



## HOW-TO BOOKLET #3407

# HOUSEHOLD HAZARDS



### TOOL & MATERIAL CHECKLIST

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Baking Soda       | <input type="checkbox"/> White Vinegar              | <input type="checkbox"/> Salt            |
| <input type="checkbox"/> Lemon Juice       | <input type="checkbox"/> Borax                      | <input type="checkbox"/> Club Soda       |
| <input type="checkbox"/> Cedar Blocks      | <input type="checkbox"/> Sponge                     | <input type="checkbox"/> Spray Bottle    |
| <input type="checkbox"/> Newsprint         | <input type="checkbox"/> Aluminum Foil              | <input type="checkbox"/> Chlorine Bleach |
| <input type="checkbox"/> Long-Handle Brush | <input type="checkbox"/> Child-Proof Safety Latches |  |

*Read This Entire How-To Booklet for Specific Tools and Materials Not Noted in the Basics Listed Above.*

Many products used in the average household contain materials that can be considered hazardous to one's health because they exhibit one or all of the following characteristics:

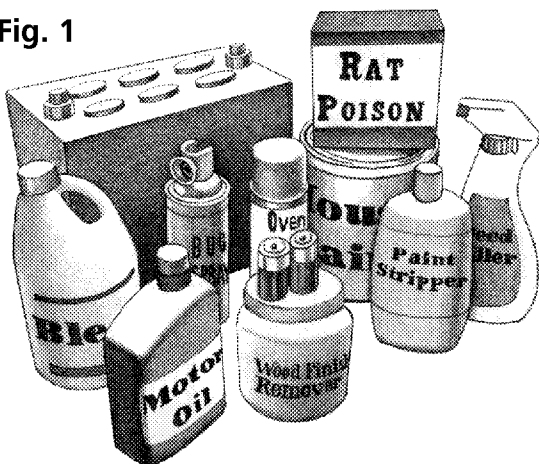
- 🏠 Toxicity: Causing injury or death upon ingestion, absorption, or inhalation.
- 🏠 Ignitability: Capable of catching fire.
- 🏠 Corrosivity: Burning or irritating to human tissue.
- 🏠 Reactivity: Capable of causing toxic gas release or explosion.

### WHAT ARE HAZARDOUS SUBSTANCES

The Center for Hazardous Material Research (CHMR) has grouped hazardous household waste into the five following categories (Fig. 1):

- 🏠 Household Cleaners: Oven cleaners, bleaches, toilet bowl cleaners, disinfectants, ammonia-based cleaners, some carpet shampoos, drain cleaners, certain air fresheners, and some laundry detergents.
- 🏠 Paint Products: Oil-based paints, thinners and turpentine, wood preservatives, certain wood finishing materials, solvent-based paint and furniture strippers, and solvents.
- 🏠 Pesticide Products: Many insecticides, herbicides, rat and mouse poisons, flea collars, some flea shampoos, roach killers, plant and insect sprays.
- 🏠 Automotive Products: Antifreeze, transmission fluid, batteries, and used oil.
- 🏠 Miscellaneous Products: Photographic chemicals, liquid spot removers, pool chemicals, household and mercury batteries, glues and adhesives.

Fig. 1



Some common household hazardous substances.

**Health Effects.** The ability of household organic or synthetic chemical compounds and pesticides to cause health effects varies greatly. There are some that are highly toxic, and some with no known dangers. Eye and respiratory irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people experience soon after exposure to particular organics. At present, not much is known about what health effects occur from the levels of organics found in homes. Many organic chemical compounds are known to cause cancer in animals; some are suspected of causing, or are known to cause cancer in humans.

### USE OF HAZARDOUS PRODUCTS

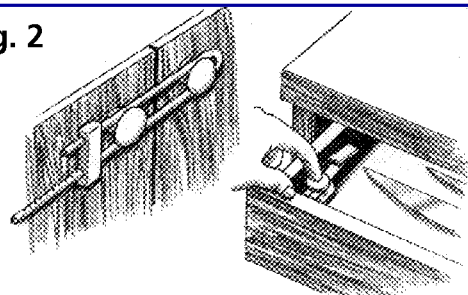
When using household chemicals follow label instructions carefully. Products have warnings aimed at reducing exposure to the user. For example, if a label says to use the product in a "well ventilated" area, go outdoors or in areas equipped with an exhaust fan to use the product. Otherwise, open windows to provide the maximum amount of outdoor air possible.

Buy only what you need of a product. If you use products only occasionally or seasonally, such as paints and paint strippers, kerosene for space heaters, or gasoline for lawn mowers, buy only as much as you'll use right away.

