

How Toxic Is Your Household?

THE PROBLEMS

Personal Health

When consumers buy commercial cleaning products, we expect them to do one thing: clean! We use a wide array of scents, soaps, detergents, bleaching agents, softeners, scourers, polishes, and specialized cleaners for bathrooms, glass, drains, and ovens to keep our homes sparkling and sweet-smelling. But while the chemicals in cleaners make our homes gleaming and germ-free, many also contribute to indoor air pollution, are poisonous if ingested, and can be harmful if inhaled or touched. In 2000, cleaning products were responsible for nearly 10% of all toxic exposures reported to U.S. Poison Control Centers, accounting for 206,636 calls. Of these, 120,434 exposures involved children under six, who can swallow or spill cleaners stored or left open inside the home.

The most acutely dangerous cleaning products are corrosive drain cleaners, oven cleaners, and acidic toilet bowl cleaners, according to Philip Dickey of the Washington Toxics Coalition. Corrosive chemicals can cause severe burns on eyes, skin and, if ingested, on the throat and esophagus. Ingredients with high acute toxicity include chlorine bleach and ammonia, which produce fumes that are highly irritating to eyes, nose, throat and lungs, and should not be used by people with asthma or lung or heart problems. These two chemicals pose an added threat in that they can react with each other or other chemicals to form lung-damaging gases.

Fragrances added to many cleaners, most notably laundry detergents and fabric softeners, may cause acute effects such as respiratory irritation, headache, sneezing, and watery eyes in sensitive individuals or allergy and asthma sufferers. The National Institute of Occupational Safety and Health has found that one-third of the substances used in the fragrance industry are toxic. But because the chemical formulas of fragrances are considered trade secrets, companies aren't required to list their ingredients but merely label them as containing "fragrance."

Other ingredients in cleaners may have low acute toxicity but contribute to long-term health effects, such as cancer or hormone disruption. Chemicals that are so-called "hormone disruptors" can interfere with the body's natural chemical messages, either by blocking or mimicking the actions of hormones.

Environmental

After bubbly cleaning liquids disappear down our drains, they are treated along with sewage and other waste water at municipal treatment plants, then discharged into nearby waterways. Most ingredients in chemical cleaners break down into harmless substances during treatment or soon afterward. Others, however, do not, threatening water quality or fish and other wildlife. In a May 2002 study of contaminants in stream water samples across the country, the U.S. Geological Survey found persistent detergent metabolites in 69% of streams tested. Sixty-six percent contained disinfectants.

The detergent metabolites the USGS detected were members of a class of chemicals called alkylphenol ethoxylates (APEs). APEs, which include nonylphenol ethoxylates and octylphenol ethoxylates, are surfactants, or "surface active agents" that are key to detergents' effectiveness. They are added to some laundry detergents, disinfectants, laundry stain removers, and citrus cleaner/degreasers. When discharged in municipal waste water, nonylphenol ethoxylates and octylphenol ethoxylates break down into nonylphenol and octylphenol, which are more toxic and do not readily biodegrade in soil and water. APEs have been shown to mimic the hormone estrogen, and their presence in water may be harming the reproduction and survival of salmon and other fish.

Another famous water pollutant is phosphates, water-softening mineral additives that were once widely used in laundry detergents and other cleaners. When phosphates enter waterways, they act as a fertilizer, spawning overgrowth of algae. This overabundance of aquatic plant life eventually depletes the water's oxygen supply, killing off fish and other organisms. Although many states have banned phosphates from laundry detergents and some other cleaners, they are still used in automatic dishwasher detergents.



Echinacea card from Rhonda Pallas Downey's *Voices of Flowers*

THE SOLUTIONS

1. Most labels bear a signal word, such as Danger, Warning or Caution, that provides some indication of a product's toxicity. If you find them, choose products that are nontoxic enough that they require none of the signal words above on their label. Look for instructions on how to use the product, which may help you avoid injury.

