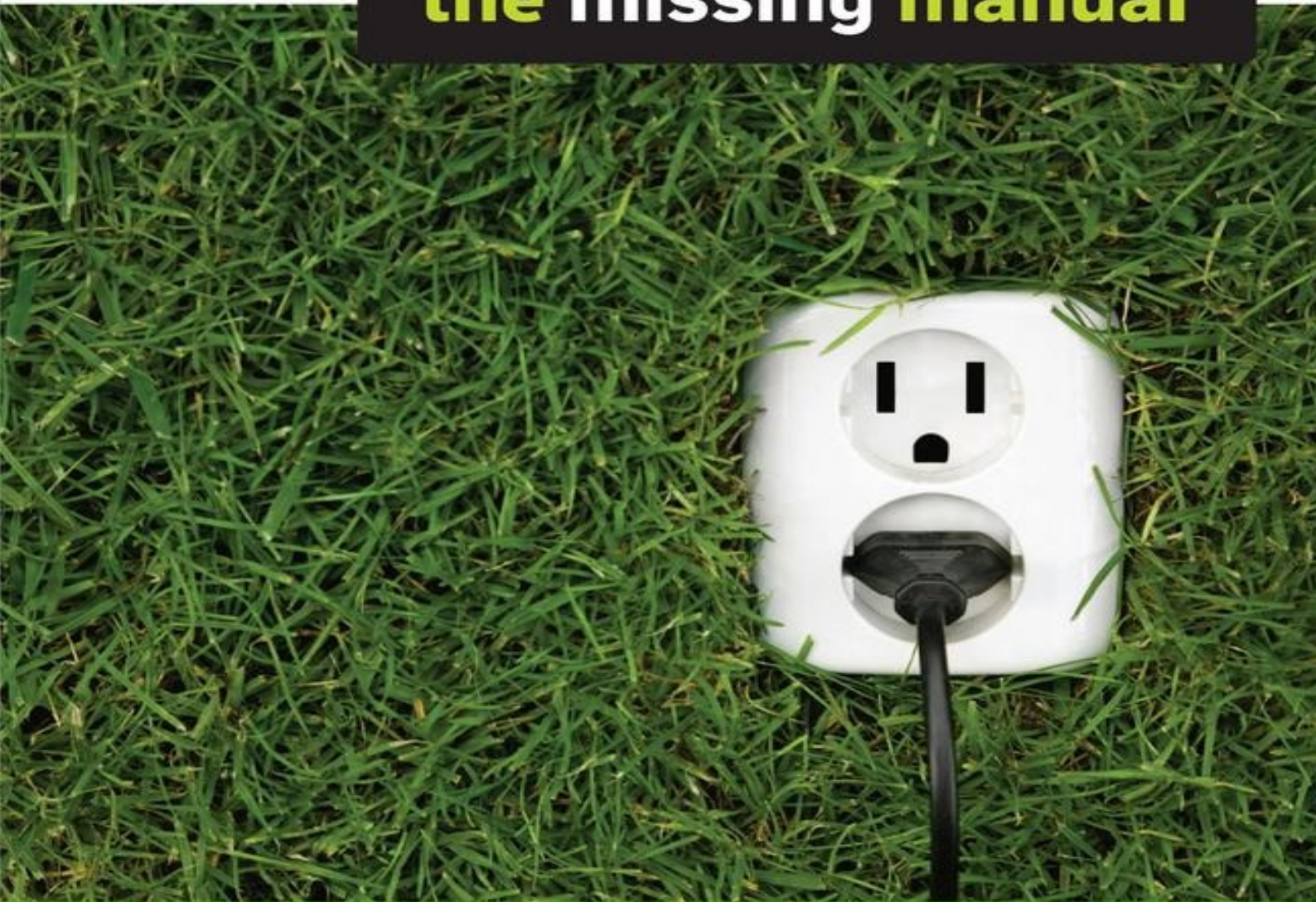


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Living Green: The Missing Manual

Nancy Conner

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Nancy Conner holds a Ph.D. from Brown University and is the author of numerous books, including *QuickBase: The Missing Manual* and *Google Apps: The Missing Manual*. She lives in Ithaca, NY, recently named one of the greenest U.S. cities, where she shops for organic produce at the local farmers market and browses second-hand stores. Each day, she commutes up the stairs to her home office, where she works as an author, editor, and distance educator. Read Nancy's Living Green blog www.missingmanuals.com.

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—*Nancy Conner*

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Introduction

Earth is home to a magnificent, interconnected series of ecosystems that maintain an astonishing variety of life, from microbes to elephants, from algae to eagles, from fungi to your next-door neighbor. But the planet—and its inhabitants—face some major challenges. Climate change is making the seas rise and the weather change, and threatening biodiversity. There isn't enough clean water in many parts of the world. Natural habitats like forests and wetlands are disappearing. Mountains of trash are piling up at an alarming rate. And people are being exposed to toxic chemicals in their homes and at work.

