



Oregon  
Environmental  
Council  
It's Your Oregon

Oregon Environmental Council's

# Eco-Healthy Homes

CHECKUP KIT



# Eco-Healthy Home Checkup

Use this checklist to identify eco-healthy aspects of your home and to identify areas for improvement. Set aside an hour or two to walk around your home and complete this checklist. All you need is a pen!













































Assets: Factors that are helpful in keeping a healthy home.



Challenges: Areas you may wish to learn more about to ensure healthy home choices.

| OUTSIDE YOUR HOME  | YES                      | NO                       | PAGE |
|--|--------------------------|--------------------------|------|
| Was your home built before 1978?   | <input type="checkbox"/> | <input type="radio"/>    | 12   |
| Are you located near a busy street or parking lot where cars run their engines?        | <input type="checkbox"/> | <input type="radio"/>    | 9    |
| Do you have a doormat for wiping shoes at the front door and other entrances?          | <input type="radio"/>    | <input type="checkbox"/> | 12   |
| Do you routinely remove shoes before entering the home?                                | <input type="radio"/>    | <input type="checkbox"/> | 12   |
| Do you see chipping or cracking paint around doors or windows?                         | <input type="checkbox"/> | <input type="radio"/>    | 13   |
| Do you use chemical fertilizer, weed & feed, weed killer or pesticides?                | <input type="checkbox"/> | <input type="radio"/>    | 11   |
| Do you use cleaning supplies outdoors on the sidewalk, deck or driveway?               | <input type="checkbox"/> | <input type="radio"/>    | 19   |
| Do you use insect repellants on your skin or in the yard?                              | <input type="checkbox"/> | <input type="radio"/>    | 11   |
| Do you store outdoor supplies (like paint or pesticides) in a room inside your home?   | <input type="checkbox"/> | <input type="radio"/>    | 19   |
| Are vents from your kitchen, bathroom and laundry room clean and unobstructed?         | <input type="radio"/>    | <input type="checkbox"/> | 8    |
| Do you have a deck or play structure made of treated wood and constructed before 2004? | <input type="checkbox"/> | <input type="radio"/>    | 16   |
| Do you have household pets?  | <input type="checkbox"/> | <input type="radio"/>    | 9    |

| INDOORS: LIVING AREA AND BEDROOMS                                    | YES   | NO  | PAGE |
|--|---|---|------|
| <b>What is the air like when you first enter the house:</b>          |   |   |      |
| Do you smell air fresheners, candles or incense?                     |    |    | 8    |
| Do you smell mold or mildew?   |    |    | 8    |
| Do aromas linger from cooking, cleaning or other activities?         |    |    | 8    |
| <b>What materials do you use to cover living area floors?</b>        |   |   |      |
| Wall-to-wall carpet  |    |    | 15   |
| Solid wood   |    |    | 15   |
| Vinyl (tile or sheets) or laminate wood or laminate bamboo           |    |    | 15   |
| Ceramic tile   |    |    | 15   |
| Cotton or wool area rugs   |    |    | 15   |
| Do you have old vinyl sheet flooring or tiles in poor repair?        |    |    | 15   |
| <b>What kind of window coverings do you have?</b>                    |   |   |      |
| Vinyl or metal blinds  |    |    | 15   |
| Wood or bamboo blinds  |  |  | 15   |
| Draperies or light-blocking curtains                                 |  |  | 15   |
| Vinyl shades   |  |  | 15   |
| Do your windows open and close?                                      |  |  | 8    |
| Are window screens and door screens in good repair?                  |  |  | 10   |
| Do you have houseplants?   |  |  | 8    |
| Do you see cracked or peeling paint near windows, doors, baseboards? |  |  | 13   |
| <b>How is your heat/air conditioning delivered?</b>                  |   |   |      |
| Central air  |  |  | 8    |
| Window unit air conditioner  |  |  | 8    |
| Fireplace or wood stove  |  |  | 9    |
| Electric fans  |  |  | 8    |



Assets: Factors that are helpful in keeping a healthy home.



Challenges: Areas you may wish to learn more about to ensure healthy home choices.

| INDOORS: LIVING AREA AND BEDROOMS (CON'T)  | YES                      | NO                       | PAGE |
|--|--------------------------|--------------------------|------|
| If you have furniture with foam cushions and pillows, is any foam exposed?             | <input type="checkbox"/> | <input type="radio"/>    | 15   |
| Does your wall thermostat have a manual dial (not digital)?                            | <input type="checkbox"/> | <input type="radio"/>    | 14   |
| Is your furniture or cabinetry made of composite wood (like plywood or particleboard)? | <input type="checkbox"/> | <input type="radio"/>    | 16   |
| Do you have upholstery, carpet or other fabric treated with stainguard?                | <input type="checkbox"/> | <input type="radio"/>    | 16   |
| Do you have micro-fiber cloths for dusting?  | <input type="radio"/>    | <input type="checkbox"/> | 8    |
| Do you dry clean clothes or other items (comforters, blankets, curtains)?              | <input type="checkbox"/> | <input type="radio"/>    | 21   |
| Do you see holes in baseboards and floors where wires and cables enter the home?       | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Do you have fluorescent lights (or compact fluorescent energy-saving bulbs)?           | <input type="checkbox"/> | <input type="radio"/>    | 14   |
| Do you have ceiling tiles or "popcorn" soundproofing texture on walls or ceiling?      | <input type="checkbox"/> | <input type="radio"/>    | 15   |

| CHILDREN'S ROOM  | YES                      | NO                       | PAGE |
|--|--------------------------|--------------------------|------|
| Are art supplies marked "AP" by the Arts and Creative Materials Institute?                     | <input type="radio"/>    | <input type="checkbox"/> | 20   |
| Look for soft, squeezable "rubber ducky" PVC toys. Are all of them labeled "phthalate free"?   | <input type="radio"/>    | <input type="checkbox"/> | 18   |
| Do you have vinyl "beach ball" toys, bath books and other pliable toys with a "plastic" smell? | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you have any metal costume jewelry?   | <input type="checkbox"/> | <input type="radio"/>    | 13   |
| Is your child's mattress covered in plastic, or does it have a "chemical" smell?               | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you have nursing pillows or stuffed toys with exposed stuffing?                             | <input type="checkbox"/> | <input type="radio"/>    | 15   |
| Does your child have art supplies or playthings that were not originally made for children?    | <input type="checkbox"/> | <input type="radio"/>    | 20   |

| BATHROOM   | YES                      | NO                       | PAGE |
|--|--------------------------|--------------------------|------|
| Do you see stains or signs of water damage under sinks, in closets or on walls?          | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Are there any signs of mold or mildew in the shower, sink, windowsill, walls or ceiling? | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Does water condense on the inside of windows?  | <input type="checkbox"/> | <input type="radio"/>    | 8    |
| Is your bathroom fan able to draw a piece of tissue towards itself?                      | <input type="radio"/>    | <input type="checkbox"/> | 8    |
| Do you have a thermometer that contains mercury?   | <input type="checkbox"/> | <input type="radio"/>    | 14   |
| Do you have a plastic or vinyl shower curtain?   | <input type="checkbox"/> | <input type="radio"/>    | 16   |
| Do your lotions, shampoos and personal care products list ingredients?                   | <input type="radio"/>    | <input type="checkbox"/> | 17   |
| Do you use antibacterial hand soap?  | <input type="checkbox"/> | <input type="radio"/>    | 17   |

