
Chemical Hazards in the Home

HOUSEHOLD CLEANERS AND POLISHES

by Elaine Andrews



Many consumers tend to think anything sold must be safe. However, the American Association of Poison Control Centers recorded over 91,000 exposures to household cleaning substances in 1986. Over 13,000 of these were serious enough to require treatment in a health care facility.

Dangers of Household Chemical Products

Cleaners and polishes are effective for the job they are designed to do because they contain chemicals. These chemicals include strong acids and bases, organic solvents (materials that will not dissolve in water and are usually present in products formulated to dissolve difficult stains or greases) and pesticides. Some of these chemicals can destroy human tissue. Accidentally drinking these products, breathing their fumes, or getting them on your skin or in your eyes can cause injury and sometimes death.

Some harmful effects appear immediately. However, other health problems take a long time to develop. The amount of harm you suffer from exposure to hazardous chemicals depends on:

- The chemicals in the product,
- How much product you are exposed to,
- The length and frequency of the exposure(s), and
- Your weight and physical condition.

Healthy adults can usually tolerate greater exposure to a hazardous chemical than a child or sick adult.

What chemicals are hazardous? Too much of any chemical is a health hazard. How much is too much? There is no automatic answer to this question, because chemicals used in household products have not been thoroughly tested for their effect on people and individual reactions to exposure differ.

Precautions

As a precaution, use all household chemical products as the label directs. Minimize your exposure as much as possible. Watch for signal words on the label: CAUTION, WARNING or DANGER. The Federal Hazardous Substances Act requires that these and other uniform signal words appear on all products which contain a substance which could cause a health hazard during use. However, the Federal Hazardous Substances Act *does not require* that product labels identify possible long-term health problems such as liver damage or cancer which could be caused by repeated exposure to products over time.

Read the Label and Follow the Directions

- Never mix products, unless the label allows it. Never mix bleach with acid toilet bowl cleaners or ammonia. These mixtures may produce toxic fumes. Again, watch out for signal words such as CAUTION, WARNING and DANGER.
- Don't mix different brands of one type of product (for example, different brands of drain openers), because dangerous chemical reactions may occur.
- Avoid skin and eye contact with cleaners and polishes, especially drain and oven cleaners. Use protective clothing and gloves. Protect eyes when using strong cleaners such as bleach or drain openers. If you get these products on any exposed skin, wash the area immediately with lots of water.
- Avoid breathing cleaner and polish fumes. Ventilate the room when using them.
- If you are pregnant or suspect you may be pregnant, avoid exposure to as many hazardous chemicals as possible. Many chemicals in household products have not been tested for their effects on unborn children.
- Keep products in their original containers. You need the label to follow directions for proper use and to identify the ingredients if the product poisons someone.
- **Keep out of reach of children.** If you are called away to answer the door or telephone when using one of these products, carry it with you to keep it in sight and away from children.
- Buy just enough product to do the job.
- Look for a non-hazardous or less hazardous product to do each job.
- Dispose of empty containers properly. Wrap aerosol cans or containers in newspaper, secure with tape or string and place in garbage containers on the day of pick up.
- Follow the recommendations of your local solid waste authority for disposing unused products.

Environmental Hazards

Most household cleaners and polishes cause little damage to the environment if **used up** according to label directions. However, some product uses and disposal of unwanted products merit particular attention! Use of an aerosol product or product containing an organic solvent contributes to indoor air pollution. Aerosol products also may contain chlorofluorocarbons, which damage the layer of ozone gas surrounding the earth. Excessive use of products containing detergents may overload lakes with phosphate nutrients. Disposal of unwanted products containing corrosive chemicals may injure refuse collectors. Inappropriate disposal of solvent-based cleaners into a septic system, storm sewer or stream, or onto the ground may contaminate drinking water and wildlife habitat. Refer to your local solid waste authority or resources listed in this brochure for appropriate waste disposal advice.

Cleaners and Polishers that Are Generally More Hazardous

Aerosols

Exploding aerosol spray cans can cause accidents, injuries and deaths. Don't throw aerosol cans into fires or incinerators, or leave them near stoves, in auto glove compartments or in the sunlight where they can heat up.

An aerosol disperses the cleaning product, solvent and propellant into the air in tiny droplets. Applying products by spraying increases the chance you will inhale the product or that it will come into contact with your tissues. Droplets may irritate and damage eyes, skin and lungs. If you breathe in droplets, the chemicals can easily enter the bloodstream through the lungs, where they may cause internal harm.

Manufacturers are not required to name chemical ingredients that are "inert," that is, not required for the product to function according to its intended purpose. For example, chemical propellants in aerosol oven cleaners are "inert" because they are not part of the oven-cleaning action.

Air Fresheners and Deodorizers

Most air fresheners and deodorizers work by desensitizing your sense of smell, coating your nasal passage with an oil film or masking the unpleasant odor with another odor. Little is known about the health and environmental effects of these chemicals. Aerosol spray air fresheners also release propellant chemicals.

Bleach

Chlorine bleach is extremely reactive. **Never mix bleach with ammonia**, or other cleaning products unless the label specifically permits it. Toxic gases result when chlorine bleach is added to ammonia and when chlorine bleach is added to acidic products such as some drain, toilet bowl and metal cleaners. These toxic fumes have killed people.

Cleaners for Rugs and Upholstery, Dry Cleaning Fluids

Many of these products contain chemical solvents. Some solvents are extremely flammable. Others can irritate your skin and eyes, and make you sick if you breathe or consume them.

