How Toxic Are Your Household Cleaning Supplies?

The Green Guide

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 foam, bleach, and disinfect to make our dishes, bathtubs and countertops gleaming and germ-free, many also contribute to indoor air pollution, are poisonous if ingested, and can be harmful if inhaled or touched. In fact, some cleaners are among the most toxic products found in the home. 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.

Cleaning ingredients vary in the type of health hazard they pose. Some cause acute, or immediate, hazards such as skin or respiratory irritation, watery eyes, or chemical burns, while others are associated with chronic, or long-term, effects such as cancer.

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. Combining products that contain chlorine and ammonia or ammonia and lye (in some oven cleaners) produces chloramine gases, while chlorine combined with acids (commonly used in toilet bowl cleaners) forms toxic chlorine gas.

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. Some all-purpose cleaners contain the sudsing agents diethanolamine (DEA) and triethanolamine (TEA). When these substances come into contact with nitrites, often present as undisclosed preservatives or contaminants, they react to form nitrosamines - carcinogens that readily penetrate the skin. 1,4-dioxane, another suspected carcinogen, may be present in cleaners made with ethoxylated alcohols. Butyl cellosolve (also known as ethylene glycol monobutyl ether), which may be neurotoxic (or cause damage to the brain and nervous system), is also present in some cleaners.

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. Possible health effects include decreased sperm counts, increased rates of male birth defects such as cryptorchidism (undescended testicles) and hypospadias (where the urethra is on the underside of the penis), and increased rates of some kinds of cancers. The alkylphenol ethoxylates (APEs) used in some detergents and cleaners have been shown to mimic the hormone estrogen; one APE, p-nonylphenol, has caused estrogen-sensitive breast cancer cells to multiply in a test tube study.

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. For example, in Britain, researcher John Sumpter discovered that male fish exposed to

APEs in rivers were producing female egg-yolk proteins. APE pollution may be threatening fish in the U.S. as well, for octylphenol and nonylphenol were the detergent metabolites that the USGS detected in 69% of streams tested here. Such ubiquity may not bode well for humans, either: the APE p-nonylphenol has also caused estrogen-sensitive breast cancer cells to proliferate in test tubes.

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.

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 plastic bottles used to package cleaning products pose another environmental problem by contributing to the mounds of solid waste that must be landfilled, incinerated or, in not enough cases, recycled. Most cleaners are bottled in high-density polyethylene (HDPE, denoted by the #2 inside the recycling triangle) or polyethylene terephthalate (PETE, #1) which are accepted for recycling in a growing number of communities. However, some are bottled in polyvinyl chloride (PVC, #3). PVC, otherwise known as vinyl, is made from cancer-causing chemicals such as vinyl chloride, and it forms as a byproduct a potent carcinogen, dioxin, during production and incineration. As a final insult, most sanitation departments do not accept PVC for recycling; less than 1% of all PVC is recycled each year.

Household Cleaning Supplies

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 (See Product Comparisons).

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

1. Although most cleaners don't list ingredients, you can learn something about a product's hazards by reading its label. Most labels bear a signal word, such as Danger, Warning or Caution, that provides some indication of a product's toxicity. Products labeled Danger or Poison are typically most hazardous; those bearing a Warning label are moderately hazardous, and formulas with a Caution label are considered slightly toxic. If you find them, choose products that are nontoxic enough that they require none of the signal words above on their label. Beside the signal word is usually a phrase that describes the nature of the hazard, such as "may cause skin irritation," "flammable," "vapors harmful," or "may cause burns on contact." Look for instructions on how to use the product, which may help you avoid injury. Some labels do list active ingredients, which may assist you in detecting caustic or irritating ingredients you may wish to avoid, such as ammonia or sodium hypochlorite. A few manufacturers voluntarily list all ingredients.

2. When gauging ecological claims, look for specifics. For example, "biodegradable in 3 to 5 days" holds a lot more meaning than "biodegradable," as most substances will eventually break down if given enough time and the right ecological conditions. And claims like "no solvents," "no phosphates," or "plant-based" are more meaningful than vague terms like "ecologically-friendly" or "natural.'"

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

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. By doing so, you support companies that are providing a vital end-market for recycled plastic (without this market, recycling would not be possible). And choose concentrated formulas, which contain only 20% or less water. Because dilution with water is done at home, not at the factory, concentrated cleaners overall require less packaging and fuels for shipping.

What to look out for

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."

