

# Solid Waste MANAGEMENT

MT 9207 (HR)

## Household Hazardous Waste — Disposal Recommendations

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All homes contain products that are hazardous to people or the environment when disposed of improperly—oven cleaner, drain cleaner, mothballs, metal and wood polishes, motor oil, turpentine, insect sprays, and weed killers, to name just a few. These products contain the same chemicals that industry is required to dispose of in an approved hazardous waste disposal site. However, as yet there is little regulation of the disposal of hazardous household products. It is up to each of us to minimize hazardous wastes and dispose of them responsibly.

### Why the disposal concern?

When a consumer disposes of a hazardous household product, it is likely to end up either in a landfill or incinerator as garbage, or at a waste water treatment facility if it is dumped down the drain or flushed. Unfortunately, sewage treatment plants, septic systems, and most landfills are not designed to handle hazardous chemicals, and they soon end up in the environment. Sometimes these products enter the environment directly through storm drains and gutters where people pour them without thinking of the consequences.

A combination of public awareness and proper management will help remove these materials from the waste stream before they reach the landfill, incinerator, treatment plant or the environment. The first step is to recognize hazardous materials in your home, limit their use, or find safer alternatives. To help you with these steps, the MSU Extension Service has prepared these waste management publications: *Are There Hazardous Wastes in Your Home?* (MT 9205), and *Alternatives to Hazardous and Hard-to-Dispose-of Household Products* (MT 9120).

### Disposal of household hazardous wastes—general guidelines

- Switch to non-hazardous alternatives if available.
- Buy smaller quantities—only what you can use up.
- Recycle whenever possible—give leftovers to a friend or neighbor who can legitimately use them.
- Be aware of the uses and dangers of products and always follow the directions carefully. If directions are unclear, contact the manufacturer or dealer before using.
- Keep unused products in their original containers so that you can refer to directions for use and proper disposal. Always store in a safe, dry place.
- **Do:** Wrap *empty* container in several layers of newspaper and dispose of with other household garbage.
- **Do:** Keep all chemical waste out of reach of children and pets.
- **Do:** Call the Montana Department of Health and Environmental Sciences, Solid and Hazardous Waste Program, (406) 444-1430, if you want to dispose of a product and you aren't sure how to do so.
- **Don't:** Bury containers or leftover chemicals or products in your yard or garden.
- **Don't:** Burn containers or leftover chemicals.
- **Don't:** Dispose of liquid chemicals with household garbage.
- **Don't:** Reuse pesticide and chemical containers.
- **Don't:** Mix wastes together.

## Specific disposal guidelines

The best disposal method is to use up the product yourself or give it to someone else who can use it. However, when this is not possible, some products may, with precautions, be disposed of in landfills, flushed down the drain or recycled.

## Disposal options

### *Disposal option 1—recycling*

Some hazardous materials can be recycled. Used motor oil and automotive batteries, for instance, contain substances which can be reclaimed and reused. Recycling can also mean giving your unwanted portions to someone who wants and will use the product. Paint is a good example: a theater group, church, or neighbor may need just the amount and color you no longer need. Leftover pesticides (which are not banned), some solvents, and photography chemicals are other examples of chemicals that may be recycled.

### *Disposal option 2—water dilution*

There are many household consumer products—for example, tub and toilet cleaners, laundry and dish detergents, hand soap—that go down the drain during normal use. These products have been designed for disposal through sewer or septic systems. To dispose of leftovers of these products, pour down the drain and dilute with large amounts of water.

Dilution disposal is appropriate when the hazardous waste is neutralized by water or when the municipal or sanitary sewage system is able to remove the toxins or render them harmless. Heavy concentrations of certain chemicals in a septic tank, however, can slow down or destroy the microorganisms which make the system work properly. If you have a septic system, it is preferable to give hazardous waste acceptable for flushing to a friend who is on a sanitary sewage treatment system. If you have questions about what your sewer or septic system can handle, call the local sanitation or health department.

Precautions to take when flushing hazardous waste down the drain include:

- never pour waste in drains that lead directly into waterways
- avoid chemical disposal in food preparation areas
- use ventilation and wear gloves and goggles when pouring chemicals
- never mix chemicals together while pouring into a toilet or sink.

