

Household Hazardous Waste (HHW)

Many household products are dangerous because they exhibit one or more characteristics of ignitability, corrosivity, reactivity or toxicity. Mismanagement of these products – mixing, improper storage, disregarding label instructions or improper disposal -- can be a threat to health and to the environment.

Over 90% of Florida's drinking water comes from the groundwater. In the early '80s, concern over groundwater pollution lead to our Water Quality Assurance Act, giving Florida better groundwater protection programs than any other state. HHW management was a component of that Act. Today, we have the largest infrastructure of permanent HHW collection centers and mobile collections in the country (64 of our 67 counties have some type of collection program). Florida has been a leader in addressing the problem of Universal Wastes (pesticides, batteries, fluorescent bulbs and mercury containing devices) and EOL electronics.

Some people question the value of HHW collections since the programs are expensive and collect only around 1% of the HHW generated. They think that it is okay for HHW to be disposed of in our landfills where it will be contained within secure linings. However, many think that the following advantages of HHW collections more than compensate for the shortcomings cited by critics.

The public awareness and educational components of HHW collection programs are invaluable, as they promote pollution prevention and safety with the following messages.

- Buy only what you need and use what you buy or give it to someone who can use it.
- Follow the manufacture's directions – more is not always better.
- Tips to properly store hazardous products in order to increase their shelf life (place paper bags of ant poison or moth balls on the garage shelf in air tight plastic bags).
- Switch to less hazardous alternative products or use homemade substitutes.
- Not sure if your old bottle of Chlordane has been banned from use? Phone numbers to find out are provided.
- Consider common sense and natural pest control solutions without chemicals.
- Common sense suggestions to store chemicals properly in order to keep children and pets safe.
- Be aware that household chemicals, when commingled, can produce poisonous fumes (bleach and toilet bowl cleaner, when mixed will produce deadly chlorine gas), generate enough heat to cause burns (a cola beverage spilled on pool chlorine), or spontaneously ignite (motor oil coming in contact with pool chlorine).
- Don't reuse an empty household cleaning product container, clearly label cleaning mixtures and don't store such mixtures in old food containers.
- Don't pour HHW on the ground, down the storm sewer and ask (HHW programs provide phone numbers) before you pour HHW down your drain.
- Don't burn your HHW, as carcinogens can be released and heavy metals can be vaporized and carried in the air before settling out.

- Note the locations of over 1,000 used motor oil collection centers in Florida, free to households.
- Many household products are dangerous – read the labels. For example, in order of increased toxicity, pesticides are labeled *poison, caution, warning, or danger*.

There are numerous HHWs that contain highly toxic heavy metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium or silver), dioxins and other carcinogens. Mismanagement can result in entry into the food chain and birth defects, cancer and fish and wild life kills.

Household products that should be managed as hazardous wastes at HHW collections

1. **Pesticides, insecticides, fungicides and animal care products** – There are lots of banned and restricted pesticides residing in sheds, garages and under kitchen sinks. They contain heavy metals and can be highly toxic.
2. **herbicides and wood preservatives** – They can contain dioxins and are toxic.
3. **fluorescent lamps (bulbs) and other mercury containing devices** –Including switches, thermometers, thermostats and ballasts, which may also contain PCBs.
4. **rechargeable and button batteries** – May contain nickel, cadmium, mercury or lithium.
5. **chemistry set and photographic hobby chemicals** – Chemicals may be unstable and photo developers & fixers are corrosive.
6. **pool chemicals and ammonium nitrate fertilizers** – Contain oxidizers and can cause an unstable reaction or explosion if mixed with other substances.
7. **paints containing lead or containing mercury for fungicide control and paint products such as strippers, rust paints, stains & finishes** – These may be flammable and toxic and may contain methylene chloride, toluene, petroleum distillates, methyl ethyl ketone, xylene, chlorinated phenols and halogenated hydrocarbons.
8. **corrosives and caustics** – Such as battery acid, muriatic acid, rust remover, drain cleaner and quick lime, can cause severe skin damage and blindness.
9. **flammables** – Oil based paints, mineral spirits, solvents, aerosols, fuel and automotive fluids.
10. **any very old products** –Many of these wastes have been stored for up to 50 years and contain banned or restricted chemicals. Examples are lead arsenate, cyanide, strychnine and DDT.

Increasing the convenience of disposal of hazardous waste, or any waste for that matter, is not the target goal. Waste reduction, source reduction and pollution prevention are the target goals. The public awareness component associated with a HHW collection program raises the level of consciousness of citizens who care about their environment and want to do the right thing. I have always considered myself an environmentalist and helped organize the first Earth Day in my community when teaching earth science in 1970. At the same time, I carefully placed my used motor oil in an old milk jug before placing it in the trash. I was ignorant of the proper management of used motor oil until

my association with HHW management education. *And, environmentally aware citizens that handle their hazardous waste in an appropriate manner, will insist that industry do as well.*