Solid Waste Agency of Northern Cook County

# Eco-Cleaning Guide

This document has been created by the Solid Waste Agency of Northern Cook County (SWANCC). The Agency was formed in 1988 to provide a regional approach to the solid waste management needs of its twenty-three member communities, representing over 800,000 residents in northern Cook County. SWANCC provides a number of recycling programs, events and resources for its members. The *Eco-Cleaning Guide* provides residents with a safer alternative to commercial cleaning products using chemicals.

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## Green Cleaning Statistics

**17,000** Petrochemicals available for home use, only 30 percent of which have been tested for exposure to human health and the environment.

**63** Synthetic chemical products found in the average American home, translating to roughly 10 gallons of harmful chemicals.

**100** Number of times higher that indoor air pollution levels can be above outdoor air pollution levels, according to EPA estimates.

**275** Active ingredients in antimicrobials that the EPA classifies as pesticides because they are designed to kill microbes.

**5 billion** Pounds of chemicals that the institutional cleaning industry uses each year.

**23 gallons** Average amount of chemicals that a janitor uses each year, 25 percent of which are hazardous.

Source: planetgreen.com

# Live Green and Rest Easy

Knowing you will not have to worry about chemicals and possible side effects while trying to keep your home clean is peace of mind.

# Why Choose Eco-Friendly?

The Solid Waste Agency of Northern Cook County (SWANCC), an intergovernmental agency representing over 800,000 residents of northern Cook County in Illinois, strives to provide its residents with environmentally-friendly lifestyle options, including compact fluorescent light (CFL) bulb recycling, computer and electronic recycling, document destruction and recycling events, as well as many resources for waste reduction and recycling efforts.

The *Eco-Cleaning Guide* is one way to make a difference by using safer alternatives to commercial cleaning products. The way you clean your home is a choice. The amount of cleaning products on store shelves can create a daunting task to find the best solution to meet your needs. Whether you choose to buy less toxic cleaning products or choose to make your own, there are many reasons to use environmentally-friendly products to clean and maintain your home.

**Reasons to Use Environmental Cleaning Products**

- To decrease exposure to ingredients that may be harmful to your health
- To provide your home environment with cleaner air
- To save money if you make your own cleaning products
- To reduce your use of non-renewable resources

It is estimated that nearly 10 percent of all poison exposures reported to poison control centers involved cleaning products, with half of those exposed being children. Volatile organic compounds (VOCs), which are emitted as gases from certain solids or liquids, include a variety of chemicals, some of which may have short- and long-term negative health effects. The U.S. EPA has noted that the concentrations of many VOCs are consistently higher indoors (up to one hundred times higher) than outdoors.

Organic chemicals are frequently used as ingredients in household products (e.g.: paints, varnishes, moth repellents, aerosol sprays, cleaning supplies, disinfectants, cosmetics, and dry-cleaned clothing). All of these products can release harmful chemicals while you are using them. Elevated levels may persist in the air afterwards, and harmful chemicals may continue to be released to some extent even when the products are being stored.

Some symptoms associated with exposure to VOCs include nose and throat discomfort, headache, allergic skin reaction, shortness of breath, nausea, fatigue and dizziness.

• Ammonia is corrosive to the skin, eyes and lungs, and may cause headaches. Never use it with household bleach because the combination releases a toxic gas.

• After spring cleaning use websites like **freecycle.org** and **craigslist.org** for items you would like to give away.

• Plan your errands together in an effort to reduce driving time.

• Compact Fluorescent Light (CFLs) Bulbs use 95% less energy. Visit **swancc.org** to find a drop-off location for recycling.

• Independent groups such as Green Seal, Cradle To Cradle, Leaping Bunny and EPA's Design for the Environment program analyze product ingredients and certify that those chemicals do not pose harm to your health or to the environment.

• Buying in bulk reduces the number of trips you need to make to the store.

• Low or no VOC paints reduce the chemical emissions in your home environment.

• Recycled carpet, made from old carpet or plastic beverage bottles, can be found online.

• **Earth911.com** allows you to search by zip code to reduce, reuse and recycle all types of materials.

• Naturalize your lawn by using locally appropriate plants that are hardy and do not need a lot of water. If you have to water, do it during the morning or at night to minimize evaporation.

• Carpool with coworkers, neighbors, and fellow students headed in the same direction.

Currently, not much is known about the long-term health consequences of exposure to the levels of harmful chemicals found in most homes. However, many chemicals are known to cause cancer in animals. Some chemicals are suspected of causing cancer in humans. At this time, there is very little regulation of chemicals (except pesticides) used in the home with in the United States. Even when an individual product is tested by the manufacturer for safe levels of potentially harmful ingredients, most people use many types of cleaning and home maintenance products. Little is known about the cumulative adverse health effects of exposure to the array of chemicals found in the average home.

The U.S. Department of Health and Human Services publishes a list of common household product brands, ingredients, potential health concerns and tips on safety and handling. Their website provides information for hundreds of product names, taken from the product label and/or the Material Safety Data Sheets (MSDS) prepared by the manufacturer at **householdproducts.nlm.nih.gov**.

The EPA recommends keeping your exposure to emissions from products containing the following ingredients to a minimum:

- **Methylene Chloride:** paint strippers, adhesives and aerosol spray paints
- **Benzene:** a known human carcinogen – found in tobacco smoke, stored fuels, paint supplies and auto emissions in attached garages
- **Perchloroethylene:** most widely used in dry cleaning

There is much disagreement among experts as to what other chemicals may cause adverse health effects. The following is a list of potentially harmful ingredients you may want to avoid:

- **Ammonia:** household cleaners, glass cleaners, fertilizers;
- **Chlorine Bleach:** bleaches, scouring powders, toilet bowl cleaners, dishwasher detergents, laundry detergents
- **Dioxane:** window cleaners, laundry and dish liquids
- **Formaldehyde:** air fresheners, disinfectants
- **Kerosene:** furniture polishes, waxes
- **Methylene chloride:** air fresheners, degreasers, paint strippers
- **Naphthalene:** toilet bowl cleaners, carpet cleaners, moth balls
- **Phenol:** furniture polishes, mold and mildew cleaners
- **Toluene:** adhesives, paints, paint thinners, dyes
- **Triclosan:** sponges, dish soap, hand soap, numerous products
- **Turpentine:** paintbrush cleaner, paint thinner

Chemicals can be absorbed through your skin. Even if you wear gloves, spray cleaners release chemicals into the air, where they are inhaled. Particles may settle on your face, clothing and other surfaces.

A growing number of companies provide environmentally-friendly cleaning products, but beware of "green washing" – companies whose names or products sound "green". Some companies claim their products are nontoxic or all natural when they are not. A product can be sold as natural if it contains real lemon juice along with chemical ingredients, for example.

Currently there is very little regulation in this area. Unless there are active disinfectants or they are known to be potentially hazardous, companies are not required to list all ingredients.

There are currently no standard definitions for the terms "nontoxic", "natural", or "environmentally-friendly", so it is a good idea to read labels carefully. The more serious the safety warning, the more likely it is that the product may pose some risk to the environment and your own health. Visit the *Consumer Reports'* website at **greenerchoices.org** to find out more about health and environmental claims found on commercial household cleaning products. The site provides a wealth of information about safer cleaning product alternatives.

Truly "green" companies do list all ingredients, and they tend to be plant-based, not petroleum-based. Their products are either fragrance-free, or they use natural essential oils, and they are biodegradable within days. Some reputable companies are listed in SWANCC's *Eco-Friendly Marketplace*. You can also make your own cleaning solutions, many with everyday products found in the home, such as the following:

**Baking Soda:** Made from soda ash, a mildly abrasive cleaner, as well as an odor absorber and carpet deodorizer. It is an all-purpose cleaner, absorbs odors, removes stains and softens fabrics.

**Borax:** A natural mineral similar to baking soda, but has a higher pH and is, therefore, stronger. It can be used as a disinfectant and laundry whitener, has antifungal and antibacterial properties and can kill mold and mildew. It is well suited for cleaning painted and wallpapered surfaces. *Note: Borax is an eye and respiratory tract irritant, and it may also irritate the skin. Because borax is toxic when ingested, it is important to remove all traces when using it for cleaning and/or pest control, and should be used with care around children and pets.*

**Castile Soap:** "Castile" means vegetable-, not animal fat-based. It is an all-purpose cleaner and disinfectant.

**Club Soda:** Helps loosen dirt and soften water so it dries without water spots. Great for cleaning glass, appliances and stains from fabrics.

