

"HOUSEHOLD HAZARDOUS CHEMICALS and WASTE" What do we mean when we say "hazardous"?

It's important to clarify a few simple terms when discussing the products in our cupboards to create a margin of safety and reduce risk.

HAZARDOUS: According to the office of health and safety administration (OSHA) a hazardous chemical can be a health or physical hazard.

Physical Hazards can be subdivided into categories based on their chemical properties and how those respond to surrounding conditions to become a hazard. Is it a combustible liquid or a compressed gas? Is the substance explosive, or flammable? Or is it an oxidizer, an organic peroxide, pyrophoric, unstable or water reactive?

The effects of the health hazard depend on whether exposure is acute (limited DURATION, but a high dose) or chronic (an accumulation of smaller doses over a period of time) what the ROUTE OF ENTRY is (Ingestion, absorption, respiratory, injection).

Hazards can be categorized further as a carcinogen, mutagen, irritant, corrosive or sensitizer, or Toxin. Toxins then have further subdivision based on what their specific "target organ" is (neurotoxin, hepatic toxin, nephrotoxin or reproductive toxin).

When we bring these chemicals into our house, we don't identify them with any potential to do us harm. However, those identical chemicals, sans their friendly recognizable name, are strictly regulated and managed in the industrial setting to provide a margin of safety and reduce risk. Cocoa Cola for example, is categorized as a corrosive, and is useful in taking corrosion off of battery terminals. When packaged and shipped in larger containers, they are accompanied by the Material Safety Data sheet (MSDS) which provide all the properties and potential hazards associated with the material, including information how to store and dispose of safely. You can obtain this information from the parent company of any substance on request.

The important thing to recognize is that proper disposal is essential to keep residual or unwanted household chemicals from being exposed to the environment where they can become a pollutant and create harm, rather than the useful substance we recognize them as. For MIOSHA definitions see http://www.michigan.gov/documents/deq/deq-ess-caap-manufguide-appnb_313476_7.pdf



HOUSEHOLD HAZARDOUS WASTE FACTS

Household hazardous waste (HHW) is defined as any solid waste classified as hazardous which is generated in a household by a consumer. Major categories of household hazardous materials are household cleaners; paint products; pesticides and fertilizers; automotive products; and arts and crafts-related solvents and thinners. Based on national data from collection programs, a typical breakdown of HHW is:

- 50% paints and paint products
- 20% used motor oil
- 20% solvents, pesticides and herbicides
- 10% batteries, unidentified materials and other miscellaneous items, such as old chemistry sets, photographic materials, and fiberglass epoxy

http://www.michigan.gov/deq/0,1607,7-135-3585_4130-70304--,00.html

<http://www.epa.gov/osw/conserves/materials/hhw.htm>

Goals of A Household Hazardous Waste Collection

- Provide proper disposal of HHW
- Remove HHW from homes, thus reducing exposure and potential injury
- Reduce danger to waste collectors and other sanitation workers
- Increase general public awareness of the HHW found in most homes and how these materials may impact on human health and the environment.
- Educate residents as to the best methods of HHW disposal



Collection Methods

There are several possible methods for HHW collection:

- One day collection events
- Permanent Collection Sites
- Mobile collection units
- Curbside collection

One-Day Collection Events - One day collection events are the most common approach. The planning and operation of a one-day collection event involves the setting of a date for collection, advertising the service to the public, and then conducting the program. The number of sites and length of program can vary. One-day events are typically held once per year. The one site/one time period approach is most applicable to small communities and requires less capital investment.

Another collection variation involves having multiple sites either simultaneously or in sequence. Two or more collection sites may be operated on the same day, followed by sites opening in different locations. Multiple sites are advantageous in large cities and may encourage participation. However, multiple sites are expensive, especially if operated simultaneously, because multiple, trained crews must be employed.

Permanent Collection Sites - Permanent collection sites increase the participation of a collection program by increasing convenience. Permanent collection sites are typically open a few days per week and generally have high operation costs.

Mobile Collection Units - Mobile collection units can provide ongoing, year-round collection of HHW. Mobile units operate on a fixed, predictable schedule. It is estimated that mobile units are more cost effective and cost efficient than one day collection sites. Generally, mobile units need 5,000 square feet in which to operate.

Curbside Collection - Curbside collection of HHW may also be utilized. Curbside collection programs are generally targeted to specific items, such as used oil, antifreeze, and batteries. This type of collection is typically operated in conjunction with curbside recycling programs. While participation levels are high, curbside collection is costly and requires specially trained personnel to collect, pack, and transport the collected materials. Also, specially designed trucks are required.

Source: http://www.h-gac.com/community/waste/management/hhw/documents/household_hazardous_waste_facts.pdf

Confused about the regulatory structure??? Check out <http://www.meridianeng.com/hazmater.html>

Linkage to Integrated Waste Management

Public education on the health and environmental hazards of HHW is a top priority in HHW management. Public education efforts should focus on making the public aware of the presence of hazardous materials in the home and the consequences of improper use and disposal; identifying substitutes that are less hazardous; encouraging better home management practices, such as buying only the amount of hazardous material that is needed at any one time; and identifying proper storage and disposal methods.

Source Reduction. Source reduction is the least expensive and most effective way to manage HHW. Source reduction methods include:

- Using substitute products with less potential hazardous components
- Buying small quantities
- Using products up before purchasing new products
- Checking for products that can be disposed of at home

Reuse and Recycling. Many HHW products may be reused by other individuals or organizations or are recycled. If possible find an outlet for the unused HHW. Donate the unwanted, leftover HHW to a friend, neighbor, or community group.

Most commonly recycled products are lead-acid batteries, paint, used oil, and antifreeze.

(BOPA)

Local HHW programs:
Wayne County website
<http://www.waynecounty.com/events/resident/4596.htm>

Northville
<http://www.ci.northville.mi.us/Services/PublicWorks/HazardousWaste.asp>