

Handbook of Household Chemical Hazards and Non-Toxic Solutions



ONEIDA ENVIRONMENTAL, HEALTH AND SAFETY DIVISION



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Introduction

- You can help keep chemicals out of the environment and make your home safer by being aware of the chemical dangers in your home.
- Knowing how to handle, use and dispose of common household chemicals can keep you and your family safer.
- Learning how to make and use safer cleaning alternatives, you can save money and help keep harmful chemicals out of the environment.
- We hope that you will find this handbook useful for identifying some household chemical dangers and safer alternatives.



Household Chemical Hazard Identification

We all have many products in our homes and garages that may be hazardous.

These products may pose serious fire, health or environmental hazards.

However, if used, stored and disposed of properly, they can be relatively safe.

This handbook will help you:

- identify chemical hazards in your home;
- make your home safer;
- discover less toxic alternatives.



Household Chemical Hazard Identification

Common Household Chemicals

- Automotive fluids (oil, anti-freeze, fuel, brake fluid, windshield washer fluid, transmission fluid, etc...)
- Household cleaners (bleach, ammonia, disinfectants, carpet freshener, air freshener, window cleaner, furniture polish, etc...)
- All laundry products
- Health and beauty products (hairspray, hair remover, fingernail polish, fingernail polish remover, hair coloring products, medications, etc...)



Household Chemical Hazard Identification

Common Household Chemicals (continued)

- Lawn and garden products (fertilizer, pesticides, herbicides, gasoline, oil, etc...)
- Barbecue products (propane, charcoal briquettes, lighter fluid, etc...)
- Home maintenance (paint, varnish, stains, oils, mouse/rat poison, etc.)

Some of these products we wouldn't think of as hazardous because we use them on our bodies, however, if misused they can be dangerous. For instance hairsprays and aerosols are highly flammable.



Household Chemical Hazard Identification

Tips for making your home more safe

Familiarize yourself with the products in your home, their locations and purpose. Many products are more hazardous than you think.

- Take inventory of your household chemicals
- Read labels and follow directions for use
- Keep chemicals in original containers
- Store chemicals away from food



**Household
products
contain
hundreds of
potentially
harmful
substances**

Household Chemical Hazard Identification

Tips for making your home more safe *(continued)*

- Don't store flammable liquids or gases in the house
- Keep away from children by placing child-proof locks on storage areas
- Understand household chemical properties
- Properly dispose of unused or unwanted products
- Have emergency numbers handy



Household Chemical Hazard Identification



Household Chemistry Basics

Household chemicals can be:

- Solid, liquid or gaseous
- An acid like vinegar
- A base like bleach or drain opener
- Float on water like oil
- Sink in water like antifreeze
- Dissolve in water like sugar
- Can “break up” oils like dishwashing detergent

Good rule of thumb, avoid mixing things with opposite properties!

Household Chemical Hazard Identification

There are many ways to communicate hazards and dangers. Some are very familiar in the home, others are useful to businesses, emergency responders, and people who work with large amounts of chemicals.

The next several pages give examples of the ways chemical hazards are communicated.



Household Chemical Hazard Identification

Hazards can be communicated by pictures on the labels



Corrosive



Poison/Toxic



Environmental Hazard



Flammable



Biohazard



Household Chemical Hazard Identification

Hazards can be communicated by special words on labels such as:

- **Poison/Toxic:** can injure or kill if absorbed through the skin, swallowed or inhaled.
- **Irritant:** causes soreness or swelling of skin, eyes, mucous membranes, or respiratory system.
- **Flammable:** easily catches fire and tends to burn rapidly.
- **Flammable Liquid:** has a flash point below 140 °F
- **Combustible Liquid:** has a flash point from 140 °F to 200 °F
- **Corrosive:** a chemical or its vapors that can cause a material or living tissue to be destroyed.



Household Chemical Hazard Identification

And by words such as:

DANGER/WARNING/CAUTION!

DANGER means that the chemical is harmful or fatal if swallowed. Ingestion of a small taste to a teaspoon could kill an average sized adult.

WARNING means that the chemical is harmful if swallowed. Ingestion of a teaspoon to an ounce could kill an average sized adult.

CAUTION means that the chemical is harmful if swallowed.



Household Chemical Hazard Identification

Fire departments and other public safety officials may use NFPA hazard communication.