Avoid products that list active ingredients of chlorine or ammonia, which can cause respiratory and skin irritation and will create toxic fumes if accidentally mixed together.

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. Unfortunately, these ingredients are rarely, if ever, disclosed on labels; however, the brands recommended in this report are, to the best of our knowledge, phosphate- and APE-free.

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. "Non-toxic" has no official definition, so unless a third party has verified this claim, it is not considered meaningful. And don't believe "organic" ingredients in cleaning and other chemical products are any safer than other substances. Although "organic" in the grocery store refers to foods grown without synthetic pesticides, in chemistry it refers to chemicals that are carbon-based, including some VOCs (volatile organic compounds) that release harmful fumes and may cause brain damage or cancer.Additionally, watch out for products labeled organic. Household cleaning products aren’t regulated by the Organic Foods Production Act, but some of their ingredients, such as plant oils, can be labeled “certified organic.” For more info, see ecolabels.org.

Be aware that some labels that may make a product appear eco-friendly are actually meaningless. For example, many aerosol spray cans are labeled "no CFCs" (or chlorofluorocarbons, which deplete the ozone layer), leading consumers to believe they are buying a more eco-friendly product by purchasing that brand. In reality, CFCs have been banned from aerosols since 1978, so none are permitted to contain CFCs. And think of all of the resources that would be saved if companies that advertise their packaging as "100% recyclable" actually switched to materials that are "100% recycled!"

Shopping Suggestions

ALL-PURPOSE CLEANERS:

Some all-purpose cleaners contain the sudsing agents diethanolamine (DEA) and triethanolamine (TEA), which can react with nitrites (an often undisclosed preservative or contaminant) to form nitrosamines - carcinogens that readily penetrate the skin. Skin also easily absorbs nerve-damaging butyl cellosolve (also known as ethylene glycol monobutyl ether), present in some cleaners. Fumes from ammonia-containing cleaners may cause respiratory irritation. Sodium hydroxide and sodium hypochlorite (bleach) are highly caustic, and sodium hypochlorite should never be mixed with any product containing ammonia or acids, or toxic gases will result. To prevent chemical accidents, it's best to simply avoid.

Most household cleaning needs can be met safely and inexpensively with a sturdy scrubber sponge and simple ingredients like water, liquid castile soap (such as Dr. Bronner's, below), vinegar, lemon juice, or baking soda for scrubbing grease and grime.

Listed below are a number of all-purpose 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.

AFM SafeChoice Super Clean, www.afmsafecoat.com, 800/239-0321
Aubrey Organics Earth Aware, www.aubreyorganics.com, 800/282-7394
BioShield Vinegar Cleaner, www.bioshieldpaint.com, 800/621-2591
Dr. Bronner's Pure Castile (Liquid) Soaps, www.drbronner.com, 760/743-2211
Dr. Bronner's Sal Suds, www.drbronner.com, 760/743-2211
Ecover All-Purpose Cleaner, www.ecover.com, 800/449-4925
Ecover Multi-Surface Cleaner, www.ecover.com, 800/449-4925
1st EnviroSafety Cleaner/Degreaser, www.1stenvirosafety.com, 888/578-9600
Naturally Yours Gentle Soap, 888/801-7347

Our House Works Sanitizing Surface Cleaner, www.ourhouseworks.com, 877/236-8750
Seventh Generation All Purpose Cleaner, www.seventhgeneration.com
Shaklee Basic H, www.shaklee.com, 800/SHAKLEE
Vermont Soapworks Liquid Sunshine, www.vermontsoap.com, 866/SOAP4U2
BATHROOM and TOILET BOWL CLEANERS:

Corrosive ingredients in toilet bowl cleaners are severe eye, skin and respiratory irritants. Some toilet bowl cleaners contain sulfates, which may trigger asthma attacks in those with asthma. And bathroom cleaners containing sodium hydroxide, sodium hypochlorite (bleach), or phosphoric acid can irritate lungs and burn eyes, skin and, if ingested, internal organs. Mixing acid-containing toilet bowl cleaners with cleaners that contain chlorine will form lung-damaging chlorine gas. Your safest best is to avoid both ingredients.

Soap and water, or baking soda for scrubbing soap scum and toilet bowls, work for most bathroom cleaning needs. Scrubbing shower tiles with a toothbrush of baking soda-water paste will help remove mildew and its stains. For tougher toilet jobs, pour one cup of borax and 1/4 cup distilled white vinegar or lemon juice into the bowl. Let sit for a few hours, then scrub with a toilet brush and flush. Or look for these safer, plant-based bathroom, shower and toilet cleaners at natural foods stores. Some are only available by mail order.

