

Green Cleaning Methods for Your Home

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INTRODUCTION

We often think of our home as a safe place, protecting us from the harms of the world. It's hard to imagine that many products we use every day in our homes can be toxic. We often think of toxic chemicals as pesticides, pharmaceuticals, automobile fluids, or industrial waste. However, a number of the products we use in our homes contain chemicals that are toxic and can become hazardous. These products line the shelves in our kitchens, bathrooms, utility rooms, and garages.

IS THE PRODUCT HAZARDOUS?

A substance is potentially hazardous if it can cause injury to people who are exposed to it, even if it requires large amounts to do so. To ensure that the toxic substances you are handling do not become hazardous, it is extremely important to practice safe handling and usage methods.

According to the U.S. Environmental Protection Agency (EPA), hazardous products have one or more of four characteristics:

- **Ignitability**, or something flammable.
- **Corrosivity**, or something that can rust or decompose.
- **Reactivity**, or something that can explode.
- **Toxicity**, or something poisonous (EPA, 2018).

How do you know if the product is hazardous? Check the product label. Many household products used for household cleaning, car care, or yard care can be flammable, corrosive, reactive, or toxic. Signal words on the label are

- **CAUTION**—indicates the lowest level of hazard.
- **WARNING**
- **DANGER**—indicates the highest level of hazard.



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HOUSEHOLD CLEANERS

Many common household cleaning products contain caustics or solvents. When these products are used, stored, or disposed of improperly, they can threaten our family's health or damage the environment.

Caustic chemicals are found in such household cleaners as bleach, drain cleaners, oven cleaners, and scouring powders. These products can burn and severely damage the skin and eyes.

Solvents are fast-drying substances that dissolve another substance. Solvents include furniture polish, paint thinners, silver cleaner, spot removers, and wood floor wax. Inhaling or accidentally ingesting these products can be harmful or even cause death. Long-term exposure to some solvents may cause birth defects, cancer, central nervous system disorders, and liver and kidney problems.

Why do we use potentially hazardous products? Time and convenience are the primary reasons. In days past, sinks were scrubbed with baking soda. Extra effort was needed to maintain a stain-free sink. Wood floors were cleaned with oil and vinegar, or just mineral oil. This eliminated the need for wax, but required more work.

There are a number of choices you can make to reduce both your risk of exposure to hazardous household products and the number of hazardous products you use. By using the alternative non-toxic methods found in this guide, you will create a safer, healthier home.

WASTE DISPOSAL

Be aware of the hazards indicated on the label before using the product. Carefully follow directions for use, storage, and disposal. Refer to the manufacturer's directions for proper disposal. The best disposal route for hazardous products is to purchase only the amount you will use. For excess or unused product, check with your local environmental, health, or solid waste agency for information on household hazardous waste management options in your area.

General Rules for Managing Household Hazardous Products

- Select the least-toxic products for your home.
- Buy only as much as you will use.
- Read the label. It will list
 - ingredients;
 - instructions for use, storage, and disposal; and
 - hazards associated with use.
- Avoid aerosol spray cans whenever possible. Buy liquid, paste, or powder forms of products.



To avoid leftovers, share household products with a friend.