**Corn Meal:** Absorbs oil and grease, starches clothes.

**Essential Oils:** All-natural, organic essential oils can be used to add scents to homemade cleaners. Some, such as lavender and tea tree oil, have antibacterial and anti-fungal properties. *Note: Some essential oils may cause harmful reactions when ingested or put directly on the skin. Some are considered dangerous for pregnant women.*

**Hydrogen Peroxide (3 % concentration):** Nontoxic bleach, stain remover and disinfectant.

**Isopropyl (Rubbing) Alcohol:** May irritate eyes and mucous membranes.

**Kitty Litter:** Some traditional litter may contain silica, a known carcinogen. Safer alternatives are kitty litter made from recycled newspaper or reclaimed wood. See SWANCC's *Eco-Friendly Marketplace*.

**Lemon Juice:** Mild acid, with mild beaching properties. Lemon juice is a great stain remover, degreaser and whitener.

• Support manufacturers who reduce their environmental impact by using recycled materials or using less packaging for their products.

• Purchase refillable bottles instead of new products for every day items.

• Patronize businesses with a history of environmental awareness.

• Do not flush medicine down the drain, as it kills the good bacteria needed for properly cleaning our water. Visit **swancc.org** to find a location to drop-off for disposal.

• Thermometers, wall switches and thermostats may contain mercury and can be recycled with safer options installed. Go to **swancc.org** for details.

• *Green Pages*, a guide providing information on various aspects of recycling and waste, and where to take items you no longer need can be found at **swancc.org**.

• Stop junk mail from the source! **Catalogchoice.com** and **mailstopper.tonic.com** to avoid receiving junk at all.

• Layer a wool mattress pad under your fitted sheet to create a shield from toxins in your mattress.

• Hand-dryers use about 1/3 of the electricity needed to produce paper towels and do not create waste afterwards.

• Go to **neighborrow.com** and lend out your tools and borrow from others what you do not own.

• Regular tune-ups, maintenance, clean air filters and properly inflated tires will help you burn less gas, pollute less and prevent car trouble down the line.

• Put a rain barrel on your downspout and use water for irrigation. Rain cisterns come in all shapes and sizes ranging from larger underground systems to smaller, freestanding ones.

• Ask your boss for or offer your employees telecommuting days.

• Repurposing has never been so fun and creative. Check out **readymade.com**.

• Solar chargers may work for your phone, iPod, camera and other devices.

• If anyone in the house is pregnant or has serious allergies, consult with a doctor before using essential oils.

• Purchasing recycled-content products is an important part of *Closing the Loop*.

• Set sprinklers to water the lawn or garden only – not the street or sidewalk.

• All standing water should be removed as quickly as possible, as it is a breeding ground for microorganisms, which can be inhaled.

• If you know or suspect that your home contains lead-based paint, contact the National Lead Information Center at (800) 424-LEAD.

• Calculate your carbon footprint at **earthlab.com/carbonprofile**.

• The Department of Energy's Fuel Economy website can illustrate savings by keeping your car well maintained at **fueleconomy.gov**.

• Connect with a carpool at **carpoolworld.com** or **erideshare.com**.

• Do not idle your engine.

**Liquid Soaps and Detergent:** Soap is made from fats and lye. Detergents are synthetic materials, designed specifically so that they do not react with hard water minerals and cause soap scum. If you have soft water, you can use liquid soap.

**Olive Oil:** May be used to lubricate and polish wood furniture.

**Oxygen Bleach:** Usually sodium percarbonate (a mixture of hydrogen peroxide and washing soda), can be used to whiten laundry, remove stains and clean grout.

**Salt (Sodium Chloride):** An abrasive which cleans copper and scours pans.

**Toothpaste:** A mild abrasive. Cleans silver and removes water stains on wood furniture.

**Washing Soda (sodium carbonate):** A more alkaline chemical neighbor of baking soda, it boosts the cleaning power of soap, softens water, cuts grease and disinfects. *Note: Do not use on aluminum, fiberglass, waxed floors or delicate fabrics, as it may cause discoloration . Because it can irritate skin, gloves should be worn.*

**White Vinegar (Acetic Acid):** An antifungal agent, natural disinfectant and deodorizer, it kills germs and bacteria, cuts grease, removes mildew and stains and is an excellent hypoallergenic water softener. Always use white distilled vinegar for cleaning, as red wine and balsamic varieties may stain.

Many people express concern that homemade "green" cleaners may not be effective at killing germs. However, some researchers believe that the disinfectants found in various commercial household cleaners may contribute to drug-resistant bacteria. Dr. Carol LeBlanc, PhD, of the Toxics Use Reduction Institute at the University of Massachusetts, advises focusing on cleaning, and disinfecting only when necessary. According to Dr. LeBlanc, "The goal is not to completely abandon disinfectants but use them wisely and judiciously".

The alternative general purpose cleaning methods in this guide provide you with less toxic or nontoxic substitutes to commercial products. However, even "natural" ingredients in cleaning solutions and homemade remedies can be irritating to the skin and eyes, and can be toxic if ingested. Use caution when preparing cleaning solutions.

Label all homemade formulas and keep them out of the reach of children. Test products on small areas to determine their effectiveness and rule out damage to items. The recipes and alternative cleaning methods in this guide have been gathered from a variety of sources.

To replace the cleaning power of the stronger chemicals in commercial products with homemade solutions, you may have to provide some additional muscle power or be willing to wait longer for cleaners to act. While a little more "elbow grease" may have to be used with some of these products, the benefits in terms of improved indoor air quality, decreased exposure to chemicals, fewer waste disposal concerns, convenience and lower costs should make the switch an easy one to make.

The following guide provides a list of recipes for all-purpose alternatives to commercial household products for maintaining your home room by room. Also, be sure to look at the additional green tips on the outer portions of the guide.