AFM SafeChoice Safety Clean, www.afmsafecoat.com, 800/239-0321

BioShield Toilet Bowl Cleaner, www.bioshieldpaint.com, 800/621-2591
Bon Ami Cleaning Powder, www.bonami.com
Earth Friendly Shower Kleener, www.ecos.com, 800/335-ECOS
Earth Friendly Toilet Bowl Cleaner, www.ecos.com, 800/335-ECOS
Ecover Toilet Cleaner, www.ecover.com, 800/449-4925
Naturally Yours Basin, Tub and Tile Cleaner, 888/801-7347

Seventh Generation Toilet Bowl Cleaner, www.seventhgeneration.com
Seventh Generation Bathroom Cleaner, www.seventhgeneration.com
Seventh Generation Shower Cleaner, www.seventhgeneration.com
ENZYME CLEANERS:

Enzymes are naturally occurring proteins produced by all living organisms to speed up chemical reactions. Enzyme cleaners make use of these naturally occurring enzymes to break down the proteins in specific targets: Protease enzymes work on protein stains, lipolases fat or lipid stains, and amylases starch- or other carbohydrate-based stains. Allergy sufferers should avoid using enzyme cleaners on carpets, as the enzymes remain in the carpet fibers after cleaning and subsequent vacuuming can lead to prolonged exposure. Some enzyme cleaners still contain the same harsh surfactants, chemicals and preservatives found in standard cleaners, so be sure to read the label carefully.
Bi-OKleen's Bac-Out Stain & Odor Eliminator ($8.39/32-oz. bottle, drugstore.com).

GLASS CLEANERS:

Some window cleaners contain nerve-damaging butyl cellosolve. Many contain ammonia, which may irritate airways and will release toxic chloramine gases if accidentally mixed with chlorine-containing cleaners.

Plain water is just as effective as some commercial glass cleaners. Or fill your own spray bottle with water and either 1one-quarter cup white vinegar or 1 tablespoon of lemon juice to help wipe away greasy fingerprints and other harder-to-remove spots. The safer glass cleaners below may be found at natural foods stores or ordered by mail.

Aubrey Organics Liquid Sparkle, www.aubreyorganics.com, 800/282-7394
BioShield Glass Cleaner, www.bioshieldpaint.com, 800/621-2591
Earth Friendly Window Kleener, www.ecos.com, 800/335-ECOS
Naturally Yours Glass & Window Cleaner, 888/801-7347

Our House Works Shiny Surface Cleaner, www.ourhouseworks.com, 877/236-8750

Seventh Generation Glass & Surface Cleaner, www.seventhgeneration.com

DRAIN CLEANERS:

Chemical drain cleaners are among the most dangerous of all cleaning products. Most contain corrosive ingredients such as sodium hydroxide and sodium hypochlorite (bleach) that can permanently burn eyes and skin. Some can be fatal if ingested.

Prevent drains from becoming blocked in the first place by capturing hair and other drain-clogging particles with inexpensive metal or plastic drain screens, available at home improvement and hardware stores. Regularly collect and dispose of hair that collects around shower or sink drains, and do not allow large food scraps to wash down the kitchen sink.

When clogs occur, use a "snake" plumbing tool to manually remove blockage, or try suction removal with a plunger. If you purchase a chemical drain cleaner, choose one of the two below that use enzymes, rather than caustic chemicals, to eat away gunk. Earth Friendly is available in natural foods stores; Naturally Yours must be ordered by mail. Like chemical cleaners, these are most effective on drains that are only partly clogged.

Earth Friendly Earth Enzymes Drain Opener, www.ecos.com, 800/335-ECOS

Naturally Yours Enz-Away, 888/801-7347

OVEN CLEANERS:

Lye and sodium hydroxide, which are corrosive and can burn skin and eyes, are ingredients in many oven cleaners. Aerosol spray oven cleaners are easily inhaled into lung tissue.

Prevent spills from being baked onto the oven floor by lining it with aluminum foil, and by cleaning them up before they have had time to dry and cook. 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. Or a paste of washing soda and water may do the trick, but be sure to wear gloves when working with washing soda.

If you choose to buy a commercial cleaner, try any of the scouring powders and creams we recommend on the next page.