SAFETY CONSIDERATIONS FOR HOUSEHOLD PRODUCTS

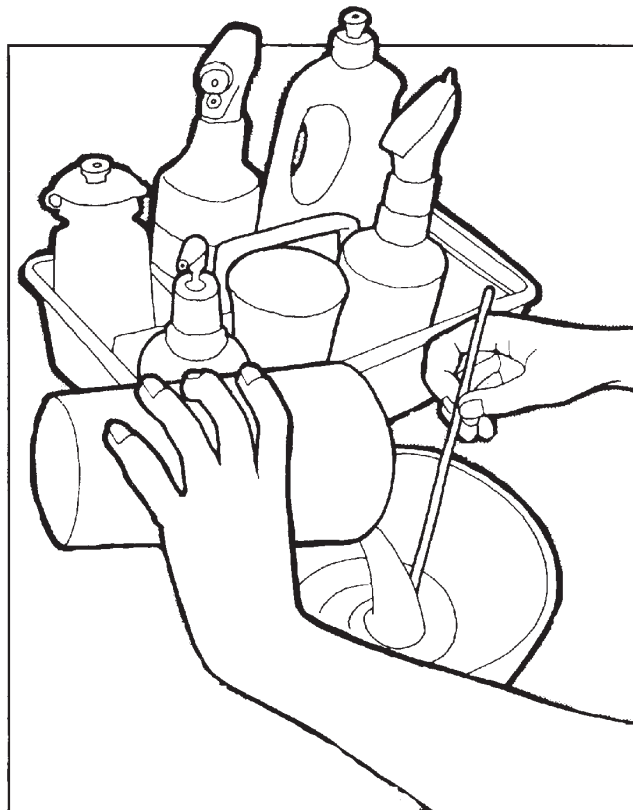
- Never mix chlorine bleach with any other cleaning agent, such as ammonia or vinegar. It can create toxic fumes.
- Store all cleaning solutions out of reach of children.
- Avoid accidental poisoning by never transferring a product to a food or drink container.
- Label all containers. If you need to separate any portion of the product from its original container, be sure to duplicate the entire label and attach it to the new container.
- Always mix cleaning solutions in a well-ventilated area.
- Immediately clean up after using potentially toxic substances.
- Never smoke or eat when handling hazardous materials.
- Keep the container closed. Harmful fumes may escape from an open container.

GREEN CLEANING OFFERS SAFER ALTERNATIVES

There are many safer alternatives to using hazardous household products. Some of these alternatives are as simple as immediately cleaning spills with water or club soda, or using full-strength vinegar or lemon juice to remove rust stains or hard water deposits. In some cases, using these alternatives may require more physical effort in order to get the desired outcome. However, the efforts result in a healthier home.

Reducing the amount of hazardous products you purchase saves you money and also eliminates the threat of accidental exposure and pollution of the environment. You may decide to scrub your sink with baking soda, or use a natural pesticide by spraying your plants with a mixture of pepper and garlic water. Understanding the basic substitutes, formulas, and procedures will give you alternatives to using chemicals in your home.

Most households have the basic ingredients for safer substitutes. If not, they are often available at local retail, garden, or home improvement stores, or can be purchased online. To help you get started, use Table 1 for information on how to start making your own healthy cleaning products. Table 2 lists places where you can buy many of the ingredients needed to make cleaning products.



Alternatives to hazardous household products can be prepared by you.

Table 1. Relatively Toxin-free Household Cleaning Product Alternatives	
Air Fresheners	<ul style="list-style-type: none"> • Open the windows, use an exhaust fan, or both. • Use the air conditioner to dry the air and keep odors down. • In a pump spray bottle, mix 1 teaspoon baking soda, 1 tablespoon vinegar, and 2 cups water. After the foaming stops, replace the sprayer and shake well. Spray this mixture into the air for instant freshness. • Sprinkle baking soda in odor-producing areas. • Place an open box of baking soda in the refrigerator to absorb food odors.
Aluminum Cleaners	<ul style="list-style-type: none"> • Make a paste by mixing 4 parts whiting (calcium carbonate, found in paint stores or home improvement stores) with 1 part soap jelly (find the soap jelly recipe in the <i>General Purpose Cleaners</i> section of this publication). Use a sponge with a scrubbing side or a soft steel wool pad to scour badly damaged aluminum pots, pans, and other household wares. Rinse well. • Mix 8 tablespoons cream of tartar and 8 tablespoons baking soda with 4 ounces vinegar. Stir the mixture into a paste. Mix in 4 tablespoons soap flakes. Apply the paste to the aluminum surface using a damp sponge. Rinse the aluminum with warm water. Repeat the process if necessary. • Brighten a discolored aluminum pan by boiling it for 5 to 10 minutes, or up to 20 minutes, in one of the following solutions until the discoloration disappears: <ul style="list-style-type: none"> – 2 tablespoons vinegar and 1 quart water – 2 tablespoons cream of tartar, 1/2 cup vinegar, and 1 quart water • Dip a lemon slice in salt. Use the salted side of the lemon to scrub the pot or pan to remove oxidation. Rinse and wash well to remove any lemon or salt residue (Trejo, 2013).
Bathroom Cleaners/Disinfectants	<ul style="list-style-type: none"> • Mildew and other stains can be removed from grout with a solution of 1/2 cup bleach and 1 cup water. Let stand 5 minutes and rinse with clear water. • Scrub with washing soda (sodium carbonate). • Scrub with borax (sodium borate).