## Ingredients found in household products starting with the letter "A":

A-17 Propellant, Abamectin, Abrasive (unspecified), Acacia flowers, Acephate, Acer Saccharinum Extract (Sugar Maple), Acetaldehyde, Acetamide MEA, Acetic acid, Acetic acid, C11-14-branched alkyl esters, C13-rich, Acetochlor, Acetone, Acetyl methoxycinnamate, Acetyl phosphate, Acetyl tributyl citrate, Acetylated lanolin, Acetyltriethyl citrate, Acid blue 9 aluminum lake, Acid blue 9 dye (diammonium salt), Acifluorfen-sodium, Acriflavine, Acrylate/carbamate copolymer, Acrylates copolymer (unspecified), Acrylates copolymer, Acrylates/Beheneth-25 Methacrylate Copolymer, Acrylates/C10-C30 Alkyl acrylate crosspolymer, Acrylates/Dimethicone Copolymer, Acrylates/Steareth-20 Methacrylate copolymer, Acrylates/succinates/hydroxyesters, Acrylic acid, Acrylic acid butyl ester, acrylonitrile, styrene polymer, Acrylic acid polymer/copolymer, Acrylic acid, styrene, (1-methylethenyl) benzene polymer, ammonium salt, Acrylic Copolymer Emulsion, Acrylic Emulsion Copolymer, Acrylic Pigmented Polymer Emulsion, Acrylic polymer emulsion, Acrylic polymer mixture/emulsion, Acrylic polymers, Acrylic resin(s) (unspecified), Acrylic thermoset binder, Acrylic/Acrylate copolymer, Acrylonitrile-butadiene-styrene (ABS) copolymer, Active cationic salts, Additive(s) (unspecified), Adhesive, Adipic acid, Adipic acid/Neopentyl glycol/Trimellitic anhydride copolymer, Aesthetic agent (unspecified), Agar, Alachlor, Alanine, Alcohol ethoxy sulfate (mixture), Alcohol ethoxylate, Alcohol ethoxylates (C12-C15), Alcohol ethoxysulfate salt, Alcohols (unspecified), Alcohols, C10-12, ethoxylated propoxylated, Alcohols, C10-14, ethoxylated, Alcohols, C10-16, ethoxylated, Alcohols, C12-14, ethoxylated, Alcohols, C12-14-secondary, ethoxylated, Alcohols, C12-16, ethoxylated (Isureth-4), Alcohols, C12-18, ethoxylated, Alcohols, C12-18, ethoxylated propoxylated, Alcohols, C16-18, ethoxylated, Alcohols, C6-12, thoxylated, Alfalfa extract, Algae extract, Alginic acid, Aliphatic petroleum distillate, Aliphatic petroleum distillate(s) (unspecified), Alkaline builders, Alkanes, C6-18, chloro, Alkanes, C7-8-iso- Alkanolamine (unspecified), Alkyl (50%C14, 40%C12, 10%C16) dimethyl benzyl ammonium saccharinate, Alkyl (C10-C14) dimethyl benzyl ammonium chloride, Alkyl (C10-C16) benzenesulfonic acid, sodium salt, Alkyl (C10-C16) glycidyl ether, Alkyl (C12-15) benzoate, Alkyl (C12-C18) dimethyl benzyl ammonium chloride, Alkyl aryl polyethoxy alcohols, Alkyl polyethylene glycol ethers (C10) mixture, Alkyl polyhydroxy-substituted ammonium chloride, Alkyl polymer (unspecified), Alkyl(C12-16)dimethylbenzylammonium chloride, Alkyl(C12-18)dimethyl ethylbenzyl ammonium chloride, Alkyl(C12-18)dimethylbenzyldimethylethylbenzyl ammonium chlorides, Alkyl(C12-C14)dimethyl ethyl benzyl ammonium chlorides, Alkylamine salts of phosphoric acid esters, Alkylamines (unspecified), Alkylarylsulfonate salt (proprietary), Alkyldicarboxylic acid (proprietary), Alkyldiol ethoxylate #1 (proprietary), Alkyldiol ethoxylate #2 (proprietary), Alkyldiol ethoxylate (proprietary), Alkylquarternaryamine salt (proprietary), Allantoin, Almond oil, Aloe (unspecified), Aloe barbadensis extract, Aloe Barbadensis leaf juice, Aloe barbadensis/vera extract/gel, Aloe extract, Aloe extract, alpha-Isomethyl ionone, Althea extract, Alumina, activated, Alumina, cement bonded, Aluminosilicate, Aluminosilicates (Zeolites), Aluminum, Aluminum chloride, Aluminum chloride hexahydrate, Aluminum chlorohydrate, Aluminum chlorohydrate anhydrous, Aluminum distearate, Aluminum heptamolybdate, Aluminum hydroxide, Aluminum magnesium silicate, Aluminum monostearate, Aluminum oxide, Aluminum silicate, Aluminum silicate, Aluminum silicate(s) (unspecified), Aluminum silicate, anhydrous, Aluminum silicate, hydrated, Aluminum starch octenylsuccinate, Aluminum stearate, Aluminum stearate benzoate complex, Aluminum sulfate, Aluminum sulfate anhydrous, Aluminum zirconium tetrachlorohydrex gly, Aluminum zirconium tetrachlorohydrex gly, Aluminum zirconium trichlorohydrex gly, Amber, American ginseng extract, Amica extract, Amides, C8-18 and C18-unsatd, N,N-bis(hydroxyethyl), Amines, C12-18-alkyldimethyl, N-oxides, Amines, coco alkyl, Amines, polyethylenepoly-, reaction products with succinic anhydride polyisobutenyl derivs., Amino acids (unspecified), Amino alkyldiol (proprietary), Aminoethylpiperazine, Aminoethylpropanol, Aminomethyl propanediol, Aminomethylpropanol, Amla oil, Ammonia, Ammoniacal nitrogen, Ammonium acetate, Ammonium acrylates copolymer, Ammonium alcohol ethoxylate, Ammonium alcohol ethoxysulfate, Ammonium benzoate, Ammonium C9-C10 perfluoroalkyl sulfonate, Ammonium chloride, Ammonium dodecylbenzenesulfonate, Ammonium fluoride, Ammonium glycolate, Ammonium hydrogen difluoride, Ammonium hydroxide, Ammonium lanolate, Ammonium laureth sulfate, Ammonium lauryl sulfate, Ammonium molybdate, Ammonium molybdate, Ammonium nitrate, Ammonium nonoxynol-4 sulfate, Ammonium oxalate, Ammonium peroxydisulfate, Ammonium phosphate, dibasic, Ammonium phosphate, monobasic, Ammonium polyacrylate, Ammonium polypropoxypolyethoxydecyl sulfate, Ammonium salt of polycarboxylic acid, Ammonium soaps of higher fatty acids, Ammonium sulfate, Ammonium tallate, Ammonium thiocyanate, Ammonium trioxaundecanedioate, Ammonium xylenesulfonate, Amodimethicone, Amyl acetate, Amyl alcohol, Amylase, Amylopectin, hydrogen phosphate, 2-hydroxypropyl ether, Andrographolide, Angelica extract, Anhydrite, Anigozanthos flavidus extract, Aniline, Animal blood, denatured, Animal glue, Animal protein (collagen), hydrolyzed, Anionic surfactant(s) (unspecified), Anise extract, Anthophyllite asbestos, Anti-oxidant/Anti-wear dispersant, Antigorite, Antimony, Antimony (unspecified compound), Antimony diakyldithiocarbamate, Antimony trioxide, Antioxidant, anti-wear, or anti-redeposition agent (unspecified), Apple extract, Apricot extract, Apricot kernel oil, Aqueous acrylic emulsion, Aqueous Copolymer, Aqueous polymer (nonhazardous), Aqueous/emulsion diluent, Arachidic acid, Arachidyl alcohol, Arachidyl behenate, Araldite B, Argania spinosa kernel oil, Arginine, Armoise oil (unspecified type), Aromatic alcohol, Aromatic petroleum distillates (unspecified), Aromatic resin, Arsenic, Ascorbic acid, Ascorbic Acid (Vitamin C), Ascorbic acid polypeptide, Ascorbyl glucoside, Ascorbyl palmitate, Ashless dispersant and antioxidant, Aspartic acid, Asphalt, Asphalt (unspecified type), Asphalt, oxidized, Atlox 3406-F, Atrazine, Attapulgite, Australian wild peach extract, Avocado extract/oil, Awapuhi extract, Azodicarbonamide

Information from householdproducts.nlm.nih.gov

- Check out the Alliance to Save Energy website for video instructions on energy-saving tips like caulking windows and doors and getting a home energy audit at **ase.org**.
- Set computers to energy-saving settings and make sure to shut them down when you are finished for the day.
- Turn off lights in spaces that are unoccupied.
- Use a power strip for electronics and appliances and turn off when not in use.
- Review documents on screen rather than printing them out.
- Use both sides of paper when printing.
- Recycle your printer cartridges.
- Think globally, act locally.
- **Greendisk.com** will recycle VHS tapes and other media.
- When you wash your windows inside and out, use horizontal strokes on one side and vertical strokes on the other. If streaks appear, you will know which side needs to be rewiped.
- Conduct an energy audit at home with the *Consumer's Guide to Energy Efficiency and Renewable Energy* at **eere.energy.gov**.
- Estimate cost and savings of solar energy in your area at **findsolar.com**.
- Opt to receive your bank statements online.
- **Earthdaynetwork.org** lists green events for Earth Day.
- Purchase quality products to avoid rebuying the same item in the near future.

# Fresh and Clean

With a little elbow grease, your home can be sparkling clean without unwanted residue, like some toxic commercial products leave behind.

# General Household

### Acid-Based Cleaner
Spray bottle
1/4 cup white vinegar or lemon juice
1/2 teaspoon liquid detergent
3/4 cup warm water

To dissolve mineral buildup and to deodorize body fluid odors, combine vinegar, liquid detergent and warm water in a spray bottle. *Note: When using lemon juice in a cleaner, make sure to store in refrigerator.*

### Air Freshener 1
Spray bottle
1 teaspoon baking soda
1 teaspoon vinegar (or lemon juice)
2 cups hot water

Mix baking soda, vinegar and hot water in a spray bottle.

### Air Freshener 2
Lavender oil
1 cup water

Mix a few drops lavender oil with a cup of water in a spray bottle.

### Air Freshener 3
Lemon wedges
Boiling water
Cloves
Cinnamon stick
1 tablespoon vinegar

Toss lemon wedges into a pot of boiling water, along with cloves and a cinnamon stick to eliminate cooking odors. To prevent cooking odors, simmer 1 tablespoon vinegar in 1 cup of water on the stove.

### Air Freshener 4
Open containers of baking soda to eliminate odors in closets, refrigerators and other enclosed spaces.

### All Purpose Liquid Cleaner
1 tablespoon baking soda
2 tablespoons liquid soap (or detergent)
1 gallon of hot water
1 tablespoon of washing soda
1 tablespoon of borax

Add baking soda and liquid soap to hot water. Add washing soda to remove heavy grease, or borax to disinfect or kill mildew.

### All Purpose Sanitizer
2 teaspoons borax
4 tablespoons vinegar
4 cups of hot water
1/4 teaspoon liquid soap

Combine borax, vinegar and hot water in a spray bottle. Add liquid soap for extra cleaning power.

### All Surface Spray
Spray bottle
2 tablespoons borax
Hot water
1/4 teaspoon liquid castile soap

Put borax in spray bottle and fill with hot water, shake until borax is dissolved, and then add liquid castile soap. Spray on surfaces, let the solution sit a minute or two, and wipe off with a sponge or micro fiber cloth.

"The Power of Lemon"
Building a Lemon Battery

Materials:
Lemons
Copper coins or wire
Galvanized nail or paperclips
LED light

A good fresh and juicy lemon works best. Cut a shallow slit in one side of the lemon and insert either a copper coin (sometimes coins thought to be copper are in fact not pure copper so use copper wire instead if necessary), and in the other side insert a galvanized nail (which is coated with zinc) or metal paperclip. The copper coin/wire is the "+" side of the cell, and the galvanized nail is the - side. The electrons will travel from "-" through the electrolyte to the "+", thereby creating an electric current.