| KITCHEN   | YES                      | NO                       | PAGE |
|---|--------------------------|--------------------------|------|
| Are there signs of water damage, leaks or drips under sinks, in cabinets or near windows? | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Does water condense on the inside of windows?   | <input type="checkbox"/> | <input type="radio"/>    | 8    |
| Is your kitchen fan able to draw a piece of tissue towards itself?                        | <input type="radio"/>    | <input type="checkbox"/> | 8    |
| Are there any signs of mold or mildew in the sink, windowsill, walls or ceiling?          | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Do you use only cold tap water for cooking?   | <input type="radio"/>    | <input type="checkbox"/> | 13   |
| Do you have non-stick coating on pots, pans or bakeware?                                  | <input type="checkbox"/> | <input type="radio"/>    | 16   |
| Do you have baby bibs, place mats or table covers made of vinyl?                          | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you use antibacterial hand soap or dish soap?  | <input type="checkbox"/> | <input type="radio"/>    | 17   |
| <b>Examine reusable containers like baby bottles, cups and lunch boxes:</b>               |                          |                          |      |
| Are any made of clear, hard, shatterproof plastic?  | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you ever use plastic containers in the microwave?                                      | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do any containers carry the recycling number 3, 6 or 7?                                   | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you drink or eat out of hand-painted, imported or old pottery?                         | <input type="checkbox"/> | <input type="radio"/>    | 13   |
| <b>Examine food in the pantry and refrigerator:</b>                                       |                          |                          |      |
| Do you use canned food or drink?  | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you use microwaveable popcorn?   | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Is your food packaged in styrofoam or cling wrap?   | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Do you choose lean meat, fish & dairy?  | <input type="radio"/>    | <input type="checkbox"/> | 12   |
| Do you choose organic or pesticide-free produce?  | <input type="radio"/>    | <input type="checkbox"/> | 11   |
| Do you have other plastic-wrapped foods (tv dinners, etc) for use in the microwave?       | <input type="checkbox"/> | <input type="radio"/>    | 18   |
| Are your dry goods stored in air-tight glass containers?                                  | <input type="radio"/>    | <input type="checkbox"/> | 10   |
| <b>Are your garbage, recycling and compost containers covered?</b>                        | <input type="radio"/>    | <input type="checkbox"/> | 10   |
| <b>Do you have any new cabinets or furniture items made with particle board or vinyl?</b> | <input type="checkbox"/> | <input type="radio"/>    | 16   |
| <b>Look under the sink and cabinets and behind the stove and refrigerator:</b>            |                          |                          |      |
| Are there any signs of pests (gnaw marks, droppings, moths)?                              | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Are there crumbs?   | <input type="checkbox"/> | <input type="radio"/>    | 10   |
| Is it possible to get to these nooks and crannies for cleaning?                           | <input type="radio"/>    | <input type="checkbox"/> | 10   |
| <b>Do you have old vinyl sheet flooring or tiles in poor repair?</b>                      | <input type="checkbox"/> | <input type="radio"/>    | 15   |

| BASEMENT AND LAUNDRY ROOM   | YES                      | NO                       | PAGE |
|---|--------------------------|--------------------------|------|
| Are there signs of water damage, leaks or drips under sinks or on walls or ceiling? | <input type="checkbox"/> | <input type="checkbox"/> | 10   |
| Does water condense on the inside of windows or on walls?                           | <input type="checkbox"/> | <input type="checkbox"/> | 8    |
| Is your laundry room fan able to draw a piece of tissue towards itself?             | <input type="checkbox"/> | <input type="checkbox"/> | 8    |
| Are there any signs of mold or mildew in the sink, windowsill, walls or ceiling?    | <input type="checkbox"/> | <input type="checkbox"/> | 10   |
| Is your clothes dryer vented to the outdoors with a clear and unobstructed vent?    | <input type="checkbox"/> | <input type="checkbox"/> | 8    |
| Have you tested your home for radon?  | <input type="checkbox"/> | <input type="checkbox"/> | 14   |
| Do you see steam pipe or hot water pipe insulation in poor repair?                  | <input type="checkbox"/> | <input type="checkbox"/> | 15   |
| Do you have old vinyl sheet flooring or tiles in poor repair?                       | <input type="checkbox"/> | <input type="checkbox"/> | 15   |
| If you use this area as a workshop, do you have ventilation or windows that open?   | <input type="checkbox"/> | <input type="checkbox"/> | 8    |

### Tool kit [Refer to Page 19]

Take an inventory of all the consumable products (such as paint, glue, caulk, solvents, paint stripper) that you use for household repair, yard maintenance or heavy-duty cleaning jobs.

| PURPOSE | HOW OFTEN DO YOU USE? |        |        | CAUTION,<br>WARNING,<br>DANGER? | ACTIVE<br>INGREDIENT | SCENTED? |    | AEROSOL SPRAY? |    |
|---------|-----------------------|--------|--------|---------------------------------|----------------------|----------|----|----------------|----|
|         | DAILY                 | WEEKLY | RARELY |                                 |                      | YES      | NO | YES            | NO |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |

### Cleaning supplies [Refer to Page 21]

Take an inventory of the cleaning products you use and store in your kitchen, bathroom, laundry and other indoor areas. Include hand soap, dish soap, laundry supplies, dryer sheets, carpet freshener, air freshener.

| PURPOSE | HOW OFTEN DO YOU USE? |        |        | CAUTION,<br>WARNING,<br>DANGER? | ACTIVE<br>INGREDIENT | SCENTED? |    | AEROSOL SPRAY? |    |
|---------|-----------------------|--------|--------|---------------------------------|----------------------|----------|----|----------------|----|
|         | DAILY                 | WEEKLY | RARELY |                                 |                      | YES      | NO | YES            | NO |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |
|         |                       |        |        |                                 |                      |          |    |                |    |



# Environmental Health: Why It Matters

**There is reason to be concerned** that the chemicals in our homes, schools and communities—even in our bodies—could be causing us harm. Scientists have linked certain common chemicals to cancer, reproductive and developmental disorders, neurological disease, heart disease and asthma—many illnesses that are increasing at unprecedented rates.

## **The problem: More chemicals, not enough information**

Since the 1940s, the chemical industry has grown steadily, creating tens of thousands of synthetic chemicals that go into everyday products like toys, home furnishings, cleaning products and cosmetics. In the 1970s, the federal government recognized the need to consider the human health effects of exposure to these substances. In 1976, Congress passed the Toxic Substances Control Act giving the U.S. Environmental Protection Agency (EPA) the authority to regulate chemicals.