If possible, purchase products with child-resistant packaging. Child-resistant packaging is designed to prevent most children under the age of five from gaining access to household products. Be sure you are using child-resistant packaging properly by closing the container tightly after use.

**Storage of Household Chemicals.** Attached garages or workplace areas where petroleum products, paint, pesticides, and cleaning supplies are stored can be major sources of organic chemical pollutants. Bathrooms and kitchens are other areas where hazardous products are usually stored. When storing hazardous material, keep the following pointers in mind:

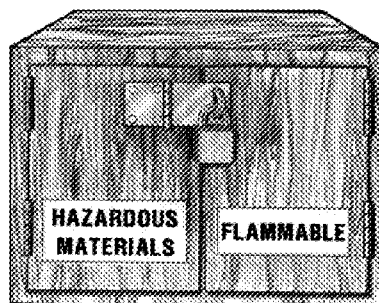
Fig. 2



Install child-proof latches on cabinets containing hazardous substances.

- Keep unused products in original containers. Never store chemicals in food or beverage containers.
- Preserve labels for directions, disposal suggestions, and warnings.
- Store in a cool, dry, secured place.
- Never store household chemicals where small children and pets may reach them. Storage cabinets and shelves should be at least four feet off the floor or in a secure, locked location. Install child-proof safety latches on cabinets. These can be purchased at your local home center or hardware store (Fig. 2).
- Store harmful products away from food. If these products are placed next to food, someone may accidentally get food and a toxic chemical confused and swallow the poison.

Fig. 3



Flammable material must be kept in a locked cabinet.

- Store flammable products outside living quarters and away from ignition sources (Fig 3).

**Disposal of Hazardous Waste.** Be sure to properly dispose of partially-full containers of old or unneeded chemicals. Because gases can leak even from closed containers, proper disposal does much to lower concentrations of organic chemicals in your home. Don't simply toss these unwanted hazardous household waste products in the garbage (see How-to-Booklet #3409). Find out if your local government or any organization in your community sponsors special days for the collection of toxic household wastes. If such days are available, use them to dispose of the unwanted containers safely. If no such collection days are available, inquire with local officials as to disposal.

Avoid mixing different products, or mixing different brands of the same product—explosive chemical reactions or toxic materials may result.

If you spill a hazardous chemical, don't wash it away. Sprinkle with sawdust, vermiculite, or cat box litter and sweep it into a plastic garbage bag for disposal as hazardous waste.

### CHEMICALS TO WATCH FOR

For your safety, keep exposure and use of the following chemicals to a minimum.

**Paradichlorobenzene:** This is the chemical commonly used as the active ingredient in moth repellents. This chemical is known to cause cancer in animals, but substantial scientific uncertainty exists over what may be the effects, if any, of long-term human exposure to paradichlorobenzene. The EPA requires that products containing paradichlorobenzene bear warnings such as "avoid breathing vapors" to warn users of potential short-term toxic effects. Where possible, items treated with paradichlorobenzene should be placed in trunks or other containers that can be stored in areas that are separately ventilated from the home, such as attics and detached garages.

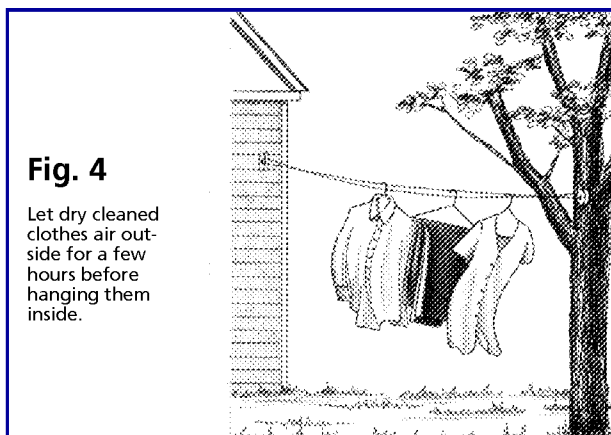
Paradichlorobenzene is also the key active ingredient in many air fresheners (in fact, some labels for moth repellents recommend that these same products be used as air fresheners or deodorants). Proper ventilation and basic household cleanliness will go a long way toward preventing unpleasant odors—thereby reducing or eliminating the need for air fresheners.

**Perchloroethylene:** This is the chemical most widely used in dry cleaning. In laboratory studies, it has been shown to cause cancer in animals. Recent studies indicate that people breathe low levels of this chemical both in homes where dry cleaned goods are stored and as they wear dry cleaned clothing. Dry cleaners recapture the perchloroethylene during the dry cleaning process so they can save money by reusing it. They remove more of the chemical during the pressing and finishing processes. Some dry cleaners, however, do not remove as much perchloroethylene as possible all of the time.

