

New Mexico  
Environment Department

## Safer Alternatives to Hazardous Household Products



New Mexico  
Environment Department  
Solid Waste Bureau  
1190 Saint Francis Drive  
P.O. Box 5469  
Santa Fe, New Mexico 87502

Phone: 505-827-0197  
Fax: 505-827-2902  
<http://www.nmenv.state.nm.us/SWVB/>

# Ingredients for Less Toxic Cleaners

Save money and protect your family and the environment by using these safe and simple ingredients to clean your home.

**Baking soda (sodium bicarbonate):** Absorbs odors and is a mild abrasive. Found in the baking section of the grocery store.

**Glycerin:** Found in pharmacies or health food stores, this water-loving liquid has antiseptic qualities and moisturizes the skin.

**Hydrogen peroxide:** Disinfectant. Use the household concentration (3 percent) typically found in pharmacies.

**Liquid soap:** Vegetable-oil-based soap sometimes referred to as castile soap. Found in most health food stores. Dr. Bronner's is a popular one.

**Liquid detergent:** Most dishwashing liquids are detergents. Try purchasing vegetable-oil-based soaps, which can be more environmentally friendly than petroleum-based products. Vegetable-oil-based soaps can be found in health food stores. Petroleum is a limited resource (unlike vegetable oils) and its extraction and refining causes pollution.

**Vinegar:** Removes soap scum, grease and mineral deposits and acts as a deodorizer. Use only white distilled vinegar for most of these recipes. You can try apple cider vinegar for windows, since it has a more pleasant scent.

**Washing soda (sodium carbonate):** It is slightly caustic and a great grease cutter. Don't use it on waxed floors (unless you want to remove the wax), fiberglass or aluminum. Found in the laundry section, made by Arm & Hammer.

**Essential oils:** Mostly used for deodorizing or scented cleaners. Essential oils, such as mint, eucalyptus, lavender, lemon and tea tree, can be found in health food stores or herbal supply shops. Tea tree oil is currently in the process of being registered as a disinfectant in this country. Non-toxic in small quantities, this oil may be toxic in concentrated forms. Keep out of the reach of children.

**Tip:** Be sure to put all mixtures in clearly marked containers. Do not store mixtures in food or beverage containers. Children may mistake the contents for food or drink.

Notes



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**How can you tell if a commercial product is relatively non-hazardous? Read the label!**

1. Check for warning words like "danger" and "warning." Try to select products with no warning words or the word "caution" - this means the product is less toxic or non-toxic.
2. Are all of the ingredients listed? Be aware if the product only lists "active" ingredients; if other ingredients are not listed, you have no way of knowing their potential effects.
3. Know your ingredients. Many of the products listed above have easy to understand ingredients: soap (vegetable-based surfactants), orange oils (also known as d-limonene), vinegar, water, alcohol, lauryl sulfate (usually coconut derived) and sodium citrate (related to citric acid in lemons).
4. Detergents are synthesized chemicals that are petroleum-based and work the same way that soap does; only they are not as earth-friendly.
5. Avoid chlorinated compounds, petroleum distillates, phenols and formaldehyde. Words such as ethylene/ethyl, butyl/alkyl, benzene, phenols and formaldehyde indicate a product with ingredients that are potentially harmful to health or the environment.

#### **What to do with old products**

- Use up toxic cleaning products for their intended purpose.
- Share products (in the original container only) with neighbors.

**Remember: Always store hazardous products in a safe manner.**

Some communities have permanent household hazardous waste collection facilities. Call your local solid waste manager or the Solid Waste Bureau at 505-827-0197 for information regarding the communities with permanent household hazardous waste collection facilities or to find out if there is a community collection event scheduled soon in your neighborhood.

Also, check out the Solid Waste Bureau web page for additional information.

New Mexico Solid Waste Bureau web site:  
<http://www.nmenv.state.nm.us/SWB/>

## **General Cleaners**

These recipes for safe and simple all-purpose cleaners, glass cleaner, disinfectants and hand cleaners can help you save money and protect your family and the environment.

#### **All-purpose cleaners**

Mix ingredients for each recipe in a spray bottle. Use for cleaning countertops, floors, walls, carpet and upholstery.

- Dissolve 4 tablespoons baking soda in one quart of warm water.
- Add 1/2 cup vinegar to between 1 cup and 1 quart of warm water.
- Combine 1/4 cup distilled white vinegar, 1/2 teaspoon liquid soap and 3/4 cup warm water. Shake to blend. For really big jobs, combine 1/2 cup distilled white vinegar, 1/4 cup liquid soap and 2 gallons of warm water in a pail and stir to blend.