Solvents dry quickly but their vapors linger in the air, where you breathe them unless there is good ventilation. When using such products, be sure to have windows open and circulate plenty of fresh air. Organic solvents can cause long-term health damage if present in drinking water even in very small quantities. Consumers should be careful to use up products containing solvents before disposing of the containers. For more information, see G3027, *Solvents—Hazardous Chemicals in the Home*, a publication in this series.

Detergents

Detergents have received much attention as water pollutants because some laundry detergents, especially those for automatic dishwashers, contain phosphates. Some of the chemicals used to replace phosphates are caustic and pose a greater human health hazard when accidentally ingested than high-phosphate detergents.

Laundry products contain various chemicals. Some contain enzymes that cause allergic reactions in sensitive people. Many contain perfumes and brighteners. To reduce the release of such chemicals to the environment, use detergents conservatively. Use clothes and dish washers only when you have a full load to clean.

Disinfectants and Pesticides

Disinfectants are pesticides used to control bacteria. Many different chemicals are used as disinfectants. Some disinfectants contain strong chemicals whose long-term health effects are unknown but may be harmful. Use disinfectants conservatively and with caution, especially spray disinfectants that disperse these toxic chemicals into the air where you can easily breathe them. For more information, see G3026, *Pesticides—Hazardous Chemicals in the Home*, a publication in this series.

Drain Openers

Drain openers are highly corrosive. Never let them splash into your eyes or touch your skin. If this happens, rinse the exposed area for 10 to 15 minutes with water and call a Poison Center or a doctor.

Never mix drain openers with another brand or with bleach; these mixtures produce chemical reactions that release toxic fumes that can be lethal. Before using chemicals, consider using a mechanical means of opening a drain. Don't add a drain opener to a toilet bowl that contains toilet bowl cleaner.

Oven Cleaners

Oven cleaners contain very strong, corrosive chemicals. If oven cleaning products come into contact with skin, eyes and breathing passages, they can cause severe damage. Aerosol sprays transform these caustic oven cleaners into a fine mist that may penetrate into and damage lung tissue if you breathe them.

Polishes and Furniture Oils

Polishes come in several forms and different chemicals are used to help apply polish to furniture. Organic solvents that carry or dissolve the polish are often health hazards. These solvents may be identified as "inert" ingredients on the label. Hardwood floor cleaners and furniture oils also contain a high percentage of organic solvents. Maintain good ventilation when you apply polishes and oils, and avoid breathing the fumes. Keep furniture oils out of

children's reach because the pretty colors and scents have lured some to drink such products. For more information, see G3027, *Solvents—Hazardous Chemicals in the Home* a publication in this series.

Shoe Care Products

Many types of strong chemicals are used in shoe cleaners, dyes, water repellents, leather conditioners and similar products. Some include chemical solvents suspected of causing health problems. Use liquid and aerosol shoe care products with utmost caution, preferably outside. For more information, see G3027, *Solvents—Hazardous Chemicals in the Home* a publication in this series.

What the Consumer Can Do about Hazardous Products

If a household cleaning product or polish causes you or your family health problems, you can report those problems to governmental consumer agencies (toll-free numbers given below) and the manufacturer. Consumer agencies and the manufacturer can not correct faulty products if they are not made aware of possible dangers.

However, hazardous products with adequate warning and safety packaging are not likely to be removed from the market. **It is up to you to use each product properly and control the release of hazardous chemicals in your home**, for the sake of your health, your family's health and the environment.

Disposal of unwanted products may cause environmental damage. Encourage your local officials to develop a household product disposal education program appropriate to your community's disposal options. Community action may include a household hazardous waste collection program for unwanted chemicals for which there are no other appropriate disposal options. Dispose of disinfectants and products containing organic solvents in such a collection program.

Additional Information

Assistance and information

- Your county UW-Extension office.
- Wisconsin Department of Agriculture, Trade and Consumer Protection.

Consumer Protection Division toll-free number, 1-800-362-3020.

- Wisconsin Department of Industry, Labor and Human Relations.
Bureau of Plumbing, 608-266-3815.
- U.S. Consumer Product and Safety Commission toll-free number, 1-800-638-2772.
- To obtain information on a product you can also check the product label or your local library for the address and telephone number of the manufacturer.

Waste Disposal

- Local solid waste authority.
- District offices of the Wisconsin Department of Natural Resources (DNR) for information on hazardous waste disposal and any hazardous waste concerns.

Poison Information

You can contact Poison Centers about health effects of products and information about treating poisoning. Their telephone number appears on the inside cover of your telephone directory.

Other Sources of Information

- "Hazardous Waste from Homes," by John Lord, 1986. Available from Enterprise for Education, 1320A Santa Monica Mall, Santa Monica, CA 90401.
- "Hazardous Waste in Your Home. Here's What You Should Do!" Wisconsin DNR publication number WW-003 86 REV.
- "Household Pollutants Guide," by the Center for Science in the Public Interest, 1978. Anchor Press/Doubleday, 501 Franklin, Garden City, NY, 11530.
- "Toxicants in Consumer Products," (Report B of the Household Hazardous Waste Disposal Project, Metro Toxicant Program #1) by Susan Ridgely, 1982. Available from David Galvin, Municipality of Metropolitan Seattle—Toxicant Control Planning Section, 821 2nd Ave., Seattle, WA 98104.

This is part of a three part series. Other UW-Extension publications in the series are G3026, *Pesticides—Chemical Hazards in the Home* and G3027, *Solvents—Chemical Hazards in the Home*.

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