

# OUR HOME

## A Guide to Non-Toxic Alternatives For Toxic Household Cleaners

### What makes cleaning products hazardous?

Some household cleaning products contain the most toxic ingredients we may ever encounter in our everyday lives. Accidental poisonings occur every day, through improper storage (allowing access by children and pets, leaking and unlabeled containers) and improper use (mixing products, inadequate protective clothing and ventilation). Many chemical constituents of cleaning products can pose hazards via their characteristics of toxicity, corrosivity, and flammability. Some chemicals may be an irritant and some are strong sensitizers, and many of these products are packaged in pressure-generating containers requiring specific storage requirements.



### Consumer Protection

Since 1977, the Consumer Product Safety Commission has regulated cleaning products according to the Federal Hazardous Substances Labeling Act, requiring certain identifying labels be placed on containers. This labeling system uses “signal words”, which provide information about the products’ degree of toxicity.

**Danger** = extremely flammable, extremely corrosive or extremely toxic

**Poison** = highly toxic

**Warning or Caution** = less toxic

### Consumer Choice

Cleaning products containing potentially hazardous constituents are readily available and easy to buy. Their accessibility does not imply they cannot pose a threat if unsafely used, stored or disposed. Exercise your right to choose by asking you storekeeper to include less-toxic or non-toxic cleaning products in the household cleaners section.

### Why use less-toxic cleaning products?

The City’s Waste Reduction and Recycling Division operates a program that accepts unwanted hazardous household products from Douglas County citizens. This Household Hazardous Waste (HHW) facility provides a preferred disposal option for hazardous materials that could otherwise cause harm to public health and our environment if discarded improperly. The HHW facility diverts only a fraction of pollution from occurring— it is more beneficial to educate the community about *preventing* waste in the first place. The Waste Reduction and Recycling Division has adopted waste management strategies that place source reduction as the highest priority. To reduce both the volume and toxicity of our waste stream, the HHW program recommends alternatives that are either completely non-toxic in nature or have reduced toxicity or other hazardous characteristics.



## The credibility issue: do safer alternatives really work?

Manufacturers of household cleaning products are becoming increasingly critical of information recommending alternatives. The claim homemade formulations or recipes have not undergone the same scrutiny as their products, which receive rigorous testing for efficacy and safety. Probably the greatest controversy revolves around whether recipes or non-traditional uses of the products are actually safer or better for the environment than products specifically marketed for those purposes. Granted, many wacky alternatives have been recommended that have not worked and consumer education has fallen short regarding the impacts of toxic household products in our lives — from their manufacture and use, to their disposal.

To further this discussion, we have been selective in our recommendations of safer alternatives — including only those which staff have used successfully and believe work well enough for consumers. Two specific household cleaning product categories have been targeted: 1) corrosives (some drain, oven, and toilet cleaners) due to health hazards; and 2) solvent based cleaners (some metal polishes) due to environmental impacts when dumped down a drain.

## SHOP YOUR WAY TO A SAFER HOME

<u>Alternatives</u>	<u>Uses</u>
•Ammonia	Use only when other cleaners are ineffective (i.e. on ovens). Read label carefully for safe use.
•Baking Soda (sodium bicarbonate)	All-purpose cleaner which deodorizes and softens water. Can be used as an alternative to laundry bleach.
•Borax (sodium borate)	Cleans, deodorizes and disinfects. It removes stains and boosts the cleaning power of soap. Can be used as an alternative to laundry bleach.
•Cornstarch	Cleans and deodorizes carpets and rugs. May be used as laundry starch.
•Laundry Soap	A phosphate-free, effective alternative to laundry detergent. A detergent refers to a household cleaning product based on synthetic surfactants and primarily used for laundering and dishwashing.
•Lemon Juice	Removes counter stains and mildew. Freshens air. Cuts grease and stains on aluminum and porcelain. Use with olive oil for furniture polish.
•Pure Soap	Made from animal or vegetable fat and an alkali such as sodium hydroxide or ashes, soap is a safe and biodegradable way to clean almost anything. The 'purest' soaps (without dyes, perfumes and other additives) are usually found at health food stores.
•Table Salt	Mild disinfectant. Gentle scouring powder.
•Trisodium Phosphate (TSP)	Naturally occurring mineral that can replace some detergents. Non-toxic to humans but may have environmental effects on waterways due to phosphate content. Can be found at hardware, variety or paint stores.
•Washing Soda (sodium carbonate)	Cuts grease and disinfects, boosts cleaning power of soap. Safer than commercial lye-based cleaners yet irritates mucous membranes and skin as it is quite caustic. Wear rubber gloves.
•White Vinegar	Cuts grease and wax build up. Removes odors and mildew, prevents mold from growing.

## Two Easy Alternative Recipes

### Disinfectant

Mix 1 tsp. of Borax, 2 Tbs. Distilled White Vinegar, 1/4 c. liquid soap (not detergent), and 2 c. hot water in refillable spray bottle.

### General Cleaner

Mix 1/2 c. Borax, 1/2 tsp. liquid soap, and 2 tsp. of TSP (trisodium phosphate) into 2 gal. warm water in refillable spray bottle.