In addition to the products listed above, small quantities of hazardous wastes that can be flushed down the drain are:

- aftershave
- windshield wiper fluid
- antifreeze
- medicine (expired)

- deodorizers
- tile and tub cleaners
- drain openers
- hair removers/relaxers
- glass cleaners
- disinfectants
- bleach
- lye base paint stripper
- rug shampoo
- toilet bowl cleaner
- rust remover (with phosphoric acid)
- ammonia and ammonia based cleaners
- isopropyl alcohol and alcohol-based lotions

### *Disposal option 3—trash disposal*

When properly prepared, hazardous wastes can be safely discarded with your garbage destined for a sanitary landfill. This means you can throw them in the garbage. This does not mean you can burn or bury these wastes. Be careful about what you throw away. If you are unsure, call your waste handler. Hazardous wastes which are acceptable at some landfills include:

- auto body repair products
- empty aerosol cans
- crystallized oven cleaner
- shoe polish
- fertilizer without pesticides
- empty, triple-rinsed pesticide containers

Small amounts of many hazardous waste products can be solidified by air-drying or by mixing with absorbent material such as kitty litter, sawdust, charcoal or sand. If solidified, allowed to dry, and then double wrapped in plastic, these products may also be acceptable:

- adhesives and epoxies
- nail polish
- solvent-based cleaners
- oil and latex paints
- solvent-based polishes
- thinners

### *Disposal option 4—collection programs*

To handle some hazardous products, some communities throughout the country have held collection days. Products that should be saved for disposal by a licensed hazardous waste handler include:

- automotive paint
- brake fluid
- dry cleaning fluid
- gasoline
- engine degreaser
- flea powder
- epoxies and adhesives
- herbicides
- wood preservatives
- mothballs
- photographic chemicals
- insecticides
- polishes containing nitrobenzene
- oil-based paint (large quantities)
- solvent-based paint stripper

Household hazardous waste collections, however, are very expensive and not often an option in rural areas. (In Montana, Missoula has held the only collection day—in 1984). Also, storing hazardous materials for long periods, waiting for a collection program, may pose a safety hazard. Containers stored over a long period of time may begin to leak chemicals and pose an indoor air quality or fire hazard.

## Specific household hazardous products and disposal recommendations

If collection programs are not likely in your area, the United States Environmental Protection Agency's Hazardous Waste regulations specify the following disposal practices

### Adhesives:

- auto-body filler
- caulking compounds
- glazing compounds
- joint fillers
- patching pastes
- spackling compounds
- tile grout
- carpet adhesives
- epoxy resins
- glues
- linoleum pastes
- rubber cement
- tile adhesive
- wood putty

### Disposal recommendations

- Use up or store until you can use them.
- Donate to friend or organization.
- Check the label to determine whether the adhesive is solvent-based or water-based. Water-based adhesives can be disposed of at home by air drying (open container and let dry; if in a tube, slit the tube for drying; for larger amounts spread the adhesive in thin layers on cardboard to dry; for epoxy and other two-part adhesives, mix the two parts together to let them dry). Once the adhesive is hardened, it can be safely placed in the trash.
- Solvent-based adhesives are flammable and releasing the fumes to the air in the drying process can be a health and environmental hazard. Because of this, only very small quantities of solvent-based adhesives—less than eight ounces at a time—should be disposed of at home. For these small quantities, follow the drying instructions above.

### Household pesticides

- herbicides (chemicals designed to kill plants)
- insecticides (chemicals designed to kill insects)
- rodenticides (chemicals designed to kill rodents)

### Disposal recommendations

- Use them up! Rinse empty pesticide containers three times before throwing them in the trash and use the rinse water as a pesticide. **Do not burn or reuse pesticide containers.**
- Give them to someone who can reuse them:
  - city park departments
  - garden clubs
  - greenhouses and plant nurseries

Do not give away pesticides that are banned, unlabeled or damaged. Damaged pesticides include caked powders, liquids that have been frozen and pesticides that have been mixed with other products.

Most banned pesticides will contain one of the following ingredients. Check the product's label for:

- 2,4,5-T
- Aldrin
- Chlordane
- DDT
- Dieldran
- Endrin
- Silvex
- Sodium arsenate (more than 2%)
- Sodium cyanide
- Toxaphene

NOTE: This is not a complete list.