If you measure the voltage across the lemon cell, it will be just under 1 volt – not enough. However if you connect a few cells together in series ("+" to "-", "+" to "-", etc.) then a higher voltage battery can be built. Once the voltage is over 2-3 volts the battery of lemon cells can be used to light up an LED. Four lemon cells connected in series will typically generate around 3.5 volts.

An alternative to the lemon battery is to use empty film canisters filled with vinegar, with a zinc nail and some copper wire dangled through holes in the lid into the liquid. Two of these can be wired in series and used to power a small LCD clock or calculator.

Source: http://www.reuk.co.uk/Lemon-Battery.htm

## Glass Cleaner 1

Spray bottle
1 cup vinegar
1 cup water
1/2 teaspoon liquid dish soap

Mix vinegar, water and liquid dish soap in a spray bottle, and shake gently. Liquid dish soap dissolves the waxy buildup from commercial cleaners, and may be omitted once the buildup is gone.

## Glass Cleaner 2

Spray bottle
12 oz. club soda
1 teaspoon lemon juice

Club soda in a spray bottle is a simple glass cleaner. Add lemon juice to increase the degreasing power.

## Glass Cleaner 3

Spray bottle
1/4 cup white vinegar
1 tablespoon cornstarch
1 quart of warm water
Newspaper

Mix white vinegar, cornstarch and warm water. Either sponge on or pour into spray bottles. Use crumpled newspaper to dry for lint-free results. *Note: Make sure to dilute vinegar with prescribed amounts of water, because too much vinegar may etch and eventually cloud the glass.*

## Musty Odor Remedy

Remove musty smells from old drawers (and other furniture) by placing a slice of white bread, covered with vinegar, in a bowl. Close drawer, with bowl, for 24 hours before removing.

## Rust Remover 1

Lemon juice or vinegar

Apply full-strength lemon juice and let stand. Rinse, and repeat if necessary.

## Rust Remover 2

Salt
Lime

For tough jobs, sprinkle salt on rust and squeeze lime juice over salt till saturated. Leave mixture on for two or three hours, then use leftover rind to scrub.

## Scouring Powders 1

Put baking soda on a sponge, scour and rinse.

## Scouring Powders 2
2 tablespoons baking soda
Castile soap

Mix baking soda with enough castile soap to form a paste. Work into surface with a sponge and rinse.

## Shoe Care 1
Apply olive oil, walnut oil or beeswax to leather shoes, then buff to a shine.

## Shoe Care 2
Olive oil
Lemon juice

Apply olive oil with a few drops of lemon juice with thick rag. Leave on for a few minutes, the wipe and buff with a clean, soft rag.

## Shoe Care 3
1 tablespoon vinegar
1 cup of water

Remove water stains and salt stains from leather by rubbing with a cloth dipped in vinegar and water solution.

## Shoe Care 4
Apply petroleum jelly to patent leather to shine and prevent cracking.

## Shoe Care 5
Art gum eraser
Emery board
Cornmeal

Rub out dirt marks on suede with an art gum eraser, then buff lightly with an emery board to restore nap. Rub cornmeal on grease stains, then brush off.

## Shoe Care 6
Add shine to leather by polishing with the inside of a banana peel, then buffing with a soft cloth.

## Walls and Wallpaper
Mix 1/3 cup of borax into one gallon of warm water, then add one teaspoon of liquid dish soap.

• Unplug chargers for cell phones or digital cameras when you are not using them. They draw energy even when they are not charging anything, called vampire power.

• Plants that improve indoor air quality by removing pollutants include the Boston Fern, Chrysanthemum, English Ivy, Peace Lily, Rubber plant and Spider plant.

• Do not spend money on tools that you will only use a few times a year. Instead, arrange with neighbors to swap or jointly rent things like carpet cleaners, electric drills and floor polishers.

• Make your own room deodorizers. Put a few drops of an essential oil such as peppermint, lavender or eucalyptus on several cotton balls and place in a decorative jar with a lid. Remove the lid when you want to deodorize the room.

• Household Chemical Waste needs to be taken to a disposal event or permanent location.

• Clean from top to bottom and back to front, so dust does not get on clean surfaces.

• It is amazing what can be found on **youtube.com** for making your own cleaning solutions.

• Open windows to ventilate the room, or turn on an air purifier that contains a HEPA and carbon filter, which is best for removing dust and pollen.

• Consider replacing an electric water heater with a more efficient gas-fired heater.

• Installing a timer on electric water heaters can automatically turn the hot water off at night and on in the morning, saving energy.

# When It Rains It Pours

When products go down the drain, they do not go away. They end up contaminating our water system. Considering the thousands of products available, it becomes a melting pot of chemicals. These chemicals also kill the good bacteria that help to keep our water clean.

# Bathroom

## Drain Cleaner
1 cup baking soda
1 cup of salt
1 cup of vinegar
Boiling water

Mix baking soda and salt and place in drain, then pour vinegar down the drain or disposal. Wait 15 minutes before pouring boiling water into the drain. You may need to repeat the procedure for stubborn clogs. *NOTE: Pouring one cup baking soda and one cup vinegar down the drain, then flushing with hot water once a month will help to prevent future clogs.*

*Caution: Do not use boiling water with plastic pipes. Also, do not try to clear drains with vinegar and baking soda if you have recently used a commercial drain cleaner. The combination of vinegar and drain cleaner can create dangerous fumes.*

## Grout Cleaner
3 cups baking soda
1 cup warm water

Mix baking soda with warm water into a paste. Scrub into grout with a toothbrush or sponge and rinse. For stubborn stains, leave paste on grout for an hour before rinsing.

## Lime Deposits 1
Rub with full-strength white vinegar and rinse thoroughly.

## Lime Deposits 2
Rub with half a lemon sprinkled with salt and rinse thoroughly.

## Mold 1
Spray bottle
2 teaspoons tea tree oil
2 cups water

Combine oil and water in a spray bottle and shake. Spray on problem area. Allow to dry, then wipe down without rinsing.

## Mold 2
1/2 cup vinegar
1 cup water

Mix vinegar with water. Spray on mold and do not rinse. For tough jobs, spray undiluted vinegar on mold without rinsing. Vinegar odor dissipates in a few hours.

## Mold 3
Spray bottle
3% hydrogen peroxide
Water

Mix one part peroxide with 2 parts water in a spray bottle. Spray on affected area and wait one hour to rinse.

## Plumbing Fixtures 1
2 tablespoons of baking soda
1 quart of water

Dissolve baking soda in water, apply to fixtures and rinse.

## Plumbing Fixtures 2
Spray undiluted club soda on fixtures and wipe dry.

## Porcelain Cleaner 1
Sprinkle cream of tartar on a damp sponge, rub in and rinse.

## Porcelain Cleaner 2
To remove non-slip strips from a bathtub, sponge hot vinegar over them.

• Install water aerators to kitchen and bathroom taps. These small screens which screw into faucets, add oxygen, thus reducing water volume while maintaining good water pressure. Low-flow shower heads use the same principle.

• Devices which displace some of the water in the toilet tank, (eliminating the need for the tank to completely refill each time the toilet is flushed) are available online.

• Rub a teaspoon of lemon oil or baby oil on glass doors twice a month to make water bead up and roll off.

• Studies have found that washing your hands with regular soap and warm water is just as effective at killing germs as using antibacterial soap, without the downside of increased bacterial resistance.

• Wet a micro fiber cloth, then wring it out to clean mirrors and glass surfaces. You will get a streak-free shine – without using glass cleaner.

• A shower timer can minimize the amount of water that goes down the drain.

• Bamboo, in addition to being a fast-growing sustainable alternative to cotton, is also reputed to have antibacterial qualities when spun into linens.

• Hemp, which is naturally resistant to mold, is a great choice for a shower curtain.

• Make sure to keep your bathroom well-ventilated to reduce mold.

• Reduction is better than reuse. Reuse is better than recycling or composting, and all are better than disposal.

• Buy recycled toilet paper and other paper products.

## Razors
Soaking a razor in a few ounces of vodka after shaving will disinfect the blade and prevent it from rusting.

## Shower Curtain
1/2 cup of white vinegar
Detergent

Wash on gentle cycle with white vinegar, along with detergent. Drip-dry curtain on shower rod.

## Shower Doors 1
Sponge on vinegar, leave for about 30 minutes and rinse.

## Shower Doors 2
Apply lemon oil, scour with a scrubbing sponge, then wipe with a soapy sponge to remove hard-water deposits and soap scum. The remaining lemon oil residue will help prevent soap scum build-up.

## Shower Heads
To remove deposits from a shower head, affix a plastic bag of vinegar with rubber bands, and leave for a couple of hours.

## Tile Whitener
1/2 cup 3 % hydrogen peroxide
1 cup of water
Spray bottle

Combine peroxide and water in a spray bottle. Spray on tile, let dry, then rinse the area. Discard leftover spray, as hydrogen peroxide loses potency when exposed to air. *Note: Recipe can be halved if a lesser amount is needed.*

## Toilet Bowl Cleaner 1
1 cup of white vinegar
1/4 cup baking soda

Pour white vinegar and baking soda into the bowl, and let it set for a few minutes. Scrub with a brush and rinse.