## Alternatives to Other Cleaning Products

	Preventative Measure	Safer Alternative
<b>Drain Cleaner</b>	Use drain strainers to trap food particles and hair. Collect grease in cans rather than pouring down the drain. Pour 1) boiling water or 2) a handful of baking soda and a half cup of vinegar down the drain weekly.	<p><b>Drain Openers:</b> Use a plunger or mechanical snake or pour 1/2 c. Borax into drain and slowly pour in 2 c. boiling water. Flush with additional water.</p> <p><b>Non-Caustic Cleaner:</b> Mix together 1 c. baking soda and 1/4 c. cream of tartar. Label and store in covered container. To use, pour 1/4 c. cleaner into drain. Add 1 c. boiling water. Let sit 10 minutes. Flush with cold water. Use weekly to keep drains clear (Safe for PVC pipes).</p> <p><b>Heavy Duty Cleaner:</b> Pour 1/4 c. 3 to 5% solution hydrogen peroxide down the drain. Wait a few minutes and plunge</p>
<b>Oven Cleaner</b>	Place sheet of aluminum foil on the floor of the oven, underneath, but not touching the heating element. Change when necessary.	<p><b>Cleaner:</b> Mix together in spray bottle: 2 tbs. liquid soap (not detergent), 2 tsp. borax, and enough warm water to fill the bottle. In cool oven, spray close to surface so solution doesn't get into the air. Leave on for twenty minutes. Scrub with steel wool and non-chlorine scouring powder. Wear protective gloves and eyewear.</p> <p><b>Heavy Duty Overnight Cleaner:</b> Pour 1/2 c. Ammonia into a measuring cup and place in cool oven. Close oven door and leave overnight. Next day remove ammonia. Mix 2 tbs. dish-washing liquid and 2 qt. hot water in large pot. Use plastic mesh scrubber to wash out loosened grease and grime. Rinse with clear water.</p> <p><b>Note:</b> Only use household concentrations of ammonia (5-10%) as they are considered irritants rather than corrosives. Wear protective gloves, eyewear and use in ventilated area.</p>
<b>Toilet Cleaner</b>	Keep bathroom surfaces dry to prevent bacterial growth	<p>Mix 1/2 c. borax and 1 gallon hot water to clean deodorize and help disinfect.</p> <p>Let 1 c. borax sit in the toilet bowl over night.</p> <p>Coat stains in bowl with paste of lemon juice and borax. Let sit 20 minutes, then scrub.</p>
<b>Metal Cleaners</b>	Store silverware in enclosed container with a few pieces of classroom chalk.	<p><b>Silver</b> (Not silver plate): use paste of baking soda and water or toothpaste. Rinse with clean, warm water and polish dry.</p> <p><b>Brass</b> (Unlacquered): Dampen cloth with Worcestershire sauce. Clean and polish. The acid-salt combination in the Worcestershire sauce eats away the tarnish.</p>

## Common Sense Tips

- Test Cleaning Formulas on a hidden area such as the seam of a shirt or a blouse. Use the recommended instructions — watch for any alteration in color fabric or finish.
- Read labels before buying. Once products are home, DO NOT mix them with other products or transfer from their original labeled container. DO NOT combine homemade cleaning recipes with commercial cleaning agents.
- Label and store (if necessary) all homemade mixtures properly
- When preparing safer alternatives, mix only what is needed in clean, reusable containers.
- **Never mix chlorine bleach with any other cleaning agent, such as ammonia or vinegar (a weak acid). Toxic fumes may be formed.** When ammonia and chlorine-based products are mixed, a chloramines gas results which can cause coughing, loss of voice, burning, suffocation, and even death

## Storage

- Keep products out of reach of children and pets.
- All hazardous product containers should be tightly sealed and clearly labeled.
- Keep containers dry to prevent corrosion.
- Keep products away from heat, sparks, and flames.

## Disposal

Many cleaning products are sent down the drain with standard use. Although somewhat hazardous, small amounts of some products may be poured down the drain with lots of water. **Never pour solvent-based products** down the drain — if you can't use it up, or share with someone else, call the city to learn about Household Hazardous Waste drop-off.

Common toxic solvents found in household products include: aromatic hydrocarbons, chlorinated hydrocarbons, naphthas, petroleum solvents and mineral spirits.

**Household Hazards – Management Hierarchy**  
**Avoid buying hazardous products / Use safer alternatives**  
**Buy only what you need**  
**Use it up, or share it**  
**Dispose through household hazardous waste program**

## References Cited

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5. Guide to Hazardous Products Around the Home HHWP, 1031 Battlefield Ste. 214, Springfield, MO 65807 (417) 889-5000
6. *Safer Alternatives to Toxic Products* <http://www.norlink.net>

This fact sheet was produced by the Waste Reduction and Recycling (WR/R) Division of the City of Lawrence. The City of Lawrence and Douglas County operate a Household Hazardous (HHW) Waste Collection Program. Please call 832-3030 for more information regarding drop-off times, materials accepted and information about our Product Reuse Program. For further resources regarding this publication, please call us.