#### **Abrasive cleaner**

Use baking soda or a non-chlorinated scouring powder such as Bon Ami.

#### **Grease cleaner**

Mix vinegar and salt together for a good surface cleaner. This mixture will remove grease if the vinegar is at full strength.

#### **Disinfectants**

For kitchen cutting boards and bathroom fixtures use a spray of distilled white vinegar followed by a 3 percent peroxide spray. Wipe clean.

Rubbing alcohol also is a disinfectant. It is extremely flammable; use in a well-ventilated area far from possible sources of ignition. Wear nitrile gloves. Apply with a sponge and allow to dry.

#### **Glass cleaner**

Combine 1 quart warm water with 1/4 cup white vinegar or 2 tablespoons lemon juice (use both vinegar and lemon if you want the cleaning abilities of vinegar with the scent of lemons).

Mix ingredients and store in a spray bottle. Use as you would any glass cleaner (add a drop or two of essential oil for a pleasant scent).

**Tip:** Invest in a squeegee. It is a great tool for cleaning windows. A razor blade also is a good tool for scraping off dirt or paint before cleaning.

### **Crayon mark remover**

To remove crayon marks from walls, floors, counters, cabinets and furniture, rub area with toothpaste and a damp cloth. Do not use on non-vinyl wallpaper.

### **Room/air freshener**

After you locate the source of the odor problem and take corrective action, try opening a window and circulating air with a fan or air conditioner. If odors persist, try one of these ideas:

- Simmer cinnamon and cloves in water.
- Pour vanilla extract on a cotton ball and place in a small dish. Use in your car, home or refrigerator.
- Place cut lemons or baking soda in a dish.
- Set out a dish of vinegar or boil 1 tablespoon white vinegar in 1 cup of water to eliminate unpleasant cooking odors.

### **Hand cleaners**

To remove heavy grime combine 4 ounces of beach sand, 1 ounce of pumice powder and enough glycerin to moisten the mixture in a labeled screw top jar. Use about 1 tablespoon at a time, rubbing into the hands thoroughly.

### **Hand wash disinfectants**

- The Environmental Protection Agency recognizes soap as a legitimate disinfectant. There are many vegetable-oil-based soaps available at supermarkets and health food stores.
- Tea tree oil is antibacterial and antifungal. Add 10 drops of tea tree oil to 4 ounces of liquid castile soap. Shake to stir or blend in a pump container.

## **Laundry Cleaners**

These recipes for less-toxic soap, fabric softeners, deodorizers and bleaches, stain removers, and moth repellants can help you save money and protect your family and the environment.

### **Laundry soap**

Commercially formulated laundry detergents that are more environmentally friendly are available. Seventh Generation, Ecover, Life Tree and Earth Friendly Cleaner provide concentrated, vegetable-oil-based (not petroleum) laundry soaps without synthetic fragrances.

- Gloss or semi-gloss enamels are less likely to be damaged by cleaning than flat latex paint. Test cleaning solution in an inconspicuous area first. If wall color and finish look the same only cleaner, go ahead and use.

### **Washing Procedure**

1. Before washing, dust or vacuum walls to remove loose soil.
2. Use one bucket for washing solution and one for rinsing, and a large cellulose sponge for each bucket.
3. Wear rubber gloves to protect hands.
4. Start washing at the bottom and work up, so cleaning solution does not run down the dirty wall and cause streaks that are hard to remove.
5. Rub gently to avoid damage to paint.
6. Wash and rinse one area; then do the next overlapping area.
7. After cleaning several sections, dry off excess moisture with a soft absorbent cloth or towel.

## **Shopping Tips**

You can purchase ready-made cleaning products that are less hazardous than many traditional household cleaners. Look in the health or natural food sections of your grocery store, or visit a store that specializes in these types of products. Some brand names that feature "earth-friendly" product lines include:

- Bi-O-Kleen
- Citra-Solv
- Earth Friendly Products
- ECOS
- Planet
- Seventh Generation
- SoapWorks



Some less-toxic products can also be found in the regular cleaner's aisle: FantastiK Herbal Mist All Purpose Cleaner, Bon Ami cleanser, Murphy's Oil Wood Soap, Pure Citrus natural citrus cleaner.

## Other Less Toxic Ideas

Less toxic ways to light charcoal, remove rust, dry out damp areas and clean walls can help you save money and protect your family and the environment.

### Charcoal lighter

Use a metal cylinder charcoal chimney starter or electric charcoal lighter instead of starter fluid.