These threats are caused by people who have put their economies, technologies, and convenience first—and the Earth is paying the price. But more and more folks are starting to recognize the importance of living in harmony with the earth rather than exploiting it. They want healthy, natural foods and products instead of those laden with chemicals and toxins. They're trying to conserve resources by reducing consumption, using energy more efficiently, and finding renewable energy sources. And they're doing things with an awareness that we're stewards of the earth—not just for ourselves, but also for other creatures and for future generations.

This book takes a look at how things got this way. And, more importantly, it tells you specific things you can do every day to live a greener life.

Saving the Planet, One Step at a Time

When you look at the mess humans have made of the planet, it's easy to despair. What good does it do you may wonder, to carry reusable shopping bags or sort recyclables when factories continue to belch out more pollution each day than you cause in a whole year?

Doing your part makes a difference because there's power in numbers. As more people take steps to save the environment—reducing consumption, recycling and reusing, wasting less, becoming more energy efficient, insisting on renewable energy and sustainable industry—the effect builds. Think globally, but act where you can: at home, in your community, at work, and by joining or donating to environmental groups. Educate and encourage others, as well. The more people who work together to protect the environment, the bigger impact they'll have.

The planet didn't get this way overnight: It took lots of small steps to create these huge environmental problems. Fixing them won't happen overnight, either. But everything you do to live a healthier, more responsible, greener life is a step in the right direction.

What's a Carbon Footprint?

You've probably heard people mention carbon footprints, but you may not quite know what that term means. Your **carbon footprint** is the amount of greenhouse gases released into the atmosphere because of things you do. (As **Wind Energy** explains, greenhouse gases trap heat in the earth's atmosphere and cause global warming.) You may already think about emissions when you drive your car or pay your utility bills, but there are many factors that contribute to your carbon footprint:

- The size of your household.
- How energy efficient your home is.
- How much you travel and how you get there (plane, car, and so on).
- What you eat and how that food was produced.
- How much waste your household produces and how you deal with that waste.

Even factors like your age and where you live contribute to your carbon footprint. For example, according to one U.K. study, people aged 50–65 have bigger carbon footprints than people in other age groups.

So how do you find out how big your carbon footprint is? The University of California at Berkeley can tell you. Point your browser to <http://coolclimate.berkeley.edu> to use the school's Cool Climate Carbon Footprint Calculator.

Spend a few minutes telling the site about your household, energy use, and consumption, and it'll figure out the size of your footprint and how it compares to similar households, your country's average, and the world average.

NOTE

Worldwide, carbon footprints average about 4 tons of carbon dioxide per person per year. But in North America, the average is **five times** higher: 20 tons per person per year. European countries tend to do better. For example, the average footprint in the U.K. is about 10 tons per year, and in France it's only 6.

Once you know your carbon "shoe size", you can take action to mitigate it by changing your habits (walking or taking the bus instead of driving, for example), consuming less (it takes energy to make the products you buy), and doing things to offset the carbon emissions you cause (like planting trees or investing in clean energy; **Buying Carbon Offsets** tells you more about carbon offsets). Throughout this book, you'll find lots of suggestions and tips for saving energy, money, and the climate.

About This Book

Ever since Rachel Carson's 1962 book *Silent Spring* sounded the alarm about the effects of pesticides on the environment, countless books have been published that show how human behavior is taking a toll on the planet. Taken together, they present a convincing argument. But even if you want to start living a healthier, more environmentally responsible lifestyle, where do you begin?

That's where *Living Green: The Missing Manual* comes in. Although this book gives you plenty of reasons to think about your impact on the planet, its real focus is practical suggestions for making your impact a positive one. These pages are packed with tips, ideas, and instructions for greening in all areas of your life: at home, on the road, at work, at the grocery store, and beyond.

You probably picked up this book for one of two reasons: Either you're wondering what all the environmentalists are so worked up about (and what it has to do with you) or you're committed to living more responsibly and looking for more ways to put your ideals into practice. Either way, this book is for you. You'll get both the *whys* and the *hows* of greener living, and learn things you can do today to make the world a better place for everyone—now and for generations to come.

NOTE

You'll be happy to know that the pages of this book are printed on 100% recycled paper that's made using biogas energy, a renewable fuel source. Every ton of this paper that's manufactured saves 17 trees and over 10,000 gallons of water compared to paper from virgin materials.

About the Outline

Living Green: The Missing Manual is divided into three parts, each containing several chapters:

- **Part I, Living Green Begins at Home** helps you find ways to start living a healthier, greener lifestyle. Individuals don't have a lot of control over government policies or corporate practices, but you're the undisputed ruler of your home (well, unless you have a cat—then everyone knows who's *really* the boss). These chapters help you make your home a greener, healthier place to live:
 - **Home Green Home: Creating a Safe, Earth-Friendly Place to Live (Chapter 1)** gives you a tour of the hazards that may be lurking in cupboards, closets, and other parts of your home. You may be surprised to learn how many seemingly innocuous products could be harming your family health. But don't worry—the chapter is packed with recipes and tips for healthy, natural alternatives. And you'll also find tips for growing a lawn that's both lush and nontoxic.
 - **Save Energy, Money, and the Earth (Chapter 2)** is all about energy efficiency. This chapter shows you how to do a home energy audit (or hire a pro to do one for you), how to choose energy-efficient appliances, and how to avoid wasting energy and increasing your bills. Saving energy means reducing your carbon footprint, so you can save money *and* help the planet at the same time.
 - **Reduce, Reuse, Recycle (Chapter 3)** takes a familiar mantra—the new three Rs—and shows why it's important. This chapter also offers fresh thinking on how to reduce consumption (and waste), find new uses for old items, and recycle just about everything, including stuff like electronics and worn-out tires.
 - **Building and Remodeling (Chapter 4)** explains the principles of green construction and shows how to put them to work for you, whether you're building a new home or remodeling an existing one. You'll learn about LEED certification (what that means and why you should look for it)