SCOURING POWDERS and CREAMS:

Some scouring powders contain silica, which is harmful when inhaled, as the abrasive scrubbing agent. And some are made with chlorine bleach, which may irritate skin and airways and will form hazardous gases if mixed with ammonia or acidic cleaners.

Baking soda effectively scours away most grime on tubs, showers, toilets, and countertops. For cleaning up grease, cleaning expert Annie Berthold-Bond recommends applying a mixture of 1/2 teaspoon of washing soda, 2 tablespoons of distilled white vinegar, 1/4 teaspoon liquid soap, and 2 cups of hot water with a spray bottle. Wear gloves when working with washing soda, though. Or try the brands below. Bon Ami can be found in grocery stores; look for the others at natural foods stores.

Bon Ami Cleaning Cake, www.bonami.com
Bon Ami Cleaning Powder, www.bonami.com
Earth Friendly Cream Cleanser, www.ecos.com, 800/335-ECOS
Ecover Cream Cleaner, www.ecover.com, 800/449-4925
Seventh Generation Cream Cleaner, www.seventhgeneration.com
FURNITURE POLISHES:

Skin contact with furniture polishes can cause irritation, and many brands contain nerve-damaging petroleum distillates, which are flammable and dangerous if swallowed. Some formulations may contain formaldehyde, a suspected carcinogen. Aerosol spray furniture polishes are easily inhaled into lung tissue.

For dusting and polishing, combine a mix of 1/2 cup white vinegar and 1 teaspoon olive oil (or less, if this ratio leaves your wood furniture too oily). Or look for solvent-free products that use plant oils as the active polish. Look for Earth Friendly at natural foods stores, or order by mail.

Earth Friendly Furniture Polish, www.ecos.com, 800/335-ECOS
METAL POLISHES:

Metal polishes may contain nerve-damaging petroleum distillates or lung-irritating ammonia, potentially irritating eyes, skin or airways during use.

Instead, try scrubbing silver with toothpaste to remove tarnish. For copper, dissolve salt in white vinegar or lemon juice and rub on with a cloth; rinse with water. Unlacquered brass may be scrubbed clean with a paste of 1 teaspoon salt, 1 cup white vinegar, and 1 cup flour. Or try these less-toxic brands below, which may be found at hardware, home improvement or grocery stores.

Our House Works Minerals and Metals Cleaner, www.ourhouseworks.com, 877/236-8750

Twinkle Copper Polish, www.twinklepolish.com, 800/253-2526
Twinkle Silver Polish, www.twinklepolish.com, 800/253-2526
One old-fashioned method of polishing silver involves placing tarnished items in warm water with aluminum foil, salt, and baking soda. However, in Buy Smart, Buy Safe, Philip Dickey of the Washington Toxics Coalition warns that this mixture gives off hydrogen sulfide gas, low levels of which can cause eye and throat irritation, coughing and shortness of breath.

DISH SOAPS:

Most mainstream dishwashing detergents are petroleum-based, contributing to the depletion of this non-renewable resource and to our nation's dependence on imported oil. Look for plant-based detergents instead. Opt for colorless liquids: Dyes can be contaminated with heavy metals such as arsenic and lead, and may penetrate the skin during washing and leave impurities on dishes.

Powdered detergents for automatic dishwashers can contain phosphates, which overnutrify rivers and streams, causing excessive algae growth that deprives fish of oxygen. Those made with chlorine can release steamy chlorinated chemicals into the air when the dishwasher is opened at the end of the wash cycle.

These eco-friendlier brands below can be found at natural foods stores or ordered by mail.

Bio Pac Dishwashing Powder, www.bio-pac.com, 800/225-2855
BioShield Dishwasher Concentrate, www.bioshieldpaint.com, 800/621-2591
Cal Ben Seafoam Destain, www.calbenpuresoap.com, 800/340-7091
Cal Ben Seafoam Dish Glow, www.calbenpuresoap.com, 800/340-7091
Earth Friendly Dishmate, www.ecos.com, 800/335-ECOS
Ecover Dish Liquid, www.ecover.com, 800/449-4925
Ecover Washing-Up Liquids, www.ecover.com, 800/449-4925
Ecover Dishwasher Tablets, www.ecover.com, 800/449-4925
Naturally Yours Gentle Soap, 888/801-7347