Table 1. Relatively Toxin-free Household Cleaning Product Alternatives (cont.)	
Brass and Copper Cleaners	<ul style="list-style-type: none"> • Make a paste using: <ul style="list-style-type: none"> – 1 pint soap jelly (find the soap jelly recipe in the <i>General Purpose Cleaners</i> section of this publication) – 1 cup whiting – 1 teaspoon household ammonia Add whiting and ammonia to soap jelly before it congeals, and beat together. After using the paste, wash articles in hot, soapy water, then rinse and dry. • Tarnished copper can be cleaned with salt dissolved in either heated white vinegar or lemon juice. • Brass with antique finish can be polished with boiled linseed oil or lemon oil.
Carpet and Rug Cleaner	<ul style="list-style-type: none"> • Clean the carpet on a sunny day. Open the windows to speed up drying. Don't soak the carpet because it may mildew. • Always test the cleaning product first on an inconspicuous area to check for possible discoloration. • Mix 1 cup white vinegar with 2 cups water. Sponge the stained area. • Prepare 1/4 teaspoon liquid dishwashing detergent and 1 cup lukewarm water. Thorough rinsing is necessary to remove detergent residues that may cause rapid soiling. • Mix 2 tablespoons household ammonia with 1 cup water.
Ceramic Tile Cleaner	<ul style="list-style-type: none"> • Prepare a mixture of 2 tablespoons trisodium phosphate (TSP) and 1 gallon water. Apply to tile and grout with a brush or cloth. Remove dirty water with a sponge or cloth. Needs no rinsing unless higher concentrations of TSP are used for heavy cleaning. • Mix 1 gallon warm water with 1/4 cup white vinegar, and add a small amount of dish soap.
Drain Cleaners	<p>To keep drains clean:</p> <ul style="list-style-type: none"> • Cover drains with screens. • Pour 1/2 cup baking soda followed by 1/2 cup vinegar into the drain. Wait 10 minutes. Pour hot water down the drain. <p>To unclog drains:</p> <ul style="list-style-type: none"> • Mix 1 cup each baking soda, salt, and white vinegar. Wait 15 minutes. Pour mixture in drain and flush thoroughly with boiling water. • Use a rubber plunger or plumber's snake if drain is seriously clogged.
Furniture Polish	<ul style="list-style-type: none"> • Dust with cloths that gather dust rather than scatter it. Make dust cloths by putting cloths in a tin container or jar with a few drops of oil or wax. Cover tightly and leave overnight. The cloths will absorb just enough oil or wax to remove dust and polish the surface at the same time. • For a lightweight polish, use 3 parts vinegar to 1 part lemon or olive oil. For a heavy-duty polish, use 1 part vinegar to 3 parts lemon or olive oil. • Use lemon or olive oil, and beeswax. <ul style="list-style-type: none"> – Use 2/3 cup beeswax and 3 cups olive or lemon oil. – Place both the beeswax and the oil into a double boiler. – Heat on medium heat until the beeswax is completely melted. – Pour into a clean and dry wide-mouth container. – Cool at least 2 hours before using. Product should be semi-soft. • Mix 2 teaspoons lemon oil with 1 cup mineral oil in a glass or plastic container, or in a spray bottle. • Mix 1 tablespoon mild soap powder, 1 quart water, 1 tablespoon household ammonia, and 2 tablespoons boiled linseed oil or a good furniture polish. • Mix equal portions of denatured alcohol, strained fresh lemon juice (not canned or frozen), olive oil or boiled linseed oil, and gum turpentine. Shake mixture each time before using. This polish keeps indefinitely.