## Toilet Bowl Cleaner 2
Mix castile soap with baking soda to form a paste. Scrub and rinse.

## Tub and Tile Cleaner 1
Sprinkle baking soda on a sponge to use as a scouring powder. Also, spraying pure vinegar will eliminate rings.

## Tub and Tile Cleaner 2
Wipe surfaces first with white vinegar, then scour area with baking soda for tougher jobs. *Note: Use vinegar sparingly on tile because it can break down the grout.*

## Water Statistics

| | |
|---|---|
| **21 %** | Household water use that comes from the shower. |
| **26 %** | Household water use that comes from flushing the toilet. |
| **1.5 %** | Household water use that comes from using the bath. |
| **80 gallons** | Water the average American uses a day. |
| **2.5 gallons** | Water per person much of the world is allocated a day. |
| **260 gallons** | Water used daily by the average household in the developed world. |
| **67 %** | Water heating costs in households for showers alone. |
| **22 gallons** | Water flushed down a toilet daily in the U.S. |
| **$5.00** | Cost of a low flow shower head that will cut your consumption by 45 gallons per day. |
| **15,000 gallons** | Water you can save per year by taking a Navy shower. *Navy shower: hop in the shower, get wet all over, turn off the water while soaping up, and rinse clean.* |
| **60 gallons** | Average amount of water used in taking a shower. |
| **3 gallons** | Water used when taking a Navy shower. |
| **$35 billion** | Money spent on bottled water in the most developed countries in the world. |
| **75%** | Water that makes up our planet. |
| **2%** | Water on Earth that can support terrestrial life. |

Sources: Planetgreen.com, *Ready, Set, Green*, TreeHugger, EPA, *Wired*, *Water Wars of the Near Future*, UNICEF, Earth Policy Institute

• Aerosol spray cans are filled under pressure, and disperse chemicals into the air (some products contain CFCs). Use non-aerosol versions of household products.

• Remove hard water stains in your bathroom with toothpaste. Dab on an old toothbrush and scrub away.

• Use newspaper to clean windows and mirrors. Just take a dry one, crumple and rub the surface. Use papers that are more than two days old, so the ink will be less likely to stain your hands.

• Toss a handful of dry coffee grounds in the bottom of a new bag to absorb odor in a garbage can.

• Low flow toilets and shower heads save water.

• Save five gallons of water when you turn the faucet off while brushing your teeth.

• Make an effort to use 100% plant-based, biodegradable, PETA-approved shampoo and soap products.

• Tankless water heaters operate only when you need them, resulting in less standby energy loss. The U.S. Department of Energy provides a *Consumer's Guide to Energy Efficiency and Renewable Energy* at **eere.energy.gov**.

• Instructions on how to use your water meter to detect silent leaks in your home can be found at **h2ouse.org**.

• For 100 ways to save water, visit **wateruseitwisely.com/100ways**.

• Install an indoor grey water system for outdoor irrigation. Reroute water from clothes washer, bathtub, showers and sinks for other purposes.

# The Handy Man Can

Apply environmentally-friendly practices to your "Honey Do" List. Protect yourself by choosing nontoxic cleaning methods when fixing up or doing projects around the house.

# Garage

### Car Battery Corrosion
Scrub terminals and holder with a strong solution of baking soda and water.

### Car Soap
Use a mixture of liquid soap and hot water.

### Car Wax
1 cup linseed oil
4 tablespoons caranuba wax
2 tablespoons beeswax
1/2 cup vinegar

Combine linseed oil, caranuba wax, beeswax and vinegar in a double boiler or saucepan on the stove. Heat until wax melts. Stir and pour into a heat-resistant container. Wait until wax solidifies, rub into car finish, then polish with a cotton rag dampened in vinegar.

### Car Window Defogger
Prevent windshield from fogging up by occasionally wiping windshield with a cloth saturated in liquid soap (or shampoo). Polish dry with clean cloth.

### Concrete Driveway Garage Floor 1
Sprinkle baking soda, cornmeal, sawdust or cornstarch on grease spot, then scrub with a wet brush.

### Concrete Driveway Garage Floor 2
Scatter sand on the stain. Rub stain with a regular brick, using a circular motion. Brush when the stain is gone. This procedure will remove any stain, including oil.

### Paint Brush Cleaner - Latex
Latex paint can be cleaned with soap and hot water.

### Paint Brush Cleaner - Oil-based
For oil paint, use citrus oil-based solvents.

### Paint Cleaner
Use corn oil to remove oil paint from skin.

### Rust Remover 1
Soak tools, bolts and screws overnight in undiluted white vinegar.

### Rust Remover 2
To remove rust from car bumpers, rub with shiny-side-up crumpled aluminum foil.

### Tar Remover
Scrub with a rag dampened with food-grade linseed oil.

### Windshield
Coat car windows and windshield with a mixture of three parts vinegar to one part water.

# How Does Your Garden Grow?

Contrary to what some might think of as a dirty job, your garden works to clean the air. Worms aerate the soil. Bugs help pollinate your flowers. Rotting food can become nutritious soil. Your garden is a place where you can learn what eco-friendly is all about.

# Garden

### Birdbaths and Hummingbird Feeders
Scrub with undiluted vinegar and rinse well.

### Cleaning
Many backyard cleaning chores can be accomplished using vinegar. Use normal household vinegar (5 percent concentration) for cleaning.

### Outdoor Fountain Pump
Soak in full-strength vinegar to eliminate mineral deposits.

### Plastic Patio Furniture
Scrub with solution of one tablespoon vinegar to one gallon of water. To sanitize picnic tables and other outdoor furniture, wipe with a cloth soaked in white distilled vinegar.

### Pots
Soak in a tub filled with one part vinegar and one part water for at least an hour to remove stains and white mineral crust. For heavy deposits around rims, soak pots in undiluted vinegar.

### Soil
Occasionally watering acid-loving plants with a mixture of one cup white vinegar to one gallon of water will increase the acidity of your soil. It will also help to neutralize garden lime.

### Weed Control
Purchase higher concentrate vinegar (10 percent, as opposed to the 5 percent concentration of household vinegar) from a hardware store. Spray undiluted vinegar directly on weeds and in cracks in sidewalks and driveways to kill weeds.

### Bug/Pest Alternatives - General Bug Repellent
Eating raw garlic, onions, chives and leeks repels bugs.

### Bug/Pest Alternatives - Ants
Squeeze lemon juice where ants are entering the house, or are building mounds outside. You can also try pouring white distilled vinegar on the area.

### Bug/Pest Alternatives - Fleas and Ticks 1
Wash your pet with castile soap and water and dry thoroughly. Add 1/2 cup fresh or dried rosemary to a quart of boiling water, steep for 20 minutes, strain and cool completely. Sponge solution onto pet's hair. Air-dry your pet, as opposed to towel-drying, which will remove the rosemary residue.

### Bug/Pest Alternatives - Moths
Moths are repelled by the smell of cedar chips, lavender and crumpled newspaper.

### Bug/Pest Alternatives - Rabbits
To keep rabbits away from plants, soak cotton balls in white vinegar, place in 35 mm film container with a hole in the top, and place in the garden.

### Bug/Pest Alternatives - Roaches
Cucumber peels repel roaches.

### Bug/Pest Alternatives - Slugs
Spray with a mixture of one part water to one part white distilled vinegar.

# Clean From the Inside Out

The kitchen is one of the most used rooms in our homes. A place where we gather to share food and the events of our day. The cleaner you prepare and cook meals, the cleaner your bodies and homes will be.

# Kitchen

### All-Purpose Sanitizer
Fill a spray bottle with equal parts water and white vinegar to sanitize surfaces and remove food odors. *Note: Use distilled water if you plan to reuse the spray at a later time, as tap water mixed with vinegar will smell over time.*

### Chopping Block 1
Wipe with full-strength vinegar to sanitize. Scrubbing with vinegar and kosher salt will eliminate stains.

### Chopping Block 2
To sterilize, rub the cut side of a lemon half over the entire surface of the board, then rinse with hot water. For stains, mix lemon juice with baking soda to make a paste and apply it to the spot. Wipe away after 10 minutes.

### Coffee and Tea Stains
Full-strength vinegar will remove coffee and tea stains in cups. To clean teapots and glass coffee carafes, add 1/2 cup vinegar to a quart of boiling water and let soak. Rinse thoroughly when water has cooled.

### Countertops
Mix baking soda and liquid soap to form a paste to clean countertops. Rinse afterwards.

### Dishwasher 1
Running the dishwasher with a cup of vinegar placed on the bottom rack once a month will help prevent soap scum build-up in the lines.