Naturally Yours Dishwashing Detergent, 888/801-7347

Our House Works Dishwasher Complete, www.ourhouseworks.com, 877/236-8750
Seventh Generation Dish Liquids, www.seventhgeneration.com
Seventh Generation Automatic Dishwashing Powder, www.seventhgeneration.com
Seventh Generation Automatic Dishwashing Gel, www.seventhgeneration.com
Shaklee Basic-D Automatic Dishwashing Concentrate, www.shaklee.com, 800/SHAKLEE

DISINFECTANTS and ANTIBACTERIALS:

Disinfectants are EPA-regulated pesticides that kill bacteria. Although they temporarily kill germs on surfaces, they cannot kill germs in the air, and they do not provide long-lasting disinfection. Some disinfectant cleaners were found to contain alkylphenol ethoxylates (APEs) in tests conducted in 1997 by the Washington Toxics Coalition. APEs are suspected hormone disruptors that don't readily biodegrade, threatening fish and wildlife when they go down your drain. And triclosan, the active ingredient in most antibacterial soaps, was detected in 57.6% of stream water samples from across the U.S., according to a May 2002 study by the U.S. Geological Survey.

It's sensible to try to eradicate some food-poisoning bacteria, such as Salmonella and E.coli, but society's sometimes excessive fear of germs is leading to serious global consequences. Coupled with overuse and misuse of antibiotics in medicine and in livestock, rampant use of antibacterial soaps and other germ-killing products is contributing to a rise in antibiotic-resistant bacteria, according to a 2000 World Health Organization report. As a result, physicians are losing one of their most important tools in fighting infectious diseases, as bacteria that cause illnesses such as pneumonia, tuberculosis, ear infections, meningitis, and Staph infections grow increasingly resistant to antibiotic treatment. (See "Who's to Blame When Antibiotics Don't Work?" from The Green Guide #71)

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). Eat only fresh fish, and 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.

Earth Power's Power Herbal Disinfectant is hospital-grade and EPA-registered and contains only herbal extracts, deionized water, and denatured alcohol. However, it does not kill all food-borne pathogens.

Power Herbal Disinfectant, www.earthpower.com, 712/647-2755

AIR FRESHENERS:

Because they can trigger allergies and potentially cause other health problems, we recommend against the use of synthetically fragranced air fresheners, particularly from aerosol spray bottles. Aerosol sprays produce tiny droplets that are easily inhaled and absorbed into the body, and their propellants, usually butane and propane,

are flammable. Fragrances can provoke asthmatic or allergic reactions in sensitive individuals. But aerosol air fresheners may also be linked to other, less obvious health effects. In a September 1999 study in New Scientist, researchers at Bristol University recommended caution in using aerosols and air fresheners, after finding that they might be making pregnant women and children sick. In their survey of 14,000 pregnant women, they found that in homes where aerosols and air fresheners were used frequently, mothers suffered from 25% more headaches and 19% more depression, and infants under six months had 30% more ear infections and 22% higher incidence of diarrhea. Another worry is that small children might be tempted to taste air fresheners that smell like fruit or candy. In 2000, 9,887 of the 11,935 reports of hazardous exposures to air fresheners received by U.S. Poison Control Centers involved children under six.

To clear out odors, improve ventilation by opening windows and using fans. Baking soda is good at removing odors, and spritzes of lemon or any citrus fruit freshen air. Wooden cedar blocks, pure essential oils, or sachets of natural dried flowers or herbs (such as aromatic roses, lavender, and lemon verbena) provide gentler fragrance. Read labels: Look out for potpourri that lists "fragrance" as an ingredient, and especially avoid deodorizer blocks that contain paradichlorobenzene, a carcinogen, as a moth repellent.

Aroma Naturals essential oil aromatic room mists, www.aromanaturals.com, 800-462-7662.
EcoDaySpa Natural palm wax candles, www.ecodayspa.com, 626-969-3707.
Greenridge Herbals' aromatherapy soy candles, www.greenridgeherbals.com, 866-250-HERB.
Lavender Green, www.lavendergreen.com, 703-684-4433.
Molly's Herbals, fiascofarm.com/herbs/

The Scented Room Provence Potpourri, www.scentedroom.com, 208-342-8504).
Vermont Soy Candles, www.vermontsoycandles.com, 888-727-1903.
SWIFFER CLOTHS:

Swiffer dry cloths are made of polyester and polypropylene and work well to pick up dust and grime from most household surfaces. Swiffer wet cloths, however are treated with propylene glycol n-propyl ether and may irritate skin and aggravate known skin conditions.
Swiffer Dusters, www.swiffer.com