- NFPA stands for the “National Fire Protection Association”
- The NFPA Diamond is a way communicating the hazards of chemicals
- The four smaller diamonds represent the types of hazards
- The numbers in blue, red and yellow diamonds rank the hazard. 1=low to 4=high. The white diamond communicates the special risk (in this example “reacts with water”).



NFPA Diamond

The NFPA Diamond is sometimes found on household chemical labels



Health Hazard



Fire Hazard



Stability



Special Hazard

Household Chemical Hazard Identification

Another method of communicating chemical hazard is the Hazardous Materials Identification System or HMIS®. It is similar, but not identical, to the NFPA system.

- Uses similar categories for ranking
- Uses numbers for blue, red & orange (0 = lowest—4= highest)
- White is for the type of protective equipment or clothing (a—k) needed
- Sometimes on household chemical labels



Chemical Name	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	0

Household Chemical Hazard Identification



HAZARDOUS MATERIALS IDENTIFICATION SYSTEM			
HAZARD INDEX		PERSONAL PROTECTION INDEX	
4 = SEVERE HAZARD	An asterisk (*) or other designation corresponds to additional information on a data sheet or separate chronic effects notification	A	
3 = SERIOUS HAZARD		B	
2 = MODERATE HAZARD		C	
1 = SLIGHT HAZARD		D	
0 = MINIMAL HAZARD		E	
Additional Information		F	
PERSONAL PROTECTION EQUIPMENT			
A	n	o	p
q	r	s	t
u	w	y	z
		X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions

The HMIS method provides more information and gives recommendations for personal protection equipment.

Eco-friendly Alternatives for Common Household Chemicals

BASIC INGREDIENTS FOR NON-TOXIC CLEANERS

Baking Soda - Cleans, deodorizes and softens water to increase sudsing and cleaning power of soap.

Borax - Cleans, deodorizes and softens water. Excellent disinfectant. In the laundry section of a grocery store.

Soap - Biodegrades safely and completely and is non-toxic. Sold as liquid, flakes, powder or in bars.

Washing Soda - Cuts grease, removes stains, softens water and disinfects. Sold as "sodium carbonate" in the laundry section of a grocery store.

White Vinegar or Lemon Juice - Cuts grease and freshens.

Cornstarch - can be used to clean windows, polish furniture, shampoo carpets and rugs.



Eco-friendly Alternatives for Common Household Chemicals

CREAMY SOFT SCRUBBER

Pour about 1/2 cup of baking soda into a bowl, and add enough liquid soap to make a texture like frosting. Scoop the mixture onto a sponge, and wash the surface. This is the perfect recipe for cleaning the bathtub because it rinses easily and doesn't leave grit.

Note: Add 1 teaspoon of vegetable glycerin to the mixture and store in a sealed glass jar, to keep the product moist. Otherwise just make as much as you need at a time.



Eco-friendly Alternatives for Common Household Chemicals

WINDOW CLEANER

1/4-1/2 teaspoon liquid soap

3 tablespoons vinegar

2 cups water

Spray bottle

Put all the ingredients into a spray bottle, shake it up a bit, and use as you would a commercial brand. The soap in this recipe is important. It cuts the wax residue from the commercial brands you might have used in the past.



Eco-friendly Alternatives for Common Household Chemicals

OVEN CLEANER

1 cup or more baking soda

Water

A squirt or two of liquid soap

Sprinkle water generously over the bottom of the oven, then cover the grime with enough baking soda that the surface is totally white. Sprinkle some more water over the top, let set overnight. Wipe up the next morning. When the worst of the mess is removed, dab a bit of liquid detergent or soap on a sponge, and wash the remaining residue from the oven.

(If this recipe doesn't work for you it is probably because you didn't use enough baking soda and/or water.)



Eco-friendly Alternatives for Common Household Chemicals

FURNITURE POLISH

1/2 teaspoon oil, such as olive (or jojoba, a liquid wax)
1/4 cup vinegar or fresh lemon juice

Mix the ingredients in a glass jar. Dab a soft rag into the solution and wipe onto wood surfaces.

Cover the glass jar and store indefinitely.



Eco-friendly Alternatives for Common Household Chemicals



MOLD & MILDEW CLEANERS

Tea Tree Treasure

2 teaspoons tea tree oil

2 cups water

Combine in a spray bottle, shake to blend, and spray on problem areas. Do not rinse. Makes two cups.