Unfortunately, under the law EPA has to have evidence that a chemical is harmful *before* it can require companies to test it for safety. Scientific evidence of harm has led regulators to restrict some substances. We no longer use house paint with high levels of lead, treat children's pajamas with toxic flame retardants, or use asbestos in home appliances. Nonetheless, most of the 80,000 chemicals in use today are presumed to be safe without having been thoroughly tested.

## **Precaution is the best practice**

The federal government has recognized that the law is failing to protect people. They acknowledge that we

still don't know enough about the way most chemicals affect us. And when new science uncovers risks posed by substances that have been on the market for decades, it's hard to put the genie back in the bottle and remove the harmful chemicals from products and the environment.

EPA has vowed to improve the way it regulates chemicals. Some states are also taking the lead to establish stronger programs that track, test and restrict chemicals. In the meantime, it is up to us to reduce our families' exposure to harmful chemicals and those we suspect may cause harm.

## **What you can do**

Most of us come into contact with chemicals in a variety of ways. We may inhale them, ingest them along with our food and drink, or absorb them through our skin. Some exposures cause immediate health effects, but other problems come from repeated exposures and may only appear after many years. To help you reduce the risks, Oregon Environmental Council consulted health and science professionals to identify harmful substances—both naturally occurring and synthetic—that people commonly encounter at home. Then, we collected the best recommended actions that can help you create and maintain an eco-healthy home.



# THE MOST VULNERABLE

Proving whether a substance is toxic or safe is complicated, in part, because human beings are complicated. Our individual behavior, genetics and history of exposure can change the way we react to chemicals. Some people are more sensitive to pollutants than others. If your family includes sensitive individuals, we suggest you choose bold steps from this guide to reduce toxic exposure.

## **Asthma, allergies, heart or lung trouble**

Irritants in the home can trigger allergic reactions and asthma attacks, and they can make a person more sensitive to other irritants. A person who has an allergic reaction to a pet, for example, may become more sensitive to a cleaning product that didn't cause trouble in the past. Pollutants can also worsen cardiovascular disease in those at risk for such illness.

## **Feeling sick at home**

It's so common, it has an official name: "sick building syndrome." Headaches, dry cough, itching, fatigue, sensitivity to odors, sneezing: if these complaints crop up at home and go away after leaving home, it may be a sign of a home air quality problem.

## **Children under 5**

Children are especially vulnerable to environmental contaminants in ways that can affect their long-term health. Growing brains and bodies have "windows of development" in which vulnerability to a chemical may be greater. Immature bodies have less ability to process and eliminate toxic material. Children eat, drink and breathe more (pound for pound) than adults do; so they receive higher exposures to pollutants in food, water and air. Children crawl on the ground, put hands (and objects) in their mouths, and explore in ways that can lead to higher exposures.

## **Pregnant women**

During pregnancy, chemicals that accumulate in a mother's body from food, water, air and skin contact can affect the fetus during early development, causing lifelong health challenges. Serious effects can occur in the first trimester, even before many women know they are pregnant. Breast feeding is very important to an infant's health, but it is important to note that some chemicals accumulate in breast milk and can be passed along to infants.

## **Adults over 65**

The strongest, healthiest senior may be more vulnerable to toxic chemical exposure than the average middle-aged adult. With age, our immune system, liver, kidneys and blood-brain barrier change. Because seniors typically spend more time in the home, reducing indoor exposures to toxics is especially important.

## **If you are a renter**

Many of the tips in this booklet apply to renters and home owners alike. But if you rent, working with your landlord to achieve a healthy home may require additional strategies. See Multnomah County's "What Makes A Healthy Home" handbook for landlords and tenants, which details responsibilities for all parties. [www.mchealthinspect.org/documents/Healthy\\_Homes\\_Handbook\\_web.pdf](http://www.mchealthinspect.org/documents/Healthy_Homes_Handbook_web.pdf)

## **Reach for the stars!**

Set goals you can achieve, and you will improve your family's health. Place a check mark next to actions you will take.

- ★★ Low and no-cost practices you can try with a small investment of time or a few dollars.
- ★★★ Affordable alternatives you can try the next time you shop, and activities that may take a long term commitment.
- ★★★★ Investments to consider when you make a big change, and goals to set when you're ready for a bigger challenge.

# AIR QUALITY

The U.S. Environmental Protection Agency ranks indoor air quality among the top five concerns for public health. Between smoke, dust, vapors and cleaning product residue, indoor air can be 100 times worse than outdoor air—and it is commonly two to five times worse. Because we spend 90% of our time indoors, managing air quality is essential to good health. Good air quality means good air flow, keeping air clean, and reducing sources of pollution.

## How's my air flow?

Ideally, when you walk into your home, it should smell like ... nothing. Lingering aromas—whether they are pleasant or not—are an indication that you may need better air circulation in your home. Condensation inside windows or on hard surfaces also indicates that you may need better air flow in your household. A little fresh air can go a long way to eliminating household hazards. Here's how to get air moving:

- **Throw open a window and turn on a fan for even a few minutes a day.** Even in the winter, your house will quickly warm after you've let in some fresh, cold air. [★★]
- **To control pollen from outdoor air, purchase a window filter.** A furnace filter fitted to your open window will also work. [★★]
- **Use the fans in your bathroom, kitchen and laundry room.** These fans are sometimes the only source of air exchange in a household. Because they are located near sources of moisture, it is important to use them when cooking, showering or drying clothes. You can also keep the fans on and the doors to these rooms open to promote air circulation in the household. [★★]
- **If you have a house-wide heating and cooling system, use the highest efficiency air filter that fits the system.** Be sure to change it as often as recommended. [★★★]
- **If your fan does not pass the “tissue test”—drawing a piece of tissue towards it—clean or replace the fan.** If you cannot find clear, unobstructed vents to the outdoors for these fans, they may need to be re-routed. [★★★]



- **If your home is well insulated, ensure a good system to refresh the air and keep pollutants from building up.** Central air heating and cooling systems typically do not bring fresh air into the house. The cost of a “whole-house ventilation system” starts at about \$300. [★★★★]

## Air-cleaning tools

There's no substitute for fresh air flowing in your home—but there are ways to give that fresh air a boost:

- **Dust with a damp cloth: Studies have found as many as 66 toxic chemicals in household dust.** Dry-dusting simply moves dust around. [★★]
- **Use micro-fiber cloths for dusting.** Microfiber cloths and mops are a great tool for keeping floors and surfaces dust-free. Particles cling to the microscopic hooks and loops, picking up dust without using detergent. [★★]
- **Don't buy an ozone generator.** Air filters, electronic particle cleaners and ionizers can help control pollutants, but ozone generators are not safe or effective. [★★]
- **Purchase houseplants to absorb air pollutants.** Heartleaf philodendron, spider plant, peace lily, snake plant, gerbera daisies, pot mums and bamboo palm are shown to be effective at removing some pollutants. [★★★]

## Air quality challenges

### If family members or regular visitors smoke

Cigarette smoke indoors—or drifting indoors from open windows or vents—can be an immediate irritant and also lead to long-term health challenges. The latest studies show that even “third-hand” smoke—the residue of smoke left on clothing and hair or furnishings—can

expose people to the same dangerous pollutants as cigarette smoke. What's more, smokers themselves cope with exposure to an irritant that may make them more vulnerable to other irritants in the home.