finding a contractor you can work with, and hazards to watch out for when remodeling.

- **Part II, Greening Your Lifestyle** looks at greener ways to do everyday things. Whether you're playing with the kids, giving the dog a bath, eating a cheeseburger, or shopping for a new t-shirt, these chapters help you find more earth-friendly ways to do them:
 - **Raising a Green Family (Chapter 5)** looks at how to ensure a nontoxic environment for your baby, get through the first couple of years of a baby's life without adding a mountain of diapers to landfills, teach your kids respect for the earth, and encourage teens to take responsibility and get involved. There's also a section on green pet care.
 - **Eating Green: It's Not Just Spinach Anymore (Chapter 6)** explains how food is produced in the modern world—and how you can choose food that's made without toxic chemicals or iffy farming practices. Whether you're growing your own food or buying it at the store, you'll learn what organic means and why it's good for you. You'll also find tips on eating healthy when you go out.
 - **Responsible Shopping (Chapter 7)** helps you feel better about the purchases you make by pointing out earth-friendly options. You'll read about fair-trade goods, organic and natural clothing, and nontoxic health and beauty products. You'll also learn about environmentally friendly gifts and companies that give something back.
 - **Going Green: Transportation and Travel (Chapter 8)** explores traveling in ways that don't leave giant-sized carbon footprints all along your route. Get tips for minimizing driving—and getting better fuel efficiency when you do go by car. Find the most fuel-efficient car so you can save money at the pump and reduce greenhouse-gas emissions. And if you're taking a longer trip (whether for business, pleasure, or a little of both), you'll find tips for getting there greener.
- **Part III, A Greener World** moves beyond the home and personal spheres to the big, wide world. Whether it's in your community, your country, or across the globe, you can join forces with others to improve the quality of life on earth:
 - **Green Business Is Good Business (Chapter 9)** shows that making a difference and making a profit don't have to conflict. This chapter begins with ways you can green your workplace, from reducing waste to starting an office recycling program. It also looks at green-collar jobs, predicted to grow throughout the next decade and beyond. And it finishes with ways that companies can go greener, by purchasing carbon offsets and donating to earth-loving charities.
 - **Alternative and Renewable Energy (Chapter 10)** peeks into the future of energy, looking at technologies that are currently in use, under development, or on the horizon to produce power that's clean, renewable, and sustainable. The chapter covers wind, solar, and geothermal energy; hydropower; biomass; and hydrogen fuel cells.
 - **Getting Involved (Chapter 11)** suggests ways to use your time, efforts, and money to make a difference and help the earth. You'll learn about starting a grassroots project in your community, finding likeminded environmentalists online, and participating in national and international efforts. The chapter also covers environmentally responsible investing, so you can do good in the world while funding your nest egg.

This book mentions lots of great websites where you can learn more ways to be green. But sometimes that info is on a very specific part of a site, and the Web address that takes you to that spot can be awfully long.

The geeky name for a Web address is a **URL** (that's short for Uniform Resource Locator). For example, <http://www.google.com> is a URL—it tells your Web browser how to get to the Google home page. But not all URLs are as short as that. To learn about Amazon.com's Frustration-Free Packaging program (*Ditching Junk Mail*), for instance, you have to go to <http://www.amazon.com/gp/feature.html?docId=1000276271>. That's a lot of gobbledygook to type in, and you have better ways to spend your time. That's where TinyURLs come in.

In 2002, a guy named Kevin Gilbertson started the website TinyURL.com. The site's mission is simple: to shorten ungainly Web addresses. All you do is copy the address you want to shrink, head over to <http://tinyurl.com>, and then paste the address in the box. Click the Make TinyURL button and voilà—the site gives you a much shorter address (which starts with <http://tinyurl.com>) that takes you to the same exact spot as the long one.

Throughout this book, you'll see TinyURLs used in place of giant, clunky ones. To get to the Amazon page mentioned earlier, for example, you can use <http://tinyurl.com/59b7kn> instead. Just type that address into your browser and your computer will get you to the right place. Better yet, head to this book's Missing CD page at www.missingmanuals.com, where you'll find clickable links to all the sites referenced in this book.

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Part I. Living Green Begins at Home

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 1. Home Green Home: Creating a Safe, Earth-Friendly Place to Live

Living green is all about reducing pollution and creating a safe, healthy environment for you and your family, not to mention all the other critters on the planet. There's no better place to start your quest for greenification than at home—after all, that's where you have the most control.