### Dishwasher 2
Once a week, shake baking soda on a damp sponge and wipe around the machine's edges to remove food or stains.

### Drain and Garbage Disposal Cleaner 1
1 cup baking soda
1 cup of salt
1 cup of vinegar
Boiling water

Pour baking soda, salt and vinegar down drain or disposal. Wait 15 minutes before pouring boiling water into the drain. You may need to repeat the procedure for stubborn clogs. *Note: Pouring one cup baking soda and one cup vinegar down the drain, then flushing with hot water once a month will help to prevent clogs.*

*Caution: Do not use boiling water with plastic pipes. Also, do not try to clear drains with vinegar and baking soda if you have recently used a commercial drain cleaner. The combination of vinegar and drain cleaner can create dangerous fumes.*

### Drain and Garbage Disposal Cleaner 2
To deodorize garbage disposal, run disposal with ice cubes, and lemon and/or orange rinds.

### Lime Deposits (tea kettle)
Boil 1/2 cup white vinegar and two cups water in tea kettle. Be sure to rinse well.

### Marble Countertop
Mix one tablespoon castile soap with a quart of warm water, rinse well, then dry with a warm cloth.

### Microwave
Heat two tablespoons vinegar or lemon juice in a cup of water on low-medium setting for five minutes. Leave mixture in microwave for 30 seconds before opening door, then wipe down interior.

• The Environmental Working Group's guide can be found at **foodnews.org** including the Dirty Dozen, the top 12 produce items that you should buy organic if possible.

• What is better than buying organic food? Growing your own vegetables and fruits at home or in a garden co-op!

• Bring reusable bags to the store for groceries.

• Plastic bags and dry cleaner bags can be recycled at many grocery stores.

• Vacuum underneath refrigerator and coils to maintain cleanliness and increase efficiency.

• Line your oven with a nonstick oven liner. When dirty, wipe it off, clean in the dishwasher and reuse.

• Disinfect sponges by microwaving on high for 60 seconds.

• When cleaning the kitchen, finish with the stove, as it is typically the dirtiest part of the kitchen to prevent spreading dirt and grease.

• **Laptoplunches.com** are fun reusable containers.

• Store foods in containers labeled with the recycling codes #2 HDPE, #4 LDPE and #5 PP, which have been found to be generally safe for food storage.

• Using the microwave to cook small meals uses less power than an oven.

• Visit **howtocompost.org** or **compostguide.com** for information on composting.

• Menu planning and sticking to a shopping list lead to less food being wasted.

## Oven
Dampen the bottom of the oven with water, then cover the surface with baking soda. Use a paste of baking soda and water for sides of oven. Sprinkle water over the baking soda, then let set overnight. In the morning, wipe out the oven and rinse well. If grime remains, use liquid soap and water to remove residue.

## Plastic Food Storage Containers
Soak in a mixture of warm water and baking soda overnight.

## Pots and Pans
To remove baked-on food, soak in hot water with two tablespoons baking soda per quart. Wash as usual.

## Pots and Pans - Copper 1
Rub coarse salt into stains with half a cut lemon.

## Pots and Pans - Copper 2
Apply a paste of equal parts salt, flour and white vinegar with a soft, damp cloth. Rinse and wipe dry.

### Outdoor Composting

Composting breaks down food waste into rich soil. It is so rich that you need to dilute the compost with other soil to use in the garden or with house plants. Composting decreases the amount of food waste you throw away. You can also compost yard trimmings, fruit and vegetables.

The first step is to contact your local community to see if there are any restrictions regarding outdoor composting.

Compost consists of dry, woody material (browns), moist green material (greens), air and water. These components produce healthy, rich compost. When gathering materials to compost, keep in mind that a good mix of carbon and nitrogen nutrients (brown and green matter) is needed. An ideal mix is approximately 30 parts carbon (brown) to one part nitrogen (green). Do not forget the water! The material should feel damp, but should not drip much water when squeezed by hand, like a wrung out sponge.

You will need to turn or mix your compost each time you add materials, or about once a week. You can harvest the compost after 4 -12 months from the bottom or center of the pile.

Almost all natural, organic material will compost, but not everything belongs in a compost pile. The following can be composted: grass clippings, leaves, fruit and vegetable waste, straw, wood, sawdust, pine needles, cornstalks, alfalfa hay, coffee grounds, brush and shrub trimmings, flowers, bread, wood ash and paper. Keep the following out of your compost: oils, fat, grease, diseased plants, bones, manure, meat, butter, salad dressing or inorganic material.

## Refrigerator
2-3 tablespoons baking soda
1 quart warm water

Dissolve baking soda in water for use on interior and exterior walls. Rinse well. Shelves and bins can be washed in soapy water.

## Sink
Clean sink with soap and water, then spray a mist of vinegar followed by a mist of hydrogen peroxide and let air dry. *Note: Do not mix the vinegar and hydrogen peroxide together.*

## Stainless Steel Sink
Use a paste of baking soda and white vinegar. Wipe with a few drops of mineral oil to prevent water buildup, which deters mold.

## Vegetables
1 tablespoon white vinegar
1 1/2 quarts water

Mix white vinegar and water. Rinse vegetables with solution.

### Vermi-Composting

Vermi-composting is another way to break down food waste by composting by using red wriggler worms! Their scientific name is Eisenia Fetida, which is not the same type of worm as earthworms or nightcrawlers which live underground. Red wigglers eat lots of fruit and vegetables.

This method is beneficial for small spaces. It is necessary to place your worm composting bin in a place that it will not freeze or overheat. Worm composting can continue into the winter months easily by placing the bin in a pantry, laundry room, basement or heated garage or porch.

A worm bin can be made out of plastic or wood and must be at least 10 inches deep. It will need holes in the bottom, sides and top for ventilation. The top will need to be on tight, so worms do not crawl out. Worm bedding can be made from shredded newspaper moistened with water. Do not wet to the point of dripping.

Worms can digest about a quart of food scraps per square foot per week. You will need to bury the food scraps under the bedding to prevent fruit flies. Always keep at least four inches of fresh bedding over the worms and food. Plastic bins may need more bedding to absorb excess moisture.

About three months after you set up the bin, some of the soil will be ready to harvest. This compost may be added to plants or garden soil. It is recommended to harvest the worm compost bin about once per year.

• Buy reusable mops and natural sponges or reuse old shirts rags for cleaning.

• Leave oven racks outside in grass overnight to let the dew break down build up.

• Buy absorbent micro fiber cloths to clean with instead of using paper towels.

• When ordering food in, make sure to specify that you do not need napkins, silverware or condiments.

• Use reusable napkins instead of single use paper disposables.

• Let your dishes air dry. You will save time, and you will not spread germs from the towel onto your clean dishes.

• Instead of scraping dried-on gunk from your microwave, put a wet rag inside and then turn the microwave on for one minute.

• Get your stove professionally tested to make sure that it is not leaking gases.

• Buying in bulk reduces unnecessary packaging. Use your reusable containers for lunches or snacks.

• If you do not have room for a garden, learn about growing food in pots at **containergardeningtips.com**.

• After baking, open the oven and let the extra heat warm your house.

• Save power and money on heating water by thawing items in the fridge or by immersing in water.

• Worms are able to ingest approximately half their body weight in food per day.

• Visit **leftoverchef.com** to find a recipe for leftovers.

# It Keeps Going and Going...

Your laundry may never slow down, but your energy usage can. Taking advantage of the days where clothes can be dried outside saves both energy and money.

# Laundry Room

### Chlorine Bleach Alternative 1
For soft water, add 1/2 cup borax or washing soda. For hard water, add 1/2 vinegar to rinse water.

### Chlorine Bleach Alternative 2
1/4 cup each lemon juice and white vinegar
Warm water

Add lemon juice and white vinegar to water, and soak clothes for 15 minutes prior to washing.

### Fabric Softener
Add 1/2 cup baking soda to rinse cycle.

### Laundry Soap - Liquid
1/3 bar Fels Naptha, Ivory or Zote soap
1/2 cup washing soda
1/2 cup borax powder
6 cups water
Additional hot water
2 gallon bucket

Grate the soap and put it in a sauce pan. Add six cups water and heat it until the soap melts. Add washing soda and borax and stir until dissolved. Remove from heat. Pour four cups hot water into the bucket. Add soap mixture and stir. Add one gallon plus six cups of water and stir.

Let the soap sit for about 24 hours and it will gel. You use 1/2 cup per load. Note: The finished soap will not be a solid gel, it will be more of a watery gel. The soap is a low sudsing soap. Suds are not what does the cleaning.

*Optional: For fragrance, add one ounce essential oil.*

### Laundry Soap - Powdered
2 cups Fels Naptha Soap
1 cup washing soda
1 cup borax

Mix well and store in an airtight plastic container.
Use two tablespoons per full load.