### Glue

- Use Elmer's-type white glue or yellow carpenter's glue for wood, china, paper and other porous materials.
- Use a glue stick or paste rather than rubber cement.

### Paint

Use latex water-based paints and apply with a brush or roller whenever possible.

### Paint stripper

- Use a scraper, rasp or abrasive block, heat gun or sandpaper to remove paint without chemicals.
- Use water or alkali-based paint strippers rather than solvent-based products.

### Dry out damp areas

To prevent development of mold in damp areas, use kitty litter for its moisture absorbent properties. Place bowls of it in damp areas. Replace with fresh litter every week or so. (And keep the kitties away!)

### Wall and wallpaper cleaner

- For wallpaper, refer to the manufacturer's guidelines first.
- Stains should be removed as soon as possible. If soil remains on wallpaper too long, permanent discoloration may result. To avoid discoloration, don't rub spots.
- Ordinary dirt spots can be removed with a mild soap (e.g., castile soap) and warm water. Rinse thoroughly with clean water. Blot wallpaper dry with a soft lint-free towel. For more difficult stains that are only surface deep, use a stronger detergent (e.g., liquid vegetable-oil based laundry detergent). Test on an inconspicuous spot first, and always rinse after applying a detergent.

- Add 1/2 cup borax or washing soda to the wash cycle as a booster for cleaning heavily soiled clothes.

### Fabric softener and deodorizer

Add 1 to 2 cups of vinegar to rinse cycle to deodorize and soften fabrics.

### Fabric deodorizer and whitener

Add 1/2 cup of baking soda to rinse cycle to deodorize and brighten clothes.

### Stain removers

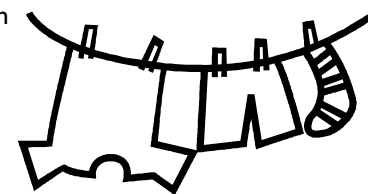
- Mix 1 part liquid vegetable-oil-based soap, 1 part glycerin and 8 parts water. Pour into a squirt bottle; shake well before using. Apply to stain as soon as possible. Wash and rinse in cool water only. Do not use hot or warm water on sugary stains.
- Mix equal parts vinegar and water. Use to remove tough stains including grass, perspiration, rust, jam, coffee, orange juice, wine, beer, ketchup, barbecue sauce, chili, urine and pet stains.
- Use 3 percent hydrogen peroxide solution to spot clean. Let dry. Repeat if necessary.

### Bleach

Look for a commercial non-chlorine bleach or try using:

- 1/2 cup 3 percent hydrogen peroxide in the rinse cycle
- 1/2 cup washing soda to warm or hot water wash cycles
- 1/2 cup lemon juice in the rinse cycle

**Tip:** After clothes have spun dry in the washer, hang them to dry in the sun. Sunshine is a natural bleach.



### Diaper pail deodorizer

- Mix 1 cup baking soda with 1 teaspoon tea tree oil or other essential oil. Work out all lumps with a fork. Sprinkle in bottom of pail after liner is removed.
- Periodically rinse pail with vinegar and dry in the sun.

### Moth repellants

Store clean woolens in sealed plastic bags or airtight containers. Place garments in the freezer for several days to kill adult moths and larvae.

Vacuum rugs, carpets and upholstered furniture regularly.

- Combine 2 ounces each dried rosemary and mint, 1 ounce each dried thyme and ginseng, and 8 ounces of whole cloves. Blend well and make into moth-repellant sachets.
- Dry cleaning is a significant source of air pollution. Woolens can be hand-washed using a mild soap and cold water.

### Laundry starch

Combine 2 to 3 teaspoons cornstarch with 1 cup water in a spray bottle. Shake well. Use as you would commercial spray starches.

## Bathroom Cleaners

These recipes for less-toxic tub, tile and toilet cleaners can help you save money and protect your family and the environment.

### Toilet bowl cleaners

- Combine 1/4 cup white distilled vinegar and 2 cups water in a labeled spray bottle. Spray along the inside rim of the toilet. Leave on for 15 minutes before you scrub with a toilet brush.
- Pour a cup of white vinegar into the toilet and toss in a handful of baking soda to soak about 10 minutes. Swish with toilet brush.
- Combine 2 teaspoons tea tree oil with 2 cups water in a labeled spray bottle. Shake and spray along the inside rim of the toilet. Let stand for 30 minutes before scrubbing.
- Scrub regularly with a toilet brush and non-chlorinated scouring powder like Bon Ami.

**Tip:** Clean bowl thoroughly and often. Drain water from toilet bowl for better cleaning. For serious stains or rust, empty water out of bowl and scour with a wet pumice stone. When wet, the stone will not scratch porcelain.