Turns out there could be some pretty scary pollution right in your own house:

- The air in your home is probably more polluted than the air in the industrial part of a big city.
- Many common cleaning products contain toxic substances.
- The average American home contains 63 synthetic chemicals, which add up to about 10 gallons of hazardous stuff.

Yikes! Almost makes you want to up and move to a log cabin in the woods.

Luckily, you don't need all those nasty chemicals in your home. And, as you'll learn in this chapter, getting rid of them doesn't mean giving mildew free rein over your bathroom. Nope, you can easily and cheaply replace potentially harmful cleaning products with simple, natural alternatives. Same goes for your lawn: You can keep it healthy without feeding it synthetic fertilizers; the last section of this chapter teaches you how.

Before you can banish harsh chemicals in your home, it's important to learn about them and the problems they can cause so you can dispose of 'em properly. So this chapter starts with a rundown of common chemicals and the health problems they can cause. But don't lose hope: Keep reading to learn how to keep your family healthy without hurting the earth.

The Chemicals You Live With

Your home is your castle, your sanctuary, the place where you raise your family and relax at the end of the day. But rather than being a safe haven, many homes are a minefield of chemicals that can affect your health and harm the planet. In fact, the U.S. Environmental Protection Agency (EPA) has called the typical American home "the number one violator of chemical waste per capita" because many of those chemicals get tossed in the trash or go swirling down the drain. Let's take a tour of a typical home to see what chemical hazards may be lurking within its walls:

- **Throughout the house.** Paint, carpet, draperies, upholstery, and furniture may contain *volatile organic compounds*, or VOCs. The box on [VOCs and You](#) explains what VOCs are and why you should avoid them.
- **Kitchen.** Cleaners are the culprits here. Oven cleaners and drain uncloggers are loaded with lye. Dishwasher detergents may contain lots of chlorine—the leading cause of childhood poisoning—and phosphates, which pollute rivers and lakes. And many antibacterial cleaners contain a potentially harmful chemical called triclosan.

NOTE

The next section includes a table that tells you exactly how the chemicals mentioned here can affect you—see [How Household Chemicals Can Affect Your Health](#).

- **Bathroom.** Here you'll find toilet-bowl cleaners (which get rid of gunk with corrosive ingredients

like hydrochloric acid and oxalic acid), lye-filled drain uncloggers, and tub and tile sprays that go after mold and mildew while releasing sodium hypochlorite and formaldehyde into the air. And air freshener sprays may contain formaldehyde or phenol, neither of which you want to breathe in.

NOTE

When you open the cabinet under your kitchen or bathroom sink, a characteristic smell wafts out. You may associate this smell with a clean house—but it comes from chemicals you don't want to inhale. VOCs (**VOCs and You**) can escape even from closed containers, making the air under the sink some of the most polluted in the house. That's a good reason to use the green cleaning products discussed later in this chapter.

- **Laundry room.** The chlorine bleach you use to get your whites white is strongly corrosive, so you don't want it anywhere near your eyes, skin, mouth, or nose. Detergents and fabric softeners may contain chemicals and fragrances that can irritate skin or, worse, get **absorbed** through the skin and harm your health—not what you want on your family's clothes, towels, and bedding. And dryer sheets may contain chloroform or pentane.
- **Living and dining rooms.** The furniture polish or wax you use to clean your wood furniture may contain phenol or benzene. Upholstery and carpet shampoos are likely to have perchloroethylene or ammonium hydroxide in them.
- **Bedrooms and closets.** Bedrooms are often heavy on fabrics and upholstery: bedding, drapes, carpeting, and so on. These materials, especially when new, can emit VOCs (**VOCs and You**). And more VOCs are waiting in your closet. Dry-cleaned clothing, for example, may give off benzene or contain perchloroethylene. Permanent-press clothing may be full of formaldehyde, and the fibers in fleece easily absorb VOCs from the air—and then re-emit them. Dust mites and pet dander can also cling to your clothes and cause breathing problems. Most closets aren't very well ventilated, so your walk-in closet may have some of the most polluted air in your home.
- **Home office.** Love the smell of fresh markers? Hold your breath! Markers, including felt-tip pens, permanent markers, and dry-erase markers, contain solvents that help the ink dry fast. Those solvents get into the air and into your lungs. Copiers and some printers release ozone, VOCs (including formaldehyde), and **particulates** (tiny particles that come from materials like paper, ink, and toner). To breathe easier, make sure your office is well ventilated, and get an ozone-filtered laser printer.

TIP

Markers labeled "low VOC" or "low odor" don't release as many fumes. When you use a marker, put its cap back on when you're finished with it. Better still, use colored pencils or crayons to avoid fumes altogether.