### Scorched Iron Plate
Rub plate with a heated solution of equal parts vinegar and salt.

### Washing Machine
Running a wash cycle with several cups of white vinegar will help dissolve soap scum.

### Stain Removal - Berries
Soak stains in white vinegar or lemon juice for one hour and rinse. If stain remains, dampen the area with water, and rub in a paste of equal parts washing soda and water.

### Stain Removal - Blood
Try a paste of equal parts corn starch and cold water. Hydrogen peroxide, a natural bleach, may work for stubborn stains, but spot-testing is advised.

### Stain Removal - Chocolate
1 teaspoon liquid soap (or detergent)
1 cup of water

Mix liquid soap with water and soak the stained area.

### Stain Removal - Coffee and Tea 1
Soak the stain in straight white vinegar or lemon juice for one hour. Alternatively, try a paste made of cream of tartar and water.

• Most laundry can be washed in cold water, but items such as sheets and towels should be washed in hot water because only hot water kills germs and dust mites.

• Wash full loads, but do not overload the washing machine. Clothes need room to agitate for effective cleaning.

• Line dry clothes. To reduce wrinkling, nearly dry clothing may be tossed in the dryer for a few minutes.

• Soap-based detergents are biodegradable. Use detergents without phosphates, phosphonates or carboxylates.

• Many "dry clean only" items can be hand-washed in cool water and mild liquid soap.

• Always tackle a stain as soon as possible post spill.

• Be patient. Work slowly and carefully. When using a stain removal product, give it time to work. Do not rub or scrub so hard that you cause more damage.

• Hide impossible-to-remove stains by sewing on a pocket, monogram the spot, or add an iron-on patch.

• Soap nuts, which are an alternative to detergent and made from certain tree seeds, produce a soapy substance when they come in contact with water, and can be composted after being used.

• Concentrated laundry detergents have reduced packaging and have a smaller carbon footprint.

• Want fresh air? Open your windows instead of using an artificial air freshener.

• Wet spills are easier to clean.

### Stain Removal - Coffee and Tea 2
Place old rags under the spill. Pour club soda over the spill. The carbonation in the soda bubbles up the stain and the salts keep it from staining. Blot the fabric. Repeat the process if needed, changing the towels under the fabric as they absorb the stain. If the stain remains, sprinkle the stain with borax, work in with your fingers and launder.

### Stain Removal - Egg
Soak the garment in cold water.

### Stain Removal - Grass
Soak in white vinegar for one hour.

### Stain Removal - Grease
Blot the stain with vegetable-based detergent or soap. If the stain remains, rub in a paste of equal parts washing soda and water. Let set for an hour and rinse.

### Stain Removal - Gum
Freeze area with an ice cube, then peel off the frozen gum.

### Stain Removal - Ink 1
Soak in milk or white vinegar.

### Stain Removal - Ink 2
Use non-aerosol hair spray.

### Stain Removal - Ink 3
Soak cotton ball in rubbing alcohol to blot away spots.

### Stain Removal - Mustard
Soak the area in one part vinegar and one part water, then spritz with diluted liquid dish-washer soap. Scrub and rinse.

### Stain Removal - Paint
Soak the area in citrus solvent for about 10 minutes.

### Stain Removal - Perspiration 1
Saturate the area with shampoo, then launder as usual.

### Stain Removal - Perspiration 2
Soak in solution of two crushed aspirins per 1/2 cup of water for several hours, then launder as usual.

### Stain Removal - Tomato Sauce
Soak in white vinegar. Alternatively, try a paste of equal parts washing soda and water and rub in gently.

## Stain Removal - Wax on Fabric

Place a clean cotton rag over the wax and iron stained item, on low heat. Blot the melted wax with another rag as you iron to remove wax residue.

## Stain Removal - Wine

Gently rub out stain with club soda. Alternatively, stretch stained fabric over a bowl, and pour boiling water from a height of 2 to 3 feet.

### Green Laundry Statistics

| | |
|---|---|
| **90 %** | Total of energy used by a typical washing machine to heat the water; only 10 percent is used to power the motor. |
| **34 million tons** | Carbon dioxide emissions that would be saved if every U.S. household used only cold water for washing clothes. |
| **700 pounds** | Carbon dioxide emissions saved each year by line-drying your family's laundry, along with $75 of savings. |
| **99 pounds** | Carbon dioxide emissions saved per household each year by running only full loads of laundry. |
| **7,000 gallons** | Water saved per year by a typical front-loading washing machine compared to a top-loading washing machine. |
| **88%** | Average increase in energy efficiency for a washing machine between 1981 and 2003. |
| **49 %** | Laundry loads run with warm water in the U.S. 37 percent are run with cold water and 14 percent with hot. |
| **68 pounds** | Clothes and textiles the average American throws out each year. |
| **1/3 pound** | Chemicals (pesticides and fertilizers) used to grow enough cotton for just ONE T-shirt. |
| **10%** | Agricultural chemicals used to grow cotton in the U.S. |

Sources: Planetgreen.com, StopGlobalWarming.org, CNN, *Ready, Set, Green*, Energy Star, Association of Home Appliance Manufacturers, U.S. Department of Energy

- Do not use the rinse-hold cycle on your dishwasher. The cycle requires about three to seven gallons of hot water each run, and heating water takes more energy.

- Dry clothes in consecutive batches. Stop-and-start drying uses more energy because the dryer has to warm up each time you begin a new load.

- Clearing your dryer's vent of lint will save energy, extend your dryer's life and help prevent fires.

- Throw two clean tennis balls in the dryer to get rid of static electricity. This will soften fabrics and eliminate the need for dryer sheets.

- You may have to repeat a treatment to get a stain out. If you want to try a different cleaning agent, rinse the first one away completely before applying the next one.

- If a ring mark develops while removing a stain, hold the stained area over the steam of a boiling kettle to help remove it.

- Do not use soap on fruit stains. It will set them.

- To put the last bit of detergent to work for you, add water to the bottle, swish around and pour in the washing machine. The soap will dissolve in the water and most of the detergent will come out with the water.

- Energy-efficient washers can use up to 50 % less energy and 60 % less water than standard machines.

- Find the source of an odor to fix it rather than mask it.

- Try hand washing your "dry clean only" clothes instead of going to the dry cleaners.

# Home is Where the Heart Is

Keep it this way. Take care of your home and loved ones with a healthy environment to live and play.

# Home Furnishings

### Candles/Wax 1
Sponge with a piece of cotton dipped in rubbing alcohol.

### Candles/Wax 2
To remove candle wax from carpets, wait until wax has dried, place a brown paper bag over the wax, then press with a hot iron.

### Carpet 1
Baking soda (or cornstarch)
Crushed Lavender Flowers

To eliminate odors, sprinkle baking soda over carpet, let stand for 30 minutes, then vacuum. (Add lavender flowers for scent.)

### Carpet 2
For most carpet stains, soak spot with club soda and blot until stain is removed.

### Carpet 3
Spray bottle
Vinegar
Water

Mix equal parts vinegar and water in a spray bottle. Spray on stain, leave on for 10 minutes, then clean with a sponge and warm soapy water.

### Carpet 4
For grease spots, sop up grease with sponge, then rub cornstarch into spot, and let it absorb overnight. Vacuum the next day.

### Floor Wax Remover
Pour a small amount of club soda on a section of floor. Scrub well and let soak for a few minutes, then wipe clean.

### Flowers
2 tablespoons white vinegar
1 teaspoon sugar
1 quart water

Add white vinegar and sugar to water to keep flowers alive longer.

### Furniture Polish 1
Mix equal parts olive oil and vinegar. Polish with a soft cloth.

### Furniture Polish 2
Mix two parts olive oil to one part lemon juice. Rub in mixture and let stand for several hours before polishing.

### Furniture Polish 3
Use full-strength flaxseed oil. Polish with a soft cloth. *Note: Linseed oil sold for furniture use may contains petroleum distillates*.

### Furniture Stain Removal and Scratch Covers 1
Dab white toothpaste on water stains. Allow to dry, then buff with soft cloth. Also, try rubbing in a bit of mayonnaise.

### Furniture Stain Removal and Scratch Covers 2
Open walnut to expose the inner portion. Use the "meat" of a walnut and rub into scratches in wooden furniture.

### Furniture Stain Removal and Scratch Covers 3
To remove heat rings, apply a paste of olive oil and salt. Allow to sit for about an hour, then wipe off with soft cloth.

• Look into a HEPA (high-efficiency particulate air) vacuum cleaner when it is time to replace your current model.

• Dust with a damp cloth to ensure that household dust, which collects toxins, is removed from surfaces and not stirred back into the air.

• Open windows and doors occasionally (in winter too) to rinse out any air pollutants that have accumulated inside.

• If you decide to use them, keep conventional cleaners and other chemical products out of your children's rooms.

• Choose furniture that contains as much solid wood as possible. Composite woods like plywood and particleboard are made from glues that contain formaldehyde, which is slowly emitted in vapor form as its host materials age.