- Pesticides that are banned, damaged or unlabeled and all other pesticides that you can't use up must be taken to a household hazardous waste collection facility. Until a collection program is available, store the pesticides carefully:
- Be sure container is clearly labeled with the name of the pesticide
- Keep in locked closet or cabinet away from children or pets
- Keep the pesticide from freezing
- Store the pesticide in a dry area

### Household solvents

- gas-line de-icers
- grease-stain removers
- machinery degreasers
- nail polish removers
- septic tank cleaners
- rubbing or wood alcohol
- gasoline additives
- paint stripper
- paint thinner
- paint remover
- spot removers

### Disposal recommendations

- The best thing to do with leftover solvents is to use them up or store them for later use. Solvents are chemicals that dissolve other substances. Many solvents are poisonous when swallowed or absorbed through the skin and lungs, and most are flammable.
- If you cannot use your solvents, give them to someone who can.
- Paint thinner that has been used to clean up paint brushes and supplies can be cleaned and reused. Follow these easy steps:
  1. Pour the used thinner into a transparent container with a good seal and store it in an area away from children, pets and sources of heat or flame. In time, the dissolved paint will settle to the bottom of the container.
  2. When the paint has settled, carefully pour the clean solvent off the top—thinner can be reused.
  3. Pour the remaining paint sludge back into your oil-based paint. If you can't do this, you can allow the remaining paint sludge to dry completely.

### Disposal recommendations for all other solvents

If you can't use the product up, or find someone else to use it, the only way to dispose of household solvents is through a household hazardous waste collection

program. Until a collection is held, store the solvent in its original labeled container, away from pets and children.

#### **Household cleaners**

- solvent-containing cleaners
- spot removers
- corrosive cleaners
- other cleaners

#### **Disposal recommendations**

Cleaners containing solvents should not be disposed of down a drain, in the trash or down a toilet. Very small quantities of these cleaners—less than one cup (eight ounces)—can be evaporated and disposed of in the trash.

- Pour an absorbent material such as cat litter or sand into a cardboard box lined with plastic.
- Mix the cleaner with the absorbent material and LET IT DRY.
- When the cleaner has evaporated, you can throw the absorbent material and the box into the trash.

Spot removers, because they contain chlorinated solvents, should NOT be evaporated because inhaling the chemical can be a serious health hazard.

Spot removers and more than one cup of other solvent-based cleaners should be taken to a household hazardous waste collection for proper disposal.

Very small quantities—less than one cup (eight ounces)—of corrosive household cleaners in liquid form and toilet bowl crystals can be flushed down the toilet with lots of water if your house is connected to a sanitary sewer (city sewer) system.

Cleaners that are not corrosive and do not contain solvents can be flushed into a sanitary sewer system if they are liquid, or thrown in the trash if they are solid. NEVER mix cleaners containing ammonia with those containing bleach—a very toxic gas will be produced.

#### **Wood preservatives—disposal recommendations**

- If your wood preservative does not contain creosote or pentachlorophenol, you can use the leftovers.

Creosote and pentachlorophenol-containing products, which have been restricted from consumer use since 1985, should be given to a trained user. Landscape companies, railroads, nurseries and wood-treating companies may have trained staff and may accept your leftovers.

- Wood preservatives that can't be used up should be taken to a household hazardous waste collection program for proper disposal. Store the chemicals with the lids tightly sealed, in an area away from children and pets.

#### **Automotive wastes**

- Used motor oil

Do not dump waste oil on the driveway, on the soil, into storm sewers or down the drain or toilet. Motor oil should be recycled. If you can't find a used oil collection site in your community, call your local highway

department, local full-service filling station, or the Montana Department of Health. If you cannot recycle your oil, solidify the oil and dispose of it with other household waste.

- Transmission fluid

If not contaminated with other products, used and unused transmission fluid may be accepted for recycling. Keep in separate container from used oil.

- Brake fluid

There is no safe way to dispose of brake fluid. Brake fluid should be disposed of by a licensed hazardous waste handler.

- Uncontaminated gasoline

Quantities of uncontaminated gasoline should be used up in an automobile or other engine. It is not recommended that it be used as a solvent (such as for cleaning tools) because this procedure is very dangerous and also contaminates the gasoline. It is difficult to dispose of contaminated gasoline, whereas kerosene, diesel fuel or other solvents for tool cleaning and related purposes can be mixed with waste oil for recycling.

#### **The household hazardous waste wheel**

For more details on disposal of household hazardous waste, the Montana State University Extension Service offers a unique diagnostic publication—the *Household Hazardous Waste Wheel*. The wheel examines 36 household hazardous materials and defines their hazardous ingredients, alternatives for their use, hazardous properties, and the proper waste disposal practice. The wheel is available for \$3.65 from county Extension offices.

#### **References**

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