### Brass and copper cleaner

- Mix 2/3 cup vinegar and 2/3 cup flour in a glass bowl. Add 1/2 cup salt and stir. Spread on tarnished metal. Wait 1 to 2 hours. Rinse, dry and polish with a soft cloth and a dab of olive oil.
- Combine 3 teaspoons of salt, 1 table-spoon of flour and enough white distilled vinegar to make a paste. Scoop the paste onto a clean sponge and polish bronze, brass or copper clean. Rinse with hot water and buff dry with a soft cloth.
- Soak bronze, brass or copper overnight in a solution of half white distilled vinegar, and half water. Rinse in hot water and wipe dry with a soft cloth.

### Chrome cleaner

- Mix 1/4 cup baking soda with 1 to 2 tablespoons water to make a paste. Rinse well with warm water and polish with a soft cloth.
- Apple cider vinegar also can be used to clean chrome. Polish chrome using club soda.

## Living Room Cleaners

These recipes for less-toxic furniture polish, wood and leather cleaners can help you save money and protect your family and the environment.

### Furniture polish

- Mix 1 teaspoon olive oil and 1/2 cup lemon juice. Apply with a soft cloth, rubbing into the grain. Buff with a clean corner of the rag.
- Mix 1/4 cup white distilled vinegar and a few drops of food-grade linseed oil, jojoba or olive oil. Test on wood first, and then polish.

### Wood furniture polish

Mix 3/4 cup olive or mineral oil, 1/4 teaspoon vinegar and 1/2 teaspoon lemon oil (optional) in a squirt bottle. Squirt on furniture or rag and rub into wood. Shake well before each application.

### Wood cleaning formula

Combine 1/4 cup white distilled vinegar, 1/4 cup water, 1/2 teaspoon liquid vegetable oil based soap, a few drops of jojoba or olive oil, 3 to 5 drops essential oil (optional) in a bowl. Saturate a sponge with the mixture, squeeze out the excess, and test wood surface. Rinse sponge in warm water in between washes.

### Leather cleaner

Mix 1/2 cup olive oil and 1/4 cup vinegar in a squirt bottle and shake before each application. Rub with soft cloth into leather for cleaning and conditioning. **Do not use on suede.**

## Oven cleaners

- Make a paste by mixing equal parts salt, baking soda and water. Apply to walls of oven. Let stand five minutes, then wipe clean with a damp cloth. Use a brush on heavy spills. Do not allow baking soda to touch heating elements or wiring.
- For heavier cleaning, sprinkle the bottom of the oven with baking soda to cover. Spray with water until very damp and keep moist by spraying every few hours. Let it set overnight. In the morning, scoop out the baking soda - all the grime will be loosened; rinse the oven well. Washing soda can be substituted for 1/2 the baking soda for really tough jobs, but requires more rinsing and is more caustic (wear gloves).
- Or use a non-chlorinated scouring powder such as Bon Ami, a pumice stick or a copper or steel wool scrubbing pad. A blunt knife is useful for prying up large crusty materials.



**Tip:** Prevention is the key to a clean oven. Line your oven with foil or an aluminum oven liner found in the baking section of grocery stores.

## Metal polishes and cleaners

- Use natural acids such as vinegar and lemon juice to clean aluminum, bronze, brass and copper.
- Remove the lacquer cover on new brass, bronze and copper by submerging in boiling water with a few teaspoons each baking soda and washing soda (wear gloves). *Never use baking soda on aluminum, as it will pit the surface.*

## Silver polish

Mix 1 teaspoon olive oil and 1/2 cup lemon juice; apply with a soft cloth, rubbing into the grain. Buff with a clean corner of the rag.

## Silver cleaner

- Dissolve 1 tablespoon salt and 1 tablespoon vinegar in 1 cup warm water. Submerge a 3-inch square section of aluminum foil in the solution along with the silver in the solution. The salt and vinegar react with the aluminum to eliminate tarnish. Wait 1 hour. Rinse silver and wipe dry with a soft cloth.
- Rub tarnished spots with a non-gel toothpaste and a soft cloth and rinse.

## Floor and Carpet Cleaners

These recipes for less toxic carpet cleaners and deodorizers, stain removers, floor cleaners, and heel mark remover can help you save money and protect your family and the environment.

### General carpet cleaning

Use a soap-based, non-aerosol rug shampoo. Vacuum when dry.

### Carpet odor remover

To neutralize carpet odors, sprinkle baking soda over the entire carpet. Leave on for one hour or overnight. Sweep off as much baking soda as you can, then vacuum up the rest.