- Designate a smoking spot outdoors far from windows, doors and vents. [★★]
- Encourage smokers to wash hands after smoking, and to wear a smoking jacket that they can remove when coming indoors. [★★★]
- It's best for your whole family if you don't allow smoking indoors. [★★★★]

### If you have pets

Your beloved pet isn't toxic, but pet dander can lead people to develop allergies over time. Sensitivity caused by other irritants can also make a person more sensitive to dander. That's why it's good practice to reduce dander when you can.

- Wash your linens and furniture covers regularly in very hot water. This can also help control dust mites. [★★]
- Keep your pet's skin healthy with vitamins and use a wet washcloth on fur. [★★]
- Consult the Humane Society to find safe alternatives for flea and tick control. Spot-on "medications" are pesticides, and exposure can be harmful to both pets and humans. [★★]
- Keep pets out of sleeping areas, where we spend the most time. [★★★]
- Close off central air ducts to these pet-free areas to keep dander from circulating in the air. [★★★]

### If you have a fireplace, wood stove or gas heater

Combustion pollutants—gases or particles that come from burning materials—include moisture, sooty particles, carbon monoxide and other gases that can trigger health effects. Carbon monoxide from furnaces, space heaters and wood-burning appliances is especially dangerous because you can't sense it; low levels can cause headaches and nausea while higher levels can be deadly.

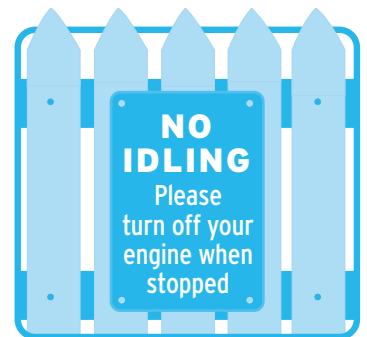
- Use cleaner-burning dry, well-seasoned hardwoods (elm, maple, oak) or clean-burning manufactured fire logs made from compressed sawdust. [★★]
- Do not use green or wet woods, painted or treated scrap wood or colored paper such as comics. [★★]
- Get your fireplace checked regularly for leaks or cracks that could bring pollution into your home. [★★★]

- Ensure that the chimney is cleaned regularly and that the flue is clear so that enough air is supplied to burn wood efficiently. [★★★]
- Install carbon monoxide detectors at breathing level in bedrooms. Detectors can be purchased at hardware stores for approximately \$25. Detectors with digital readouts will alert you to low levels of carbon monoxide that can cause headaches and dizziness. [★★★]
- Consider renovating to a cleaner-burning gas or wood pellet fireplace unit, or an efficient wood stove. EPA-certified stoves are cleaner and more efficient for heating than older wood stoves. Pellet-burning stoves are the most efficient and least polluting of new stoves. Oregon offers a residential energy tax credit for the purchase of cleaner-burning wood and pellet stoves. [★★★★]

### If you live near a busy street or parking lot

Car and truck exhaust contains a cocktail of pollutants that affect health.

- Post a sign in your window or parking lot encouraging visitors to shut off their engines while waiting. [★★]
- Pick times of day to circulate fresh air indoors when the traffic is lightest outdoors. [★★]
- Install window filters or fit a furnace filter into your windows. [★★★]
- Ensure that vents bringing air into your home are not located near areas where cars and trucks idle. If they are, install filters or re-route the vents. [★★★]



### Air quality resources

Wood burning handbook: [www.arb.ca.gov/cap/handbooks/wood\\_burning\\_handbook.pdf](http://www.arb.ca.gov/cap/handbooks/wood_burning_handbook.pdf)

EPA guide to ventilation for homes: [www.epa.gov/iaq/homes/hip-ventilation.html](http://www.epa.gov/iaq/homes/hip-ventilation.html)

EPA: Should you have your air ducts cleaned? [www.epa.gov/iaq/pubs/airduct.html](http://www.epa.gov/iaq/pubs/airduct.html)

EPA guide to air cleaners: [www.epa.gov/iaq/pubs/airclean.html](http://www.epa.gov/iaq/pubs/airclean.html)

Oregon information about wood stoves, inspectors and tax credits: [www.oregonfireplaces.com/index.htm](http://www.oregonfireplaces.com/index.htm)

# PEST CONTROL

"Integrated Pest Management" is an action plan to prevent pests and treat pest problems in a way that's best for people, pets, property and the environment.

## How to prevent pests

The number one rule of good pest management is to prevent pests before they become a problem. If you eliminate the food, water and shelter that attracts pests, you also avoid exposing your family to the allergens carried by pests and the toxic chemicals that may be used to treat them.

### Eliminate food

Crumbs happen; but cleaning regularly is important, even in hard-to-reach areas under cabinets and behind appliances. To monitor for pests, and to clean up problems before they become unmanageable, you must be able to get under cushions, cabinets, rugs and furniture. Pests can also find food that's intended for you or your pet. Many pests can get through wax paper, cardboard and plastic food containers.

- Ensure tight-fitting lids to keep pests out of indoor and outdoor garbage, recycling and compost. [★★]
- Store pantry food in canning jars or reusable glass jars with screw-tops, like peanut butter jars. [★★]
- Commit to a weekly cleaning and monitoring schedule. [★★★]
- Use a swivel-head mop, furniture casters, or other ways to get into tight spots for cleaning. [★★★]

### Eliminate shelter

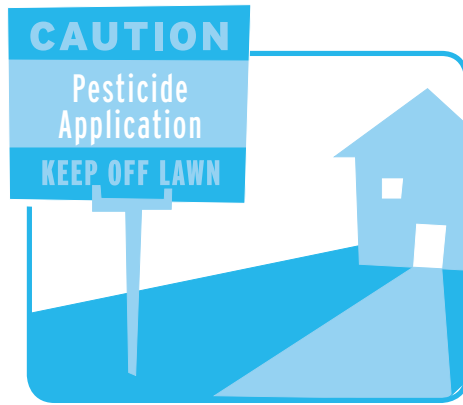
One of the most effective ways to prevent unwanted pests is to eliminate places where they can find safe harbor. Indoor pests love cracks, crevices, piles of paper or cardboard or wood piles—and any way to get indoors from the outside! Yard and garden pests love piles of brush and debris and rotting wood.

