipal sewer system.

If you have a septic system, wastewater from your home goes into a tank buried underground. The solids settle out and partially decompose. The remaining wastewater then goes into a drain field where the natural, ongoing processes in the soil help to further break down the wastewater. Toxic materials in that wastewater can kill the helpful bacteria and the system will not operate properly.

Some toxic materials move through the soil untreated or unchanged. When this happens groundwater or surface waters may become contaminated.

For example, many paint removers and aerosol paint products contain the chemical methylene chloride. This chemical can pass directly through a septic system without breaking down at all. Chlorine bleach can also pass through a septic system without breaking down. Also the chlorine can react with organic matter to form new toxic chemicals.

If your home is connected to a municipal sewage system, wastewater is piped to a central sewage plant. After treatment, it is discharged into area rivers, lakes, and streams.

Most municipal systems rely on bacteria or other organisms to decompose the waste. Some hazardous household waste can pass through the system unchanged and thus pollute the water downstream.

In addition, hazardous household wastes poured down the drain may corrode the plumbing or collect in the trap and release fumes through the drains.

## 3. Poured in Ditches, Storm Drains, or Gutters?

If you pour hazardous household waste in ditches, storm drains, or gutters, it can poison plants and wildlife, contaminate the soil, and harm children and adults who come in contact with it. When it rains, the hazardous household waste travels directly to nearby streams, rivers, and lakes.

## 4. Burned?

If you burn hazardous household waste, you

risk producing poisonous fumes, contributing to air pollution, or causing an explosion.

Controlled burning in special hazardous waste incinerators by trained professionals can be a good disposal method; open burning by an untrained homeowner is not. Some hazardous materials may not burn away completely and become concentrated in the ash; others can pollute the air.

## 5. Dumped or Buried?

If you dump or bury some types of hazardous household waste, they may leach through the soil and contaminate the soil or water, especially if the waste is persistent or nonbiodegradable. Children, pets, and wildlife may be exposed to such hazardous waste. Dogs frequently are poisoned by drinking antifreeze left on roads or driveways.

## STORAGE OF HAZARDOUS HOUSEHOLD WASTE

Storing a hazardous household waste indefinitely is not a good solution. Containers and their contents degrade over time. Labels get lost, and the chance of children or pets finding the hazardous waste increases when waste is stored for long periods of time.

However, storage may be the safest temporary option if there is not a safe and organized system in your community to handle hazardous household waste.

### SAFE STORAGE RECOMMENDATIONS

1. Store containers on high shelves or in locked cabinets away from children.
2. Protect the label so it does not come off and get lost.
3. Store hazardous household products in the original container.
4. Close containers tightly.
5. Keep containers dry to prevent corrosion.
6. Store similar products together to reduce any danger from reactions if containers should leak or contents should spill.
7. Store hazardous household products in a well-ventilated area.

## DISPOSAL OF HAZARDOUS HOUSEHOLD WASTE

A number of problems can occur when we discard hazardous household waste using common disposal methods. Recommendations for proper disposal will depend on both the particular type of waste and the waste disposal options available in your community.

Local ordinances vary. Landfills may or may not accept certain hazardous household products. They also may vary on how they want the product to arrive at the landfill. For example, one landfill may want you to solidify (air-dry) paint and wrap the container. Another landfill may want paint handled a different way. In addition, wastewater treatment plants may not allow certain liquids to be poured down the drain. If you have any questions, call your landfill, local wastewater treatment company, local waste management office, or the local county Extension office.

### *GENERAL DISPOSAL RECOMMENDATIONS:*

#### **1. Follow the label instruction.**

Some labels give disposal recommendations. Read the label carefully and follow the manufacturer's recommendations.

#### **2. Use it up.**

When products are fully used up as intended there is no hazardous waste. Buy only as much as you need. Do not buy a gallon of paint, pesticide, or specialty cleaner when a quart will do. The large container may cost less per ounce, but leftovers must be stored or disposed of so as not to harm people or the environment.

#### **3. Recycle.**

Recycling means reclaiming the potential waste so that the product is usable again. Recycling helps reduce the overall demand for hazardous household products and the amount of waste produced.