- **Basement and garage.** If you have old paint cans sitting around, you're storing a source of VOCs that the EPA calls one of the top five environmental hazards. You don't want the ingredients in paint anywhere **near** your family: benzene, toluene, xylene, formaldehyde, even lead if the paint was made before 1970. That's why some states, like California, define certain kinds of leftover paint as toxic waste and have special rules for disposing of it (see **Clearing Out Clutter**). If you wear contacts, the lenses can absorb these VOCs and trap them against your eyes, where they can cause irritation and get absorbed into your body. Other stuff you may store in your basement or garage—like paint strippers, varnish, lacquer, pesticides, glues, and sealants—also give off VOCs. Car soaps, waxes, and products that help you remove tar and bugs from your car contain petroleum distillates that can irritate your skin and respiratory system.

NOTE

Fortunately, you can buy low-VOC paints. [Paint](#) tells you all about them.

That's a scary list! The next section goes into more detail about health problems associated with these chemicals. But don't lose hope: Starting on [Clean and Green: Environmentally Friendly Cleaning](#), you'll learn that you don't need all those nasty things in your house. There are all kinds of easy ways to avoid harmful chemicals while keeping your house clean and healthy.

FREQUENTLY ASKED QUESTION: VOCs AND YOU

What are VOCs and how can they affect me?

VOC stands for **volatile organic compound**, a type of chemical. Unless you're a chemist, that's not very illuminating, so let's break it down:

- **Volatile** means the chemical evaporates easily at room temperature. That's why when you use a spray cleaner on the kitchen counter, for example, you smell the fumes. VOCs' volatility is the reason they're behind so much indoor air pollution.
- **Organic compound.** Wait a minute—organic is good, right? Not always. It's good when it describes how fruits and vegetables are grown (page xx6), but in chemistry, an **organic compound** is a chemical that has carbon in its makeup. Some organic compounds, like carbohydrates and vitamins, are beneficial. But others, especially synthetic chemicals, can be harmful. Many organic compounds are irritants that can affect your eyes, skin, and breathing. Others, like formaldehyde and benzene, can cause cancer. When such organic compounds are volatile—that is, when they get into the air—you obviously want to avoid inhaling them.

How Household Chemicals Can Affect Your Health

The following table spells out health problems that common household chemicals can cause.

TIP

Household products are packed with potentially harmful substances, so this table can't cover them all. If you want to learn about a specific product or ingredient, check the Household Products Database from the U.S. Department of Health and Human Services at <http://hpd.nlm.nih.gov>. Search for a product by name to see possible health effects and safe handling instructions. Search for an ingredient to get a list of products that contain it, along with links to information about its toxicity.

Chemical	Health Effects	Found In
Ammonia	Eye, nose, and throat irritation; skin problems; aggravation of asthma symptoms	Cleaning products, paint stripper, adhesive removers, some fertilizers
Ammonium hydroxide	Eye, nose, and throat irritation; aggravation of asthma symptoms	Cleaning products, disinfectants, metal polishes, car care products, carpet and upholstery cleaners
Benzene	Cancer	Adhesive removers, degreasers, interior paints, dry-cleaning solvents
Chlordane	With long-term exposure: kidney, liver, and central nervous system damage; cancer	Flea powders, pesticides
Chlorine bleach	Eye, nose, and throat irritation; skin problems; aggravation of asthma symptoms	Cleaning and laundry products, toilet-bowl cleaners
Chloroform	Central nervous system damage; possibly cancer	Dryer sheets; adhesive removers
Cresol	With long-term exposure: kidney, liver, and central nervous system damage	Antibacterial cleaning products, disinfectants, deodorizers, pesticides
Dichlorophene	With long-term exposure: kidney, liver, and central nervous system damage; cancer	Flea powders, pesticides
Ethylene glycol	Dizziness; heart, brain, kidney, liver, and central nervous system damage	Antifreeze, de-icers, brake fluid, adhesives, paints
Formaldehyde	Eye, nose, and throat irritation; aggravation of asthma symptoms; headaches; nausea; fatigue; memory problems; possibly cancer	Adhesives, sealers, paint, caulk
Glycol ethers	Infertility	Water-based paints
Hydrochloric acid	Eye, nose, and throat irritation; aggravation of asthma symptoms	Cleaning products, toilet-bowl cleaners
Lye	Blindness (from direct contact with eyes); skin irritation	Drain uncloggers, oven cleaners, dishwasher detergents
Methanol	With long-term exposure: kidney, liver, and central nervous system damage	Antifreeze, de-icers, car care products, shellacs, adhesive removers, paint strippers
Naphthalene	Cataracts (with long-term exposure); nausea	Carpet cleaners, car care products, paints, insect repellants