Taking steps to minimize your exposure to this chemical is prudent. If dry cleaned goods have a strong chemical odor when you pick them up, do not accept them until they have been properly dried. It is a good idea to remove the clothes from the plastic bags and let them air outside for two to three hours or until the odor disappears. Don't put them right in your closet still in the plastic bag. Further, if goods with a chemical odor are returned to you on subsequent visits, use a different dry cleaner (**Fig. 4**).

**Phenol and Cresol:** These chemicals are found in a number of products used to disinfect, sanitize and deodorize. Phenol can temporarily deactivate the sensory nerve endings, while cresol can attack the kidneys, spleen, liver, pancreas, and the central nervous system. Don't use commercial or industrial type cleaners in the home as they contain higher levels of these compounds.

**Aluminum Chlorhydrate and Zirconium:** These chemicals are ingredients in some deodorants that could cause skin inflammation and, if inhaled,



**Fig. 4**

Let dry cleaned clothes air outside for a few hours before hanging them inside.

cancer. The aluminum compound is considered a possible factor in Alzheimer's disease.

**Diethanolamine, Selenium Sulfide, and Coal Tar:** These harmful chemicals are found in many dandruff shampoos and hair conditioners. All three chemicals are suspected carcinogens.

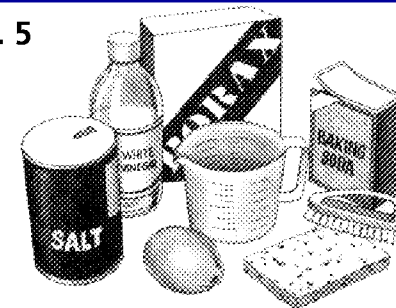
### ALTERNATIVE HOUSEHOLD CHEMICALS

Many people are allergic to household products because of the chemicals they contain. For them and for a better environment, consider the following safe alternatives for the myriad of questionable commercial products that are on the market today.

**All-Purpose Cleaners:** As alternatives to the all-purpose cleaners that contain flammable, corrosive, toxic or reactive chemicals, here are a few suggestions from the Center for Hazardous Materials Research:

- 🏠 **Oven Cleaner:** Scrub with a paste of baking soda, salt and water. Then leave 1/4 cup lemon juice in the oven overnight and wipe away any remaining grease the next morning. Ventilate the kitchen and avoid breathing fumes.
- 🏠 **Oven Spill Remover:** Sprinkle salt on the spill immediately. Let the oven cool a few minutes, then scrape the spill away and wash the area clean with water.

**Fig. 5**



Many cleaning products can be substituted with all-natural materials.

- 🏠 **Window and Glass Cleaner:** Measure 3 tablespoons lime juice, 1 tablespoon white vinegar, and 3/4 cup water into clean spray bottle. Spray on window, wipe clean and dry with a cotton cloth or paper towel.
  - 🏠 **Scouring Powder:** Use a solution of vinegar, salt and water, or use baking soda and water. Apply with a sponge and rinse clean.
  - 🏠 **Toilet Bowl Cleaner:** Pour 1/2 cup white vinegar and 3 tablespoons of baking soda into the toilet bowl, let stand for 30 minutes, then scrub with a long handled brush, and flush.
  - 🏠 **Ceramic Tile Cleaner:** Mix 1/4 cup of white vinegar into a gallon of warm water. Apply with a sponge.
  - 🏠 **Disinfectants.** Use 1/2 cup borax dissolved in hot water and apply with a sponge. Use sodium carbonate (washing soda) in clothes washer in place of commercial detergents. (**Fig. 5**)
- Polishes:**
- 🏠 **Furniture:** Mix 2 parts vegetable or olive oil with one part lemon juice. Apply this mixture to the furniture with a soft cloth and wipe dry.
  - 🏠 **Brass:** Polish with Worcestershire sauce.
  - 🏠 **Copper:** Soak in a vinegar and salt solution and wipe clean.
  - 🏠 **Silver:** Soak in a quart of warm water containing 1 teaspoon baking soda, 1 teaspoon salt,

and a piece of aluminum foil. Use a soft bristle toothbrush to remove stains.