General Purpose Cleaners	<ul style="list-style-type: none"> • Soap jelly (used in other formulas). To make, dissolve 1 cup shaved soap or soap flakes in 1 quart boiling water. When entirely melted or dissolved, pour into a wide-mouth jar. Let stand in a cool place until it gels. • Mix 1/2 cup vinegar with 2 tablespoons salt and 1/2 cup water. • Mix 2/3 cup vinegar with 1/3 cup water. • Use baking soda on a damp sponge (rinse with water and polish to shine). • Most soap pads can be used (for example, SOS or Brillo pads). • Rub with half a lemon dipped in borax. • Mix 2 tablespoons ammonia, 2 tablespoons liquid detergent, and 1 quart warm water.
General Purpose Metal Polish	<ul style="list-style-type: none"> • Use 1/2 cup household ammonia, 1/2 cup denatured alcohol, and 1 cup diatomaceous earth powder. Mix ammonia and alcohol. Stir in the diatomaceous earth. Add water to make a creamy mixture. Store in a bottle that has been labeled. Shake before using.
Metal Cleaner: Iron	<ul style="list-style-type: none"> • Sprinkle the iron pot or pan with baking soda and some water. Scrub with a brush or wire pad. Rinse. Repeat as necessary. • Sprinkle the iron pot or pan with baking soda. Boil the item in soda water (sodium bicarbonate solution) for a few minutes to clean. • Sprinkle the iron pot or pan with baking soda. Combine 1 cup hot water and 1/3 cup vinegar. Pour the solution onto the baking soda. Scrub with a brush or wire pad. Rinse. Repeat as necessary. • Remove rust from iron using steel wool, Scotch-Brite pads, or scouring powder. • Before storing untreated iron or steel pots and pans, coat with salt-free fat or oil, wrap in paper, and store in a dry place.
Oven Cleaners	<ul style="list-style-type: none"> • Wipe away grease and spills immediately after using the oven. For charred spills, remove using a non-metallic bristle brush. If the oven is wiped out after each use, there will not be a need to use harsh chemicals for cleaning. • To remove baked-on grease and spills, wet the area with water and scrub with a baking soda, salt, and water paste. Or, wet the area, sprinkle with dry baking soda and let sit for 5 minutes. Then scrub with a damp cloth, or rub gently with a fine steel wool pad. (Note: Do not let baking soda touch wires or heating elements.) • Scour racks and burner inserts with steel wool.
Painted Surfaces	<ul style="list-style-type: none"> • Gloss enamel-painted walls are easier to clean than flat-painted walls because they can withstand stronger washing solutions. • Dust all painted surfaces thoroughly before washing. Start at the top of the wall when cleaning and work your way down. To prevent streaking, wash, rinse, and dry a small area at a time. • For general cleaning, use a mixture of soap jelly (find the soap jelly recipe in the <i>General Purpose Cleaners</i> section of this publication) or liquid dish detergent. Add enough warm water to make light suds. Dust, then wash with a soft cloth dipped in the cleaning solution. Wring out the cloth to remove excess water. After washing, rinse well with clean water and dry with a soft cloth. • For tough stains, mix 1 cup ammonia, 1/2 cup vinegar, and 1/4 cup baking soda with 1 gallon warm water. Clean the wall using a sponge. Rinse with clean water and dry with a clean cloth. Wash only a small area at a time. • Whiting paste will remove fingerprints and clean heavily soiled places. Make the paste by mixing 4 parts whiting (calcium carbonate) with 1 part soap jelly (find the soap jelly recipe in the <i>General Purpose Cleaners</i> section of this publication). Apply the paste with a soft cloth, rubbing lightly, then rinse with clean water and wipe dry. Store the paste in a small sealed jar.
Silver	<ul style="list-style-type: none"> • Note: This procedure should not be used for silver jewelry or flatware with hollow handles. <ul style="list-style-type: none"> – Cover the bottom of an aluminum or enameled pan with aluminum foil. – Add water to a depth of 2 to 3 inches (enough to cover silver with water). – Add 1 teaspoon baking soda and 1 teaspoon salt. – Heat until water boils. – Add tarnished silver and boil 3 minutes. – Remove silver, wash in soapy water, and polish dry.

Table 1. Relatively Toxin-free Household Cleaning Product Alternatives (cont.)