Oxalic acid	With long-term exposure: kidney, liver, and central nervous system damage	Toilet-bowl cleaners, car care products, cleansers, metal polish
Ozone	Respiratory system damage	Given off by printers and copiers
Pentane	Eye, nose, and throat irritation; skin problems	Solvents, dryer sheets, fabric softeners
Perchloroethylene (also called tetrachloroethylene)	Dizziness; headache; nausea; skin irritation. With long-term exposure: kidney, liver, and central nervous system damage; possibly cancer	Adhesives and sealants, car care products, polishes, spot cleaners; dry-cleaning solvents
Perfluorooctanoate and perfluorooctane sulfonate	Infertility in women	Pesticides, stain-resistant upholstery, adhesives, nonstick cookware coatings
Phenol (a.k.a. carbolic acid)	Skin irritation. With long-term exposure: kidney, liver, and central nervous system damage	Antibacterial cleaning products
Sodiumhypochlorite	Eye, nose, and throat irritation; aggravation of asthma symptoms; skin irritation	Cleaning products, disinfectants, drain uncloggers
Toluene	Eye, nose, and throat irritation; dizziness; nausea; central nervous system damage; cardiac arrest	Adhesives, solvents, paints, car care products.
Triclosan	Liver damage	Antibacterial soaps and cleaning products, pet shampoos
Trichloroethane	Dizziness; liver and central nervous system damage	Adhesives, lubricants, furniture cleaners
Xylene	Dizziness; eye, nose, and throat irritation; respiratory problems; nausea; kidney, liver, and central nervous system damage	Adhesives and sealants, car care products, paints, pesticides

NOTE

This list is overview of some of the health problems household chemicals can cause, but of course it's not diagnostic. If you're suffering from any of the symptoms mentioned here, see your doctor.

The kinds of symptoms you have depend on the type of chemical, how concentrated it is, and how long you're exposed to it. For example, people whose work exposes them to high levels of VOCs, like painters and cleaners, are most likely to suffer health problems. Over time, even low-level exposure can cause problems, especially in kids, the elderly, people with existing conditions such as asthma or allergies, and folks who are extra sensitive to chemicals.

If you use products that contain any of the chemicals in this list, buy small quantities so you won't have to worry about disposing of leftovers. Also, be sure to work in a well-ventilated area (fresh air reduces the concentration of VOCs) and follow the manufacturer's directions. **Never** mix different kinds of cleaning products: Mixing ammonia with bleach, for example, creates chloramine gas, which is highly toxic—and often fatal—when inhaled.

TIP

Because VOCs can leak from closed containers, don't keep old, half-empty bottles of cleaning products, paint strippers, or other VOC-filled chemicals in your home. But don't just toss them in the trash, either—read on to learn how to get rid of them safely.

Disposing of Household Chemicals

By now, you're probably ready to gather up all your cleaning products and dump them in the trash. Not so fast: While it's a good idea to remove harsh chemicals from your home, you need to dispose of them safely. The earth will thank you for it.

To get rid of household chemicals, don't throw them in the trash, pour them down a drain, or burn them. If your community has a day designated for hazardous waste pickup, unload them then. If you're not sure how to dispose of hazardous waste where you live, call your city's waste department or your garbage company or go to www.earth911.com. This helpful site lets you type in the kind of stuff you want to get rid of (such as *paint* or *household cleaners*) and your Zip code, and it finds a disposal facility near you.

TIP

Head to this book's Missing CD page at www.missingmanuals.com for a list of all the websites mentioned in this book.

When it comes to health—yours, your family's, the environment's—you don't want to take chances. Luckily, you don't need to expose your family to harmful chemicals and indoor air pollutants because there are simple, healthier alternatives. As the next section explains, you can make your home greener and healthier in no time.

Clean and Green: Environmentally Friendly Cleaning

Nontoxic, earth-friendly cleaning products are nothing new. That's how people kept their homes clean before companies sold cleaners packed with synthetic chemicals. Your great-grandmother probably used vinegar and baking soda to scrub her house. This section shows that you don't need mass-produced chemicals to keep your home sparkling.

Here are the basics you'll need to green your cleaning:

- **Baking soda.** Sodium bicarbonate (that's baking soda's chemical name) is a nontoxic, inexpensive multipurpose cleaner. Many people keep an open box of it in the fridge to absorb odors, but you can use it in every room of the house. It's a cleanser, stain-buster, and all-around deodorizer. Try putting some in the cat's litter box to absorb odors. Or to freshen up a smelly carpet, sprinkle a layer of baking soda over it, leave the baking soda overnight, and then vacuum first thing in the morning.
- **White vinegar.** Vinegar is all-natural and all-safe—and an excellent all-around cleaner. Like baking soda, it deodorizes and cleans. It's also a natural ant repellent: Spray or wipe vinegar along doors and window sills where ants come in to keep them out. And a half-vinegar, half-water solution will make your windows sparkle. (If the half-and-half mixture leaves streaks on the glass, try adding a drop or two of liquid castile soap, mentioned later in this list.) Be sure to use **white** vinegar; other kinds like cider vinegar may discolor what you're cleaning.

TIP

Get two empty spray bottles; fill one with pure white vinegar and the other with half-vinegar, half-water. Use the full-strength vinegar for tough cleaning jobs, such as around the toilet and in the bathtub. Use the diluted vinegar to clean counters and windows and spot-treat carpet stains.

- **Lemon juice.** When life hands you lemons...use 'em to clean your house! The mild acid in lemon juice makes it great for cutting grease and getting stains out. A mixture of equal parts lemon juice and water in a spray bottle cleans your kitchen and bathroom and leaves them smelling wonderful. (You can also add a few drops of lemon juice to your water-and-vinegar cleaner to make it smell less vinegary.) No need to squeeze endless lemons, either—bottled lemon juice works just as well as fresh squeezed.