- Spend a few hours sealing cracks, holes and other places pests hide. Tools may include steel wool, caulk and spackle. [★★★]

- Dedicate some time to getting rid of rubbish that may harbor pests: piles of newspapers or cardboard, yard debris and brush, and rotting wood. [★★★]
- Install door sweeps, window weather stripping, screens over eave and dryer vents, screens on windows and doors, and automatic door-closers on frequently used doors. [★★★]

### Eliminate water

- Use a towel or squeegee to wipe down shower walls after showering. [★★]
- Run your fans while showering, cooking or laundering. [★★]
- Spend a day fixing leaks and eliminating standing water in the yard (empty buckets, trash can lids, puddles, etc). [★★★]
- Ensure that downspouts move water away from the walls of the building. [★★★]
- Take care of mold and mildew—a scrub brush, vinegar and elbow grease will work on shower walls and hard surfaces. Porous materials like drywall and carpet may need to be replaced. [★★★]
- Purchase a humidity meter at hardware stores for approximately \$20. If you regularly have problems with mold, a humidity meter can alert you to conditions that you need to control. A healthy range is 30–50% for humidity. [★★★]



## Pesticides

A pesticide is any substance used to prevent, control, repel, or kill living pests like insects, plants and rodents. In the United States, 75% of households use chemical pesticides, such as insect repellants, flea collars, and routine or spot applications of lawn chemicals or pest sprays to deal with insects, weeds, rodents, mold and mildew. Pesticide exposure can happen indoors as well as outdoors, even when pesticides are not applied indoors. Pest problems are often treatable with methods that don't require toxic chemicals or that limit exposure to those chemicals.

- ☐ **Try less-toxic remedies.** OEC's Safer Pest Management Guide and the web site [ourwaterourworld.org](http://ourwaterourworld.org) offer tips for safe treatments. [★★]
- ☐ **Ask the Humane Society to recommend alternatives.** Flea and tick controls are pesticides and can be harmful. [★★]
- ☐ **Ask your pest control or lawn care company to use Integrated Pest Management.** Ask them to inspect before they treat and use least-toxic methods. [★★★]

*If you must use chemical pesticides*

- ☐ **Choose spot applications like baits, traps, gels and pastes; place them out of the way of people and out of the reach of children and pets.** [★★]
- ☐ **Choose the right chemical for the pest, follow all safety precautions, and buy only as much as you need.** Do not store leftovers at home. [★★]
- ☐ **Choose a time of day for application that will allow the most time to pass (at least 24 hours) before people spend time in the treated area.** [★★]
- ☐ **Keep people informed: Keep track of what pesticides you use and in what amounts.** Post warning signs before you apply the pesticide. [★★★]

## Avoid pesticide exposure from food

A significant source of pesticide exposure comes from residue on fruits and vegetables, both fresh and frozen.

- ☐ **Wash fruits and vegetables briskly with water.** [★★]
- ☐ **When you can't choose pesticide-free produce, avoid those that carry the most residue, including celery, peaches and strawberries.** See the complete list at [foodnews.org](http://foodnews.org). [★★]
- ☐ **Buy certified organic or pesticide-free fruits and vegetables.** [★★★]

## Do you use insect repellants?

DEET is an effective insect repellant, but it also exposes you to a toxic substance through inhalation or ingestion. DEET in sunscreen is not recommended, because it can change the way the product is absorbed through the skin. The American Academy of Pediatrics recommends extreme caution when using DEET on children, and using no more than a 10% concentration once a day.

- ☐ **Try soybean oil-based products such as Bite Blocker for an effective and safer insect repellent.** [★★]
- ☐ **Invest in mesh clothing for camping or outdoor trips to keep cool and discourage insects.** [★★★]

## Pest prevention resources

OEC's Guide to safer pest management:

[www.oeconline.org/resources/livinggreen/athome/guide-to-safer-pest-management](http://www.oeconline.org/resources/livinggreen/athome/guide-to-safer-pest-management)

What to ask a professional:

[oregonipm.wsu.edu/homepcp.html](http://oregonipm.wsu.edu/homepcp.html)

National Pesticide Information Center:

[www.npic.orst.edu](http://www.npic.orst.edu)

# PERSISTENT POLLUTANTS

Some substances are of particular concern because they are not only toxic, but also persistent. In other words, they take a very long time to break down in the environment or to leave the body. They may travel in air, water, dirt and even plants and animals. These persistent substances include heavy metals like lead and mercury and synthetic substances like PCBs, which were used in electrical equipment before 1977 and remain in our environment today.

## Exposures from dirt

Soil near busy highways, older buildings, old agriculture sites and industrial sites may be contaminated from car exhaust, pesticides, lead paint, mercury and other persistent pollutants.

- Offer a rough doormat for people to scrape dirt from their shoes at the door. [★★]
- Provide a bench so that people may remove and store their shoes upon entering your home. [★★★]
- Cover any exposed dirt in your yard with plants, mulch or bark chips. [★★★]

## Exposures from food

Some persistent pollutants like mercury and PCBs accumulate in body tissues. Avoid exposure from meat, fish and dairy:

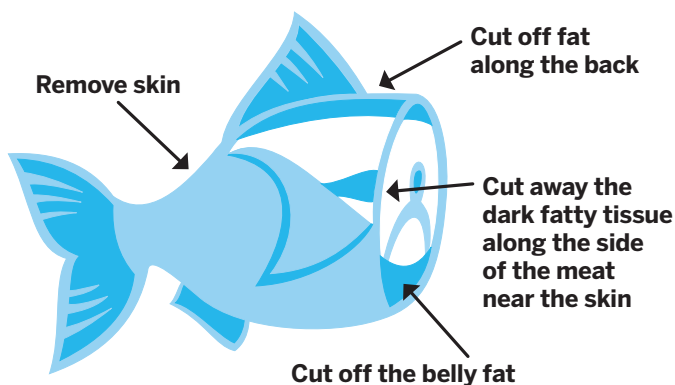
- Trim away fat and skin to reduce contaminants. [★★]
- Choose low-fat milk, cheese and other dairy. [★★]

- Avoid highly contaminated fish including bluefin, mackerel and swordfish. [★★]
- Choose fresh and frozen fish low in contaminants such as U.S. tilapia, pink shrimp, bay scallops and pollock (fish sticks). [★★]
- Choose canned light tuna or canned salmon instead of albacore/white tuna. [★★]
- Check local advisories for fish caught by friends and family. If no advisory is available, limit meals to 6 ounces of fish per week. [★★]

## Lead

Though the dangers of lead exposure have been known since the 1960s, only in the last decade have scientists found that even the smallest exposure to lead can impair brain function in children. Lead has been restricted from use in house paint (since 1978), water pipes (since 1986), and leaded solder (since 1988) but older houses can still

## Prepare your fish this way to reduce your exposure to PCBs



- Cook fish on a rack so the juices and fat will drip off.
- Do not eat the juices, bones, organs, fat and skin.

For more information call toll-free:

**1-877-290-6767**

For sport fishing health advisories, see:

[www.oregon.gov/DHS/ph/envtox/fishadvisories.shtml](http://www.oregon.gov/DHS/ph/envtox/fishadvisories.shtml)



contain lead. Dirt around the exterior of the house and dust indoors can contain lead if there is old lead paint on the walls. Lead can also be found in costume jewelry, art supplies, vinyl toys, hand-painted pottery and glazes.