#### Spot Removers:

- 🏠 Set Stains: Dab with white vinegar.
- 🏠 Non-set Stains: Sponge up or scrape off as much as possible immediately. Rub with club soda followed by cold water.
- 🏠 Butter, Gravy or Chocolate Stains: Dab with a cloth dampened with a solution of 1 teaspoon white vinegar and 1 quart cold water. It also works well for urine stains.
- 🏠 Grease Stains: Rub with a damp cloth dipped in borax. Or apply a paste of cornstarch and water; let it dry and brush the mixture off.
- 🏠 Ink Stains: Wet the fabric with cold water and apply a cream of tartar and lemon juice mix. Let it sit for an hour and then wash in the usual manner.
- 🏠 Red Wine Stains: Clean immediately with club soda, or dab out excess moisture with an absorbent cloth and sprinkle salt on the stain. Let stand several hours, then brush or vacuum it away.

**Air Fresheners/Deodorizers:** Sprinkle baking soda in odor-producing areas. Set vinegar out in an open dish. Sprinkle borax in corners of the room. Do not allow children or pets to ingest the borax. Place an open box of baking soda in the refrigerator to absorb food odors. Pour baking soda down garbage disposal for disposal and drain odors. Sprinkle baking soda over entire carpet and vacuum after 30 minutes.

**Drain Clearers:** Pour boiling water down your drain weekly. To unclog drains, pour in 1/2 cup baking soda followed by 1/2 cup vinegar. Cover and wait for several minutes. Then flush with boiling water.

**Floor Wax Strippers/Polishers:** Mix 1 part thick boiled starch and 1 part soap suds; rub the mixture on the floor and polish with a dry cloth. To

remove, pour a little club soda on the area, scrub well, let soak for 5 minutes and wipe.

**Rug/Upholstery Cleaner:** Mix 1/2 cup mild dishwashing detergent with 1 pint boiling water. Let cool. Whip into a paste with mixer. Apply with a damp sponge. Wipe the suds. Rinse with 1 cup vinegar in 1 gallon of lukewarm water. Let dry or shampoo with 6 tablespoons of soap flakes, 2 tablespoons borax, and 1 pint of boiling water. Let cool before applying.

#### PESTICIDES

Pesticides used in and around the home include products to control insects, termites, rodents, and fungi. Products are sold as sprays, liquids, sticks, powders, crystals, balls, and foggers or "bombs." It's important to remember that the "-cide" in pesticide means "to kill." These products are dangerous if not used properly.

All pesticides legally marketed in the United States must bear an EPA-approved label; check the label to make sure it bears an EPA registration number. Before using a pesticide, read the entire label. Even if you have used the pesticide before, read the label again—don't trust your memory. Use of any pesticide in any way that is not consistent with label directions and precautions is dangerous and unlawful. (Don't use pesticides labeled for "restricted use" unless you are a formally trained, certified pesticide applicator. These products are too dangerous to be used without special training.)

**Always follow use directions carefully.** Use only the amount directed, at the time and under the conditions specified, and for the purpose listed. Don't think that twice the dosage will do twice the job. It won't. What's worse, you may harm yourself, others, or whatever you are trying to protect.

Look for one of the following signal words on the front of the label. It will tell you how hazardous a pesticide is if swallowed, inhaled, or absorbed through the skin.

**DANGER:** means highly poisonous.

**WARNING:** means moderately hazardous.

**CAUTION:** means least hazardous.

Allow adequate ventilation when applying pesticides indoors. Go away from treated areas for at least the length of time prescribed by the label. When spraying outdoors, close the windows of your home. Store and dispose of unused pesticides in the same manner as for hazardous household chemicals.

**Pesticide Alternatives.** Like household chemicals, there are some alternatives to commercial products to control household pests. Some of the more common methods are:

- 🏠 Ants. Remove accessible food and water (this one isn't always so easy). Pour a line of cream of tartar or chili powder where ants enter the house. They won't cross it. Outside, pour boiling water over their nests.
- 🏠 Roaches. Clean up food. Place bay leaves near cracks. Caulk all cracks. Use sticky traps of boric acid powder and very little water. Set out a dish containing equal parts of oatmeal and plaster of Paris.
- 🏠 Fleas and Ticks. Feed pets brewer's yeast and garlic. Vacuum pet's bedding regularly. Place eucalyptus seeds, leaves, and cedar chips near bedding.
- 🏠 Moths. Set cedar chips, cedar blocks, newspapers or lavender flowers around closets. After it's cleaned, wrap wool clothing in plastic bags during warm weather. A cedar closet is ideal for storing wool clothing.

The Assistance of Green Seal, Washington, DC; The Healthy House Institute, Bloomington, IN; and Linda Mason Hunter, Healthy Home Designs, Des Moines, IA, is gratefully acknowledged in reviewing the information in this booklet.

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