You can recycle paint thinner at home. Pour paint thinner or cleaner into a jar. Let it sit for several days. The solids settle to the bottom. When the liquid at the top of the jar is clean, pour it into a container that can be sealed for future use. If pouring stirs up the solid, pour the liquid through a funnel lined with an old sheet. Dispose of the dried solids in the trash.

Oil and transmission fluids from your car and lawn mower can be recycled. Find out if a collection program is available in your area. Many gas stations are now accepting used oil for recycling. Gas stations and stores that sell auto batteries must recycle them.

#### **4. Donate.**

Donate paint, household cleaners, or other products to a local charity, church, or service organization. Theater groups, the local housing authority, or a neighbor may be happy to accept small quantities of usable paint or cleaning products. Such items need to be in original containers with labels.

#### **5. Throw it in the trash with special treatment.**

Some hazardous household wastes are acceptable at landfills if special treatment is followed. Empty hazardous product containers should be rinsed several times before discarding in the trash. Use the rinse solution in the same manner you were using the chemical solution.

Call the local landfill or solid waste management contractor for special information on disposing of hazardous household waste. They can advise you if they will even accept the waste.

#### **6. Flush a very small amount, no more than a cup, down the drain with plenty of water.**

Some hazardous household wastes can be flushed down the drain as long as they are followed by plenty of water. This recommendation applies if a hazardous household waste will be neutralized by water or if the municipal or sanitary sewage system is able to remove the toxins or render them harmless. This method is not recommended for people who have septic systems. Heavy concentrations of certain chemicals in a septic tank can destroy the microorganisms that make the system work properly.

Call your local wastewater treatment plant before you flush hazardous household waste down the drain to be sure that the waste can be neutralized by their system. Follow their recommendations and consider the following:

- ▼ There should be adequate ventilation in the area where you are flushing the waste.
- ▼ Do not dispose of chemical wastes in the food preparation area.
- ▼ Never mix chemicals together while pouring or when they are in the toilet or sink.
- ▼ Pour slowly and carefully to avoid splashing. Wear gloves and goggles to protect hands and eyes.
- ▼ Flush wastes using a large volume of water.
- ▼ Rinse the empty container with water before placing it in the trash.

## 7. Save for a collection day.

A community waste collection day is one way to manage hazardous household waste and keep it out of the landfill. The collection days are usually sponsored by a local government agency or a private organization. Residents are notified of the date, the drop-off location, and the types of materials the program will accept. The collected wastes are recycled, treated, or disposed of by a professional handler.

Collection days for hazardous household waste are a good way to dispose of hazardous household wastes, such as automotive paint, brake fluids, dry cleaning fluid, engine degreaser, flea powder, epoxies and adhesives, photographic chemicals, paint supplies and thinners, solvent-based cleaners and polishes, mothballs, wood preservatives, gasoline, pesticides, swimming pool chemicals, lacquer and lacquer thinner, car batteries, kerosene, mercury batteries, and smoke detectors.

If there is not a collection program in your area, use the recommended disposal methods described earlier. Find someone who might use the product or recycle your waste.

And in the meantime, store these products safely!

### SUMMARY

It would be difficult to eliminate all the hazardous products from our lives. However, we can minimize environmental problems from improper use and disposal of these products by:

- Comparing labels and contents when buying. If a less toxic product will work just as well, buy it.
- Buying only what is needed. If there is no leftover product, there is no waste to store or discard.
- Using products according to label directions.
- Using nontoxic alternatives. For example, clear a drain with a metal snake instead of a chemical drain cleaner.
- Never mixing products. Dangerous reactions can occur.

## EMERGENCY FIRST AID

- ✓ Poison Control Center 1-800-922-1117

To report products that have caused you harm:

- ✓ U.S. Consumer Products Safety Commission 1-800-638-2772
- ✓ Household Products Disposal Council 202-659-5535

Use and dispose of hazardous household waste responsibly. Contact your local waste management office, water treatment plant, landfill, or county Extension office if you have questions. Make sure the disposal method you use is a safe one so that hazardous waste does not contaminate your environment.

Adapted by Joyce H. Christenbury, CHE, Extension Family Resource Management Specialist, August 1992, from Wilma Hammett. *Disposal of Hazardous Household Waste*, HE-368-3. Raleigh, North Carolina: North Carolina State University. 1991.



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