TIP

Lemon juice can spoil, so put this mixture in the fridge to keep it fresh. Or simply mix up a new batch whenever you're cleaning.

- **Club soda.** Not only does club soda make a good mixer, it also removes stains from fabrics and carpets, and does a great job of cleaning stainless steel. Pour a little on a cloth, and then dab at stains or wipe away fingerprints and smudges.
- **Borax.** This white powder is a naturally occurring mineral that dissolves easily in water and removes dirt. It also kills fungi and works as a deodorizer. You can find it by the detergents in most grocery stores. You'll learn several ways of using borax later in this chapter.

NOTE

Borax is a natural substance, but it still requires some common-sense care when you're handling it. Borax can be toxic if swallowed, so **don't** store it where kids can get at it. Some people report that borax irritates their skin after prolonged contact, so wear rubber gloves when you work with it, especially if you'll be scrubbing for a while.

- **Olive oil.** You've probably read that olive oil is good for your heart, but did you know it's also good for your wood furniture? To clean wood without using chemical polishes, combine three parts olive oil with one part white vinegar. Or, if you like lemon-scented polish, try two parts olive oil to one part lemon juice. Use a soft cloth to rub a small amount of polish into the wood, and then buff it with a clean cloth.
- **Castile soap.** This soap is made with vegetable oil (olive, coconut, or jojoba, for example) instead of animal fat or synthetic chemicals, and it comes in both bar and liquid forms. You can find it in health-food stores and some grocery stores. It's gentle, versatile, and earth-friendly. Use liquid castile soap for washing dishes and clothes; dilute it with water to use it as a spray cleaner.
- **Coarse salt.** This stuff is great for scouring pans and cookware. Mix coarse salt (like sea salt) with vinegar (try one part salt to four parts vinegar) to remove stubborn coffee and tea stains from cups, rust stains, and bathroom soap scum.

TIP

To polish copper, brass, or silver, mix a teaspoon of coarse salt into a cup of vinegar, and then mix in enough flour to make a thick paste. Apply the paste to whatever you're polishing and leave it there for at least 15 minutes. Then, rinse with warm water and use a soft cloth to make the metal shine.

- **Hydrogen peroxide.** This mild bleach (which you can find at any grocery or drug store) is much safer than chlorine bleach: it breaks down into just water and oxygen. It fights bacteria and removes stains, including blood stains. Use a 3% hydrogen peroxide solution for cleaning (check the label to find out the percentage).
- **Essential oils.** Not only do these smell great, they can also kill bacteria. These oils—which include thyme, peppermint, lavender, bergamot, clove, basil, pine, lemon, lemongrass, eucalyptus, and tea tree—are antiseptic and antibacterial. Just a few drops will do it: Choose a scent you like, mix 10–20 drops of the oil into a spray bottle full of water, and spray the mixture on surfaces to zap germs and bacteria. You can buy these oils at health food stores and shops that sell aromatherapy products. Look for the phrase "pure essential oil" on the label.
- **Cleaning cloths.** To save some trees, recycle old clothes and towels by cutting them into squares and using them to clean instead of paper towels.
- **A squeegee.** Rather than using fistfuls of paper towels to clean your windows, copy the pros: Use a squeegee to get your windows crystal clear and streak free. Squeegees are also great for cleaning mirrors and shower doors.
- **A plunger.** To clear clogged toilets and drains without resorting to caustic chemicals, use a plunger and some good, old-fashioned elbow grease. [Battling Bathroom Grime the Natural Way](#) has more tips for unclogging drains.

Recipe for an All-Purpose Cleaner

Equal parts white vinegar and water mixed in a spray bottle is a cheap cleaning solution that gets the

job done. But some people don't like the smell of vinegar, which **can** be a bit nose-wrinkling when you spray it (the smell dissipates quickly). Lemon juice smells better but costs more.

Here's a recipe for a good, all-purpose cleaner that works throughout the house. It cuts grease, cleans glass, disinfects countertops and other surfaces, removes soap scum from sinks and tubs, and leaves your home smelling great—all without hurting the planet:

1 cup water

1 cup white vinegar

1 drop liquid castile soap

4 drops grapefruit seed extract or eucalyptus oil, both of which are disinfectants. Undiluted eucalyptus oil can irritate the skin, so handle it carefully.

10–12 drops essential oil(s). Choose scents you like to boost disinfectant power and leave a fresh smell. Lavender is a good choice as is lemon or tea tree oil. Or try a combination, like six drops of lemon oil, three of orange, and three of lime to make your home smell clean and delicious.

Mix all the ingredients in a clean 32-ounce spray bottle. Spray on, and then wipe with a soft cloth. That's it!

NOTE

This mixture can separate if it sits for a long time, so be sure to shake the spray bottle before you clean.

Go ahead and tweak this recipe to find the ingredients and proportions that work best for you. You might try different essential oils, on their own or in combination. You can also add half a cup of 3% hydrogen peroxide solution to boost cleaning power. (If you don't like the smell of hydrogen peroxide, add a few more drops of essential oil.)