- If you are concerned about lead exposure in children, a simple finger prick blood test can help. Ask your doctor or your county health department about low-cost lead screening. [★★★]

### Lead in old household paint

- Commit to regular monitoring for chips and cracks around doors and windows indoors and outdoors. [★★]
- Use a wet mop or sponge to clean floors and around windows every week. [★★]
- Clean up paint chips (indoors and out). [★★]
- If you find wear, re-paint walls with a fresh coat of low or no-voc paint. Do not disturb existing paint! [★★★]

## Healthy fish choices

Items marked with a ♥ are high in healthy omega-3 fatty acids. Recommendations are based on Department of Health and environmental recommendations. For more information, see [www.oceansalive.org](http://www.oceansalive.org)

### Avoid or eat rarely

• King Mackerel • Marlin • Shark  
• Striped Bass • Swordfish • Tilefish  
• Tuna Steaks • Bluefish • Bigeye Yellowfin

### Limit to one meal per week

♥ Black sea bass ♥ Chinook salmon • Croaker  
• Halibut • Lobster • Mahi mahi • Monkfish  
♥ Sablefish/Black Cod ♥ Tuna (Albacore)

### Safe to eat 2-3 times per week

♥ Anchovies • Butterfish • Catfish • Clams  
• Cod • Crab • Crab-Imitation ♥ Herring  
• Ocean Perch ♥ Oysters • Pollock/Fish sticks  
♥ Wild Salmon ♥ Sardines • Scallops  
• U.S. Shrimp/Prawn • Squid/Calamari • Tilapia  
♥ Trout • Tuna (canned light)

- Consult a professional before disturbing paint by sanding or scraping. Nearly half of childhood lead poisoning in Oregon comes from remodeling or repainting. Oregon contractors performing renovation on homes, child care facilities, and schools built before 1978 must be certified to prevent lead contamination. [★★★★]

### Water can also carry lead

Water can also carry lead, from old lead pipes, the solder that connects copper pipes, and PVC piping. Hot water—or water standing in the pipes—can carry higher levels of lead, as lead leaches into warm water and standing water.

- Run your faucet for 15-30 seconds until water is noticeably cooler before using water for drinking or cooking. [★★]
- Use only cold water for drinking, cooking and making baby formula. [★★]

### Lead in toys

Though there are restrictions on the amount of lead allowable in toys, a number of products are regularly recalled because of high lead content. It's wise to be cautious.

- Get rid of metal or painted costume jewelry and toys with painted surfaces. Children are exposed to lead when they put these toys or jewelry in their mouths. [★★]
- Test toys that may contain lead with a lead testing kit (found at your local hardware store). [★★★]

### Dishes

Artist's paints and ceramic glazes may contain lead.

- If you have hand-painted china, old glazed pottery and glazed pots from outside the United States, do not use them to serve food or drink. [★★]
- Test imported and old pottery with a lead testing kit (found at your local hardware store). [★★★]



## ○ Have you tested your home for radon? [★★★]

Radon is a radioactive gas that you can't see, smell, or taste—but it is the leading cause of lung cancer among nonsmokers. Radon seeps from the ground through cracks, drains or pipes. About 4-10% of Oregon homes are likely to have radon gas problems. You can screen for radon with a test kit from most hardware stores (or purchase a kit for \$15 and up from the National Radon Program Services—[www.sosradon.org](http://www.sosradon.org)). If you detect high levels, test a second time; levels vary from month to month. If the second test detects high levels, look into hiring a contractor to assess the problem and recommend solutions to ventilate the gas or to prevent it from entering your home.

## Mercury

When naturally occurring mercury is released into the environment from human activities or natural events, it undergoes a chemical change to become an even more toxic substance: methyl mercury. Fossil fuel used in power plants and cars, and industrial facilities such as cement kilns, mining and steel mills also release mercury. This substance is deposited by the rain into lakes and streams where it builds up in the bodies of aquatic life.

- **The best way to avoid mercury exposure is to research and follow warnings about fish consumption (see details in the beginning of this chapter).** [★★]

### Home sources

Because methyl mercury is so potent in the environment, it is important to dispose of household sources of mercury with care. Mercury is sometimes found in thermometers, in a small switch inside wall thermostats (in dials, not digital versions), and in some novelty items that light up or make noise such as birthday cards and holiday decorations. Energy-saving compact fluorescent (and regular fluorescent) light bulbs also contain a very tiny amount of mercury.

- **Dispose of mercury-containing items at a household hazardous waste facility.** These items are not a source of exposure unless they are broken or discarded improperly. Find the nearest hazardous waste facility by visiting [www.earth911.org](http://www.earth911.org). [★★]

- **If a fluorescent bulb is broken at home, open the windows for 15 minutes to let vapors disperse.** Use gloves to pick up pieces, or use sticky tape to clean up small pieces and powder. Don't use a vacuum—this will only disperse particles. Seal all pieces in a plastic bag or glass jar and dispose of it at a hazardous waste recycling facility. [★★]

## More resources on persistent pollutants

Cleaning up mercury spills in your home:

[www.epa.gov/mercury/spills/index.htm](http://www.epa.gov/mercury/spills/index.htm)

Fish consumption advisories in Oregon:

[www.oregon.gov/DHS/ph/envtox/fishconsumption.shtml](http://www.oregon.gov/DHS/ph/envtox/fishconsumption.shtml)

Avoiding lead when painting or renovating:

[www.epa.gov/lead/pubs/renovaterightbrochure.pdf](http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf)

Lead screening for children in Portland:

[www.jhillclinic.org/programs/#healthyhomes](http://www.jhillclinic.org/programs/#healthyhomes)

Household waste disposal facilities:

[www.earth911.org](http://www.earth911.org)

Guide to green light bulbs:

[www.ewg.org/greenlightbulbs](http://www.ewg.org/greenlightbulbs)

# FURNISHINGS

Modern chemistry has changed the make-up of our homes from floor to ceiling, and almost everything in between. Stain-resistant treatments, non-stick surfaces, fire retardants and cheap durable materials have created unintended exposures to chemical components. Thorough cleaning and good air flow will help manage exposure to these pollutants. When you are in the market for new furnishings and you can choose non-toxic alternatives, that's all the better!

## Asbestos

Asbestos was banned in home construction beginning in 1990. However, some asbestos is still present in older materials, and becomes an exposure hazard when in poor condition. Asbestos may look like a fluffy fiber in insulation, or may be mixed in to materials such as the backing on floor tiles. Common sources of asbestos exposure in the home include heating pipe insulation, ceiling tiles, vinyl floors and spray-on "popcorn" soundproofing on walls and ceilings.

- If material that you suspect to contain asbestos is in good shape, inspect it regularly to ensure it remains intact. [★★]
- If material that you suspect to contain asbestos is unraveling, frayed or breaking apart, cover and isolate the area. [★★★]
- Contact an asbestos professional for consultation before sanding, sawing, drilling or disturbing asbestos. [★★★★]

## Flooring

Wall-to-wall carpet, wood laminate and vinyl flooring can be sources of chemical exposure. Carpet is often manufactured with stain-resistant coating, adhesives, foam backing and flame retardants that can create air and dust exposure. Carpet tends to trap allergens and other pollutants that can create exposure for young children who crawl on it. Vinyl and laminate may also off-gas pollutants, as will adhesive used in installation.