2. When gauging ecological claims, look for specifics. For example, "bio-degradable in 3 to 5 days" holds a lot more meaning than "biodegradable."

3. When ingredients are listed, choose products made with plant-based, instead of petroleum-based, ingredients.

Another environmental concern with cleaning products is that many use chemicals that are petroleum-based, contributing to the depletion of this non-renewable resource and increasing our nation's dependence on imported oil.

THE SOLUTIONS

What to look for

A few safe, simple ingredients like soap, water, baking soda, vinegar, lemon juice and borax, aided by a little elbow grease and a coarse sponge for scrubbing, can take care of most household cleaning needs. And they can save you lots of money wasted on unnecessary,

specialized cleaners! For that reason, we've provided recipes for do-it-yourself cleaners under most product categories.

However, when you need the convenience or the added power of pre-made, commercial cleaners, or for the basics like laundry and dishwashing detergents, above are some shopping guidelines to help you choose products with the lowest impact on your health and the environment.

4. To reduce packaging waste: Choose cleaners in the largest container sizes available; especially seek out bulk sizes. Select products in bottles made with at least some recycled plastic.

5. Avoid cleaners marked "Danger" or "Poison" on the label, and look out for other tell-tale hazard warnings, such as "corrosive" or "may cause burns."

6. Protect water quality and aquatic life by refusing to purchase detergents containing phosphates, which may cause algal blooms, or alkylphenol ethoxylates, including nonylphenol and octylphenol.

7. Beware of unregulated "greenwash" claims on labels! Terms such as "natural" and "eco-friendly" shouldn't be equated with safety unless they're backed up with specific ingredient information, such as "solvent-free," "no petroleum-based ingredients," "no phosphates," etc.

photo by John Running



Shopping Suggestions:

Listed below are a number of cleaners that are gentler on human health and the environment. While eco-friendlier cleaners are becoming more widely available in conventional grocery and home stores, most can be found only at natural foods stores or must be ordered by mail.

All-Purpose Cleaners:

- Aubrey Organics Earth Aware, www.aubreyorganics.com
- BioShield Vinegar Cleaner, www.bioshieldpaint.com
- Seventh Generation All Purpose Cleaner, www.seventhgeneration.com
- Shaklee Basic H, www.shaklee.com

Bathroom & Toilet Bowl Cleaners:

- Earth Friendly Toilet Bowl Cleaner, www.ecos.com
- Seventh Generation Bathroom Cleaner, www.seventhgeneration.com
- Seventh Generation Glass & Surface Cleaner, www.seventhgeneration.com

Drain Cleaners:

- Earth Friendly Earth Enzymes Drain Opener, www.ecos.com
- Naturally Yours Enz-Away, 888.801.7347

Oven Cleaners:

- To remove grease and charred food residues without resorting to caustic chemicals, try soaking oven surfaces overnight in a mixture of water, baking soda, and soap, then scrubbing off with baking soda and a soapy sponge.

Dish Soaps:

- Ecover Dish Liquid, www.ecover.com
- Ecover Dishwasher Tablets, www.ecover.com
- Seventh Generation Automatic Dishwashing Gel, www.seventhgeneration.com
- Shaklee Basic-D Automatic Dishwashing Concentrate, www.shaklee.com

Disinfectants & Anti-bacterials:

Unless you have a compromised immune system or illness that may make you especially vulnerable to infection from microbes and bacteria, you probably don't need a disinfectant for most household needs.

- Household surfaces can be adequately cleaned using hot, soapy water and a little elbow grease.

- To avoid food-borne illness: Wash all foods thoroughly before preparation, and be sure to soak leafy greens, rinsing at least three times. Cook meat and eggs thoroughly (no rare beef or over-easy scrambles). Thaw frozen meats in the refrigerator. Wash all cutting boards, dishes, knives and other surfaces that touch raw meat or eggs in hot, soapy water before using on other foods that will not be cooked. Refrigerate foods within two hours of cooking.

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Tel. 928.300.4452

bodyandmindholly@esedona.net