• For sofas and chairs, choose natural stuffings like cotton batting over synthetic foams. Most foams are treated with brominated flame retardants, which enter a home's environment as the foam breaks down over time.

• Consider sustainable alternative materials for your furnishings like bamboo, reclaimed wood, and recycled metal or plastic.

• Consider reupholstering or restoring existing furniture instead of replacing it.

• **Greenguard.org** certifies furniture for environmental safety.

• Leaving shoes at the door reduces the amount of dirt tracked through your home.

• Take any removable rugs outside and beat the dust and hair out with a broom.

## Linoleum Floors

1/4 cup vinegar
1/4 cup washing soda
2 gallons hot water

Add vinegar and washing soda to hot water. *NOTE: Do not use this formula on waxed floors or on ceramic tile as vinegar can etch the grout.*

## Glass

Spray bottle
1/4 cup vinegar or 1 tablespoon lemon juice
2+ cups water

Fill a clean spray bottle with water and either white vinegar or lemon juice; wipe with a rag or old newspaper.

## Stuffed Toys

Rub in dry cornstarch, let stand 15 minutes and brush off.

## Upholstery

Remove stubborn stains by applying undiluted white vinegar to the stain, then wash as directed in the manufacturer's instructions. *Note: Shaving cream is a useful upholstery cleaner for new stains and ordinary dirt. Make your own shaving cream by mixing 1/2 cup mild detergent with two cups boiling water. Cool until it forms into jelly, then whip with a hand beater for a good stiff foam.*

## Upholstery - Cotton

Rub the soiled areas with art gum squares.

## Upholstery - Leather

Clean with a damp cloth and saddle soap. Prevent leather from cracking by polishing regularly with a paste made of one part vinegar and two parts flaxseed oil.

## Vase

Fill a vase with equal parts water and vinegar to get rid of a water line.

## Vinyl

1 teaspoon washing soda
1 cup of hot water

Dissolve washing soda in hot water. Sponge on and rinse.

## Wallpaper 1

A rolled-up piece of white bread or an art gum eraser will eliminate marks on wallpaper.

## Wallpaper 2

To remove wallpaper, mix equal parts of white vinegar and hot water, and sponge over old wallpaper to dissolve the adhesive.

### Walls 1
Crayon, pencil and ink spots can often be removed from painted surfaces with baking soda on a damp sponge.

### Walls 2
An art gum eraser will remove smudges and many other marks and spots from both walls and wallpaper.

### Walls 3
Vinegar removes stick-on hooks, labels and decals; apply saturated cloth and wait a few minutes to peel off. *Note: Use vinegar only on washable surfaces and washable paint.*

### Window Shades/Screens 1
Rub window shades with a rough flannel cloth that has been dipped in flour or cornmeal to remove dust.

### Window Shades/Screens 2
A soft eraser may remove spots and stains.

### Window Shades/Screens 3
Keep parchment shades clean by waxing them.

### Window Shades/Screens 4
A paint roller will remove most dust, dirt and lint from wire window screens.

### Wood Floors 1
Add one cup vinegar to a pail of hot water to clean floors.

### Wood Floors 2
Steep six tea bags (contains tannic acid) in a bucket of hot water. Be careful of hot water as cleaning floors.

### Wood Floors 3
To polish, apply a thin coat of equal parts vegetable oil and vinegar and rub into wood. *Caution: Be careful not to apply too much vegetable oil, leaving your floor too slippery.*

• Changing furnace filters regularly reduces energy costs and may extend the life of heating and cooling units by insuring they are operating efficiently.

• Look for products packaged in post-consumer recycled plastic.

• Look for cleaners in large containers or bulk packages, and buy concentrates, which use less water.

• Air furnace devices can be purchased and whistle when filter needs to be changed.

• Visit **localharvest.org** to find farmers markets in your area, or join your Community Supported Agriculture (CSA) group and pick up fresh fruit and vegetables weekly.

• A few progressive companies, including *Ecover* and *Seventh Generation,* claim to disclose all ingredients, even though they are not required by law to do so – a model for other manufacturers.

• Keeping your existing equipment well maintained is probably the easiest and cheapest way to start saving water and energy.

• Purchase rechargeable batteries instead of single-use.

• Refrigerators are the single most energy intensive unit in the household, followed by the dryer says the U.S. Department of Energy.

• Remove muddy footprints on the carpet with salt. Sprinkle with a generous amount and rub it in. Vacuum it up after an hour. If some of the spot remains or mud is dried, cover with a solution of 1/4 teaspoon dishwashing liquid in a quart of warm water. Vacuum again after it dries.

# Let It Shine!

Jewelry is one way of holding special memories. Hold your keepsakes clear and dear with nontoxic solutions.

# Metal and Jewelry

### Aluminum 1
Cream of tartar
Water

Mix a paste of cream of tartar and water, then buff with soft cloth to clean aluminum.

### Aluminum 2
Lemons
Baking soda

To remove tarnish, rub item with sliced lemons. If badly tarnished, sprinkle baking soda on the lemon first. *Note: May also be used on brass, bronze and copper.*

### Brass
1 teaspoon salt
1 cup white vinegar
1 cup all-purpose flour

Wash brass item in soapy water. Apply a paste of salt, white vinegar and flour, then rub vigorously. Wash again with soapy water, rinse and dry. *Note: Do not use this recipe on lacquered brass.*

### Brass/Bronze
Polish with soft cloth dampened with lemon and baking soda solution, or vinegar and salt solution.

### Chrome 1
Rub with undiluted vinegar.

### Chrome 2
Polish with baby oil, vinegar or aluminum foil with shiny side out.

### Copper
Wipe with a cloth dampened with lemon juice and salt, or with hot vinegar and salt.

### Gold
Clean with toothpaste, or with paste of salt, vinegar and flour.

### Gold and Silver Jewelry 1
Baking soda
Water

Mix three parts baking soda to one part water; rub solution gently on jewelry, then rinse and dry with a soft cloth.

### Gold and Silver Jewelry 2
Place a piece of chalk in your jewelry box to prevent tarnishing.

### Silver 1
Rub with a paste of baking soda and water. Rinse with hot water and polish with a soft cloth.

### Silver
Aluminum foil
Water
1 teaspoon salt
1 teaspoon baking soda

Line a pan with aluminum foil, fill with water and add salt and baking soda. Bring to a boil, and soak silver. The aluminum foil attracts tarnish. Rinse silver and polish with a soft cloth.

### Stainless Steel
Rub with a paste of baking soda and water.

# Learn as You Go

The amount of environmental resources grows every year, leading to better technology and increased awareness. There are many local grass roots organizations that are in need of people just like you. Get involved!

# Resources

Information about "green" cleaning and homemade recipes provided have been culled from a number of resources, including the following:

## Books

*GreenGreenerGreenest, a Practical Guide;* 2008; Lori Bongiorno
*Go Green, Live Rich;* 2008; David Bach
*Gorgeously Green;* 2008; Sophie Uliano
*Green Living;* 2001; Sarah Callard and Diane Millis
*Green Living, the E Magazine;* 2005; the editors of E/The Environmental Magazine
*Green Living for Dummies;* 2008; Yvonne Jeffery, Liz Barclay, Michael Grosvenor
*Green Up Your Cleanup;* 2008; Jill Potvin Schoff
*Illustrated Green Guide, The Complete Reference for Consuming Wisely;* Editors of the Green Guide magazine
*It's Easy Being Green;* 2006; Crissy Trask
*The Everything Green Living Book;* 2007; Diane Gow McDilda

## Magazines

*Body and Soul;* **bodyandsoulmag.com**
*The Green Guide;* **the greenguide.com**
*Natural Home*; **naturalhomemagazine.com**
*ReadyMade;* **readymade.com**
*Real Simple*; **realsimple.com**
*Woman's Day;* **womansday.com**

## Websites

**care2.com**
**drweil.com**
**coopamerica.org**
**eartheasy.com**
**epa.gov**
**householdproducts.nlm.nih.gov**
**idealbite.com**
**ecocycle.org**
**geocities.com**
**hgtv.com**
**quickandsimple.com**
**recipegoldmine.com**
**seventhgeneration.com**
**vinegartips.com**

# Cleaning you can count on

Do you know what you are spraying, scouring or scrubbing with in your home? Knowing what is in your current cleaning products is a good start. There are many reasons to use environmentally-friendly cleaning methods. Avoiding adverse health effects, improved air quality and saving money are all part of the package.

Do you find it strange that we lock up our cleaning supplies so our children and pets cannot get into them, but yet we use them to clean every surface they touch?

Within the *Eco-Cleaning Guide*, you will find environmentally-friendly solutions for your entire home. Many of the ingredients for these cleaning recipes may already be in your kitchen.

Creating low cost, nontoxic cleaners is much easier than you might think. Once you make your own, you may never visit the commercial cleaning aisle again!

Visit SWANCC on the web at **swancc.org**.