- **Go carpet-free.** Choose throw rugs made of cotton, rattan or jute. [★★]
- **Skip the stain-resistant coating both in the shop and as a spray-on application for carpeting and furniture.** [★★]

- When you renovate with new hard flooring, look for low-voc and formaldehyde-free adhesive and flooring. [★★★]
- If you are looking for new carpet, consider natural fibers such as wool. [★★★]

## Window treatments

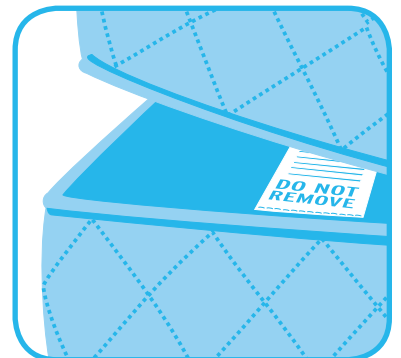
Drapes and curtains may be treated with stain-resistant or fire retardant chemicals that can break down and cause exposure. Some PVC mini-blinds are stabilized with lead, which can then be released into household dust. Plastic vinyl window shades may off-gas chemicals.

- When you buy new window coverings, choose natural fibers like cotton, linen, wool or hemp without the stain pre-treatment. [★★★]
- Aluminum, wood and bamboo are better choices than vinyl for mini-blinds and window shades. [★★★]
- Try making your own curtains with fabrics free from stain-resistant treatments. [★★★]

## Upholstered furniture

When upholstered furniture is treated with a stain-resistant coating and foam stuffing is treated with toxic fire retardants, these materials can break down and become household pollutants.

A label is required on all filled furniture, toys and comforters to inform you of the filling materials. Products labeled as meeting California TB 117 standards and containing polyurethane foam may contain toxic fire retardants.

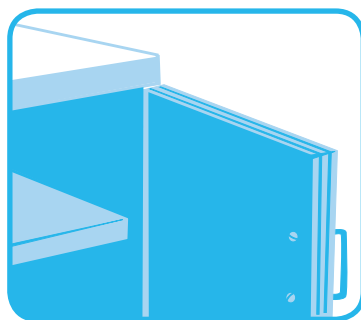


- If you have foam-stuffed furniture, be sure that upholstery is in good shape so that foam is not exposed. [★★]
- When given the choice of a stain-guard coating in the store, choose not to buy it. [★★]
- Look for cushions made with polyester, down, wool, or cotton as they are unlikely to contain toxic fire retardants. [★★★]
- Synthetic upholstery fibers like polyester and microfiber are stain-resistant. An eco-friendly choice is recycled synthetic fiber. [★★★]

## Plywood

Composite wood is made of small pieces bound together to create a solid panel. If made with urea formaldehyde, the binder may release harmful fumes.

These panels are used for flooring, walls, shelves, cabinets and furniture. In 2011, national standards will limit fumes from plywood, particle board and other composite wood. Some advanced companies already use wood products with no added urea formaldehyde.



- Ask for “no-added urea formaldehyde” when purchasing new furniture, cabinets or building materials made with composite wood. [★★★★]

## Treated wood

Many decks, fencing, benches and play structures were made from pressure-treated wood from the 1970s until 2003. The copper chromate arsenic (CCA) used to preserve the wood is toxic and can leach into soil and leave residue on the surface of the wood. CCA-treated wood is green when new and turns grey over time. Some treated wood has staple-sized slits in it. If your structure was made before 2003 and is not made of cedar, it is likely to be CCA-treated.

- If you have a treated wood structure, coat it twice a year with low-voc stain or sealant. Paint and other coatings are not recommended. [★★★]
- Choose rot-resistant redwood or cedar for new outdoor structures. [★★★★]
- Choose wood-plastic composites using 100% recycled plastic (not PVC) for new outdoor structures. [★★★★]

## PVC and vinyl

PVC and vinyl plastics, sometimes labeled with the recycling number 3, often contain a plastic softener (phthalates) that can leach out of products, exposing people to toxic gases in the air. Small children can be exposed through chewing and teething on these products. Vinyl can be found in shower curtains, mattress covers, gym mats, children’s sleeping mats, window shades, table covers, as well as in rain coats, beach balls, baby bibs and bath books.

- If you can’t avoid new vinyl, you can let it air out for a few weeks outdoors before introducing it into your home. [★★]
- Choose PEVA and EVA plastic alternatives that do not contain toxic phthalates. [★★★]
- Choose mattress covers and shower curtains made from tightly woven polyester or nylon. These are water-resistant materials that may be laundered. [★★★]

## Non-stick cookware

Non-stick coating for cookware is made with toxic, persistent perfluorooctanoic acid (PFOA). When non-stick pans are heated to 450°F, PFC-containing gases are released. A non-stick frying pan can easily reach over 700°F in about three minutes on an electric stovetop.

- If you do choose to use non-stick cookware, do not overheat or burn it, and discard it when non-stick coating is scratched or shows signs of wear. [★★]
- Choose alternatives to non-stick pans such as enamel-covered cast iron, cast iron and carbon steel. [★★★]

## More resources on furnishings

Less toxic hard flooring:

[www.rfci.com](http://www.rfci.com)

Alternatives to non-stick pans:

[www.nytimes.com/2006/06/07/dining/07pans.html](http://www.nytimes.com/2006/06/07/dining/07pans.html)

More about health effects from substances in furnishings: [www.oeconline.org/pollutioninpeople](http://www.oeconline.org/pollutioninpeople)

Asbestos in the home:

[www.epa.gov/asbestos/pubs/ashome.html](http://www.epa.gov/asbestos/pubs/ashome.html)

# PERSONAL PRODUCTS

About 89% of the ingredients in personal products—more than ten thousand ingredients in all—have not been evaluated for health safety. The FDA doesn't require a safety assessment before a cosmetic product goes to market. We do know, however, that there are some chemicals in cosmetics that should be avoided because of their toxicity.

- **Avoid “fragrance” when you can; fragrances can contain hundreds of chemicals including phthalates (also found in vinyl), which can disrupt hormones.** [★★]
- **Check ingredients to ensure that a product contains no fragrance.** Even “unscented” products may contain a fragrance to mask the scent. [★★]
- **Avoid personal product ingredients with the words “fluoro” or “perfluoro” which contain the same toxic chemicals as non-stick pans and stain-resistant fabric.** [★★]
- **Avoid “antibacterial” products such as hand soap, dish soap and deodorant containing triclosan.** Studies show that products containing triclosan don't work better than regular soap at preventing illness, but it may lead to a greater chance of allergies in children, and may create bacteria that don't respond to antibiotics. [★★]

The Campaign for Safe Cosmetics also offers this advice:

- **Limit the use of nail polish and always apply it in a vented area.** [★★]
- **Use the database at [www.cosmeticsdatabase.com/](http://www.cosmeticsdatabase.com/) to research cosmetics and safer choices.** [★★]
- **Use fewer products, and you'll cut down on exposure to toxic chemicals.** [★★★]

## More resources on personal care products

Safer cosmetics:

[www.cosmeticsdatabase.com/](http://www.cosmeticsdatabase.com/)

Guide to triclosan:

[www.ewg.org/triclosanguide](http://www.ewg.org/triclosanguide)

# PLASTICS

The numbers 1-7 in chasing arrows on a plastic container tell you one thing: the basic resin that serves as the building block for that product. They can be handy in identifying which plastics can go in the recycling bin. But many durable plastic containers are not labeled at all. Labels never list the chemicals added to make a plastic hard, soft, colored, clear, stable or shatterproof. Here's what we do know: some of these additives are toxic, and some may "migrate" from plastic into food or drink when subjected to heat, wear and tear, and contact with greasy foods, saliva, etc.