### Urine remover

Mix equal parts distilled vinegar and water. Spray or sponge onto the stain. Let stand for 10 minutes or so before blotting the mixture with a sponge or paper towel. This also can be used to remove pet urine odors from other surfaces.

### Carpet and upholstery stain removers

See recipe in [laundry](#) section for stain remover.

Blot stain with club soda or cornstarch. Scrub with a dab of dish soap.

- Mix equal parts vinegar and water. Use to remove tough stains including grass, perspiration, rust, jam, coffee, orange juice, wine, beer, ketchup, barbecue sauce, chili, urine and pet stains.

**Tip:** Never use warm or hot water on stains containing sugar.

### All-purpose floor cleaner

Mix 2 tablespoons liquid soap in 1-gallon hot water. Mix, mop and wipe clean. Use less soap if streaking occurs. Wipe dry with a cloth.

### Linoleum floor cleaner

Damp mop using 1/4-cup vegetable-oil-based liquid soap in 2 gallons warm water.

### Vinyl floor cleaner

Damp mop using 1-cup vinegar in 2 gallons warm water.

### No-wax floor cleaner

Add 1/2 cup vinegar to 2 tablespoons liquid soap in 1 gallon of hot water. Mix, mop and wipe clean.

### **Tile floor cleaner**

Mix 1 cup vinegar with 1 gallon hot water. Mix, mop and wipe clean.

### **Wood floor cleaner**

- For unvarnished floors, damp mop with mild vegetable oil soap.
- Or try 1/4 cup liquid vegetable oil based soap, 1/2 teaspoon glycerin, 1/4 cup white distilled vinegar and 2 gallons warm water.
- For varnished floors, or no-wax floors such as polyurethane or Swedish finishes, damp mop using 1 part vinegar to 10 parts water.

### **Heel mark remover**

- Make a paste of 1/2-cup baking soda and enough vegetable-oil-based soap to make a paste. Test mix on a small portion of the scuffmark by washing and rinsing well.
- If the floor finish is removed, you may be able to restore it using 1/2 cup cornstarch and enough water to make a paste. Rub this mixture into the spot and let it dry. Buff to a polish .

## **Kitchen Cleaners**

These recipes for less-toxic dish cleaners, drain and disposal cleaners, deodorizers, oven cleaners and polishes can help you save money and protect your family and the environment.

### **All-purpose cleaner**

- 2 tablespoons vinegar
- 1 teaspoon washing soda
- 2 cups hot water
- 1/4 cup liquid soap

Mix everything but soap in a spray bottle and shake. Add soap last. Mix gently. Apply and wipe clean. Good for counter-tops, woodwork, appliances, etc.

### **Dish soap**

Use non-phosphate soap. Phosphates act as fertilizer - when they go down the drain, they are discharged into waterways and can cause a rapid growth of algae, which pollutes water.

**Tip:** Use half the amount suggested for your automatic dishwasher.

### **Scouring powder**

- Pour baking soda into a shaker and sprinkle in sink or on pans. Scrub with a rough pad and rinse.
- To make a heavy-duty scouring powder, combine 1/2 cup each baking soda and washing soda. This formula may scratch fiberglass. Use gloves; washing soda is caustic.

### **Scouring paste**

Mix 2/3 cup baking soda, 1/2 cup liquid soap and enough water to make a paste. Add 2 tablespoons vinegar and stir. Keep paste in a tub at the kitchen sink for scouring pots and pans or the kitchen sink itself.

### **Stain remover**

Sprinkle surface with salt and squeeze lemon or lime juice over the area. Let sit and rub out. This can even remove rust if allowed to sit a few hours.

**Tip:** Use a wet pumice stone to remove tough stains from porcelain or enamel without scratching.

### **Drain cleaner**

- Pour 1/2 cup baking soda down the drain, followed by 1/2 cup vinegar. To create pressure, immediately cover the drain and let it sit for 15 minutes. Follow with a kettle of boiling water (about 2 quarts). Use this treatment regularly to prevent clogged drains and keep them smelling fresh.
- For stubborn clogs, use a mechanical snake.

### **Kitchen sink disposal freshener**

To freshen the garbage disposal in your kitchen sink, drop in a few wedges of lemon and flip the switch. Instantly smells good.

### **Cutting board deodorizer**

Rub cut lemon onto the washed cutting board to eliminate lingering odors.

### **Garbage pail deodorizer**

- Mix 1 cup baking soda with 1 teaspoon tea tree oil. Work out all lumps with a fork. Sprinkle in bottom of pail after liner is removed.
- Periodically rinse pail with vinegar and dry in the sun.