<p>Toilet Bowl Cleaner</p>	<ul style="list-style-type: none"> • Note: NEVER mix ammonia and bleach because mixing these chemicals produces an extremely dangerous toxic vapor. • Pour 1/2 cup liquid chlorine bleach into toilet bowl. Let stand for at least 30 minutes. Scrub with toilet brush. Flush. • Pour 1 cup vinegar over the stained area of the toilet. Sprinkle 1 cup borax over the vinegar. Allow to soak for at least 2 hours. Use a toilet brush to clean. Flush. • Mix 3 tablespoons lemon juice (about one freshly squeezed lemon) with 3/4 cup borax. Sprinkle the mixture into the toilet bowl. Scrub with toilet brush. Flush.
<p>Upholstery</p>	<ul style="list-style-type: none"> • Blot up stains as quickly as possible. Do not rub. Prompt attention to stains increases success in removing them. Even stain-resistant finishes offer only temporary protection. • Mix 1/2 cup mild liquid dishwashing detergent with 1 pint boiling water. Let cool. Whip into a thick foam using an electric mixer. Test a small area before proceeding. <ul style="list-style-type: none"> – Apply the foam to the fabric with a damp sponge. – Wipe off the suds with a clean cloth. – To rinse, add 1 cup white vinegar to 1 gallon lukewarm water. Rinse well, using as little liquid as possible. Change the water often. – Apply pressure on a clean white towel or cloth to remove the moisture—do not rub. • Cleaning codes are listed on furniture tags for appropriate care. If your furniture is not coded, test the fabric for damage or color change on a hidden part of the furniture before spot cleaning. The codes are: <ul style="list-style-type: none"> – W: Spot clean with the foam only of a water-based cleaning agent such as mild dish detergent. – S: Spot clean using solvent only. Use sparingly in a well-ventilated room. Use water-based solvent cleaners. Solvents may cause spotting and/or excess shrinkage. Water stains may become permanent. – S-W: Spot clean with solvent or water-based foam. – X: Clean fabric only by vacuuming or light brushing to remove soil. Do not use liquid cleaning agents of any type. • If codes are not available, call a professional cleaner (University of Illinois Extension, 2018b).
<p>Window and Mirror Cleaner</p>	<ul style="list-style-type: none"> • General directions: Remove surface soil with a paper towel or soft cloth. Apply cleaning liquid with a sponge. Rub dry and polish with a paper towel, newspaper, or clean cloth. • On windows, rub the inside in one direction and the outside in another to determine which side of the windows the streaks are on. • Mix 1/4 cup cornstarch, 1/2 cup ammonia, and 1 cup vinegar in a jar. When using vinegar, wear gloves, if necessary. Vinegar is a mild acid. It will remove rust or lime deposits on the outside of windows. • In a spray bottle, mix 1 cup distilled vinegar with 1 cup water. Spray on window or glass. Dry using a paper towel, newspaper, or clean cloth. • Combine 1/4 cup cornstarch with 1/4 cup distilled vinegar. Mix well. Apply to windows or glass. Let dry. Remove with a paper towel, newspaper, or clean cloth. • Combine 1/2 teaspoon liquid dish soap, 1/4 cup distilled vinegar, and 2 cups water. Soak a sponge or small cloth in the mixture. Wring out excess liquid. Wipe spots and smears from windows or glass with a paper towel or clean cloth. Store any excess window cleaner in a glass jar with a tight-fitting lid. • Add 2 tablespoons vinegar to 1 quart water. Apply with wadded-up newspaper. • Mix 3 tablespoons ammonia, 1 tablespoon white vinegar, and 3/4 cup water in a clean spray bottle. Spray and rub off with a paper towel, newspaper, or clean cloth.

Ammonia	Retail store, supermarket, pharmacy
Baking soda (sodium bicarbonate)	Retail store, supermarket, pharmacy
Boiled linseed oil	Hardware store, home improvement centers
Borax	Retail store, supermarket, pharmacy
Cream of tartar	Retail store, supermarket, pharmacy
Denatured alcohol	Retail store, supermarket, pharmacy, hardware store, home improvement centers
Diatomaceous earth	Pool chemical supply, garden centers, home improvement centers, livestock feed stores
Fuller's earth	Retail store, internet resources
Gum turpentine	Hardware store, home improvement centers, pharmacy
Salt (sodium chloride)	Retail store, supermarket, pharmacy
Trisodium phosphate	Hardware store, home improvement centers, pharmacy
Vinegar	Retail stores, supermarket
Washing soda, also known as soda ash (sodium carbonate)	Retail stores, supermarket, internet resources
Whiting (calcium carbonate)	Hardware stores, home improvement centers, paint stores, internet resources

ADDITIONAL TIPS FOR A HEALTHY HOME

- Practicing a regular home maintenance and cleaning plan will reduce the amount of cleaning products and hazardous household products needed. For example, roaches and other insects are discouraged by good housekeeping practices.
- Store food in sealed containers.
- Wipe up spills immediately.
- Bathe pets frequently to eliminate fleas.

IN CASE OF EMERGENCY CALL

The New Mexico Poison and Drug Information Center: 1-800-222-1222

RESOURCES

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