Vinegar Spray

Straight vinegar reportedly kills 82% of mold. Pour some white distilled vinegar straight into a spray bottle, spray on the moldy area, and let set without rinsing. Smell will dissipate in a few hours.



Eco-friendly Alternatives for Common Household Chemicals



CARPET STAINS

Mix equal parts white vinegar and water in a spray bottle. Spray directly on stain, let sit for several minutes, and clean with a brush or sponge using warm soapy water.

For fresh grease spots, sprinkle corn starch onto spot and wait 15 - 30 minutes before vacuuming.

For a heavy duty carpet cleaner, mix 1/4 cup each of salt, borax and vinegar. Rub paste into carpet and leave for a few hours. Vacuum.



Eco-friendly Alternatives for Common Household Chemicals

DISINFECTANT

2 teaspoons borax
4 tablespoons vinegar
3 cups hot water

Mix all ingredients together in a spray bottle.

For stronger cleaning power add 1/4 teaspoon liquid soap. Wipe on with dampened cloth or use non-aerosol spray bottle.



Eco-friendly Alternatives for Common Household Chemicals

DRAIN CLEANER

For light drain cleaning, mix 1/2 cup salt in 4 liters water, heat (but not to a boil) and pour down drain.

For stronger cleaning, pour 1/2 cup baking soda down drain, then 1/2 cup vinegar. After 15 minutes, pour in boiling water to clear residue.

Caution: Plastic pipes can melt if excess boiling water is used.

Do not use this method after trying a commercial drain opener! Vinegar can react with the drain opener to create dangerous fumes.



Eco-friendly Alternatives for Common Household Chemicals



FLOOR CLEANERS

Vinyl and linoleum: mix 1 cup vinegar and a few drops of baby oil in 1 gallon warm water. For tough jobs, add 1/4 cup borax. Use sparingly on linoleum.

Wood: apply a thin coat of 1:1 vegetable oil and vinegar and rub in well.

Brick and stone tiles: mix 1 cup white vinegar in 1 gallon (4L) water; rinse with clear water.

Most floor surfaces can be easily cleaned using a solution of vinegar and water. For damp-mopping wood floors: mix equal amounts of white distilled vinegar and water. Add 15 drops of pure peppermint oil; shake to mix.

Eco-friendly Alternatives for Common Household Chemicals

WATER RINGS ON WOOD:

Water rings on a wooden table or counter are the result of moisture that is trapped under the topcoat, but not the finish.

Try applying toothpaste or mayonnaise to a damp cloth and rub into the ring. Once the ring is removed, buff the entire wood surface.



Eco-friendly Alternatives for Common Household Chemicals

TOILET BOWL CLEANER:

1/4 cup baking soda
1 cup vinegar

Combine ingredients and pour into basin and let it set for a few minutes.

Scrub with brush and rinse.

A mixture of 2 part borax and one part lemon juice will also work.



Household Chemical Inventory

Kitchen:

Eco-Friendly Alternatives:



Household Chemical Inventory

Bathroom:

Eco-Friendly Alternatives:



Household Chemical Inventory

Laundry Room/Basement:

Eco-Friendly Alternatives:



Household Chemical Inventory

Garage:

Eco-Friendly Alternatives:



Household Chemical Inventory

Lawn & Garden Supplies:

Eco-Friendly Alternatives:



Other Waste Disposal Information

The Oneida Tribe is a partner with other Brown County governments, supporting the Household Hazardous Waste Facility. Tribal members may dispose of hazardous materials at no cost (see back cover).

Used appliances and tires can be disposed of at the Brown County Waste Transfer Station at 3734 West Mason, Oneida, WI for a small fee.

Unused or outdated prescriptions or medications, can be dropped off at the Oneida Police Department 24/7 at a drop box in the station lobby at 2783 Freedom, Road, Oneida, WI

Disposal for used “compact fluorescent lights” (CFL), is available at Menards, Walmart, Home Depot, all Brown County Libraries, Vern’s Hardware, Paulsen Hardware among others.



Quick References

For disposal of household chemicals bring them to:

- **Brown County Materials Recovery Facility**
2561 S. Broadway Street, Green Bay, WI
Phone: (920)492-4950

Hours of operation:

- Thursdays—Noon till 6:00 pm
- Saturdays—8:00 am till 2:00 pm

In case of emergency call 911

For non emergency concerns call:
Wisconsin Poison Center Hotline
(800)222-1222



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