FREQUENTLY ASKED QUESTION: CONVENIENTLY GREEN

I barely have time to clean the house, let alone whip up my own cleaning products. What are some good, earth-friendly commercial cleaning products I can buy?

As consumers have become more interested in using safe, easy-on-the-environment cleaning products, companies have responded. If you don't have the time or inclination to cook up your own laundry detergent (**Clean Laundry, Clean Earth**) or air freshener (**Clean Laundry, Clean Earth**), check out some of these companies:

- **Biokleen** (<http://biokleenhome.com>) makes laundry and dishwasher detergents, as well as general cleaning products. All its products are biodegradable, nontoxic, and not tested on animals.
- **Ecos** (www.ecos.com) mostly sells kitchen, bathroom, and laundry products, with some others for the rest of the house. Ecos has a "Freedom Code," a long list of chemicals—including many of those mentioned earlier in this chapter—it **doesn't** use in its products.
- **Ecover** (www.ecover.com) makes products from renewable vegetable and mineral resources and specializes in dishwashing and laundry products, along with soaps and other household cleaners. Ecover also makes earth-friendly cleaners for cars and boats.
- **Method** (www.methodhome.com) makes a complete range of cleaning products using nontoxic, biodegradable ingredients. You can find Method products at places like Target, Costco, and grocery and drug stores.
- **Mrs. Meyer's Clean Day** (www.mrsmeyers.com) combines cleaning power with aromatherapy—on the website, you can browse products by fragrance or cleaning task. The company also makes baby products and aromatherapy-related gifts.
- **Seventh Generation** (www.seventhgeneration.com) takes its name from the Great Law of the Iroquois: "In our every deliberation, we must consider the impact of our decisions on the next seven generations." The company's website has a store locator to help you find where to buy its laundry and dishwasher detergents, cleaners, and other products.

A Green Kitchen Is a Healthy Kitchen

For most families, the kitchen is the heart of the home. It's where you do your cooking, eating, chatting, laughing, coffee-drinking, homework, and so on—in other words, it's where life happens. So you want it to be safe for your family, your friends, and yourself. This section gives you green cleaning strategies for the room everyone uses most.

For all-purpose cleaning, try the recipe on [Recipe for an All-Purpose Cleaner](#). Use this cleaner on countertops, stovetops, walls, inside and outside the fridge—everything up to and including the kitchen sink! For more specialized cleaning, try these approaches:

- For a good **mildly abrasive cleanser**, dampen a sponge and sprinkle on some baking soda, scrub away, and then rinse. Two tablespoons of baking soda dissolved in a quart of warm water shines up chrome and stainless steel sinks and stovetops without damaging the finish; simply apply the mixture, and then rinse it off.
- If you need a **nonabrasive cleanser**, mix a quarter-cup of borax with enough liquid castile soap to form a paste. If you want, add a few drops of lemon oil to make it smell good and add germ-fighting power. Use a damp sponge to apply a small amount of the mixture to the surface you're cleaning, and then follow up with a rinse.
- **To remove fingerprints from stainless steel**, dab a small amount of olive oil on a soft cloth, and then rub away the prints. To brighten stainless steel and protect its finish, dampen a cloth with white vinegar *or* club soda and use it to buff the surface to a shine.
- **When you run the dishwasher**, use a phosphate-free detergent. The trouble with phosphorus (which shows up as phosphates in detergents) is that, after it's gone down the drain, it runs off into rivers and lakes. Plants love phosphorus—it's an important nutrient for them. So when too much phosphorus gets into a lake, for example, it makes the algae grow like crazy, which upsets the lake's balance, making the water cloudy and stinky and harming aquatic plants and animals. Dishwasher detergents can contain as much as 4 to 8 percent phosphates, so look for brands that are phosphate-free, like those made by companies in the box on [A Green Kitchen Is a Healthy Kitchen](#).
- **To clean and deodorize the microwave**, combine half a cup of white vinegar with a cup of water in a microwave-safe glass bowl. Put the bowl in the microwave and heat it on high power until the mixture boils. Turn off the microwave and leave the bowl inside with the door shut for 5 to 10 minutes. This gets rid of odors and loosens zapped-on food splashes and stains so you can wipe them away with a damp sponge or cloth.

TIP

Another way to clean the microwave and get rid of old food smells is to use a bowl of lemon slices floating in water. Microwave it on high for a minute or two, let it sit, and then wipe down.

- **Cleaning the oven** is a special challenge when you've banished harsh chemicals from your home; it can be tough to loosen baked-on gunk. The first line of offense is a good defense: Try to prevent spills by putting a sheet of aluminum foil on the oven's floor, under (but not touching) the heating element. Change the foil as needed (be sure to recycle it).

If something bubbles over and you need to clean it up, sprinkle coarse salt ([Recipe for an All-Purpose Cleaner](#)) on the fresh spill while the oven is still warm but not hot (don't burn yourself!). If the spill is already dry, you may need to dampen it first with water. After the oven has cooled

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