## Avoid PVC and vinyl

Plasticizers added to PVC and vinyl can leach into food and drink. Sometimes, PVC plastic is labeled with recycling number 3. Other times, you'll find it in cling wrap and candy twist-wrappers, plastic trays in boxed cookies or chocolates and candy bar wrappers. Saran Wrap and Glad Cling Wrap are PVC-free, but PVC wraps are still widely used to wrap meat, cheese and baked goods.



## Avoid Polystyrene

Polystyrene—often labeled with the recycling number 6—may appear as Styrofoam (in coffee cups, deli meat trays, take-out clamshell containers) or in rigid form (disposable soup and coffee cup lids). In contact with heat, fat or alcohol, the plastic can leach styrene, which can cause long-term or delayed effects on the nervous system or interfere with hormones.

## Avoid Polycarbonate



Science continues to emerge about the links between Bisphenol A (BPA), the building block of polycarbonate plastic, and a wide range of health problems. BPA is also used in the lining of cans, and may leach into food and drink. The good news is that, after 50 years, polycarbonate is on its way out of the marketplace. Many retailers and manufacturers have responded by replacing polycarbonate with safer alternatives. Unfortunately, it can be hard to determine the difference between polycarbonate and a safer hard plastic. Polycarbonate is clear, hard and shatterproof.

## Grease-proof coating

Grease-proof fast food packaging—such as microwave popcorn bags, pizza boxes and french fry containers—can be a source of human exposure to the same persistent toxic chemicals found in stain-proof coatings. Both Burger King and McDonalds have phased out use of the chemical in the last five years, and other actions are underway to limit exposure. Nevertheless, it's a good idea to avoid the worst-case scenario: greaseproof coating in contact with food heated in the microwave (such as popcorn).

- Limit canned food and drink to avoid BPA exposure from can linings. [★★]
- Keep plastics out of the microwave. [★★]
- Avoid food in grease-proof coatings such as pizza boxes and microwave popcorn bags. [★★]
- If plastic is your only option for bottles, pitchers, glasses, or other food packages, look for those labeled "BPA-free." [★★]
- Avoid PVC, vinyl, polystyrene and polycarbonate plastics (numbers 3, 6 and some 7's) in food containers, drinkware and in toys that children may teethe or mouth regularly. [★★★]
- For durable water bottles and baby bottles, switch to glass or stainless steel with no inner lining. [★★★★]

# HOUSEHOLD MAINTENANCE

A truly handy do-it-yourself home maker may find a wide array of chemicals in the tool kit for household repair, yard maintenance or heavy-duty cleaning jobs. Adhesives, degreasers, pesticides, fuel, paint, polish, solvents and more—each of these materials may have some serious health consequences if exposure occurs.

The first step to safety is knowing what to look for in safety labels and precautions. The second step is to:

- Buy only what you can use,
- Follow safety precautions very carefully, and
- Dispose of left-overs at the hazardous waste facility instead of storing them in your household.

## Safety labels

The “signal words” caution, warning, and danger are federally mandated words telling you whether there are immediate hazards posed by the product. “Caution” is the least hazardous; it may cause minor to moderate injury, such as eye or skin irritation. Warning is more hazardous; this item could cause serious injury or death. “Danger” is used when a hazard is imminent, and ignoring the label likely will cause serious injury or death. Hazards conveyed by these signal words include flammability, radioactivity, and explosive properties as well as toxicity. But these labels do not always warn you of chronic health effects—the damage that may appear long after exposure.

## Safety precautions

Because chronic health effects take time to be noticed, don’t count on your body’s signals to warn you of toxic exposure. Instead, be sure to follow all the precautions and instructions for working in a ventilated area, wearing gloves, protective goggles and using safety equipment. The best ventilation is to work outdoors; second best is a fan and an open window.

## Outdoor environment

Outdoor chores can send chemicals directly into rivers and streams through storm drains. Do your watershed a favor:

- ☐ Use a broom to clean sidewalks instead of a hose. ★★
- ☐ Wash your car at a car wash instead of in your driveway. ★★★

## Buy only what you need and store products safely

Storing dangerous products on the shelves in your home can lead to exposure if the products are not tightly sealed or locked away. Studies have documented pesticide exposure from products stored in basements or garages attached to the home. A better solution is to purchase only what you need, and to dispose of leftovers at a hazardous waste recycling facility.

## Signal words

If a product poses an immediate hazard, it must carry a signal word to describe the level of risk posed by its toxic, corrosive, irritant, or flammable properties. These signal words indicate the level of risk from immediate exposure:

**CAUTION:** Exposure could result in minor or moderate injury.

**WARNING:** A larger exposure can result in death or serious injury.

**DANGER:** A minor exposure can result in death or serious injury.

## Arts & Creative Materials Institute



ACMI does a great service to parents and artists alike: truth in labeling. ACMI was founded in 1936 to help the public find non-toxic art materials. Today, products bearing the ACMI “AP” seal are certain to be high quality and non-toxic—not posing immediate or long-term health problems. Products labeled “CL” are certified to be properly labeled for both acute and chronic health risks and offering proper instructions for safe use.



### Choose least-toxic products

Every day, innovators are discovering less toxic formulations—or re-discovering traditional solutions that use fewer chemicals. Low or No-VOC paint, citrus-based solvents and water-based finishes offer solutions that are safer for your family and your environment.

### Your household maintenance inventory

Take a look at the inventory you've completed of the household products currently in your home.

- ☐ If there are items you use daily or weekly that carry a signal word of caution, warning or danger, read the instructions and ensure that you are following all recommendations for avoiding exposure. [★★]
- ☐ If there are items you use daily or weekly that include an artificial scent, come in an aerosol can, or carry a signal word, refer to the Hazardless Home Handbook to make a list of safer alternatives (see web address below). The next time you buy, commit to trying these safer alternatives. [★★★]
- ☐ If there are items you use rarely and that carry a signal word of caution, warning or danger, take them to a hazardous waste recycling facility. [★★★]

### More resources for household maintenance

Find waste disposal sites near you:

[earth911.com/](http://earth911.com/)

Hazardless home handbook of safer alternatives to common toxic products: [library.oregonmetro.gov/files/hazardless\\_home\\_handbook\\_2006.pdf](http://library.oregonmetro.gov/files/hazardless_home_handbook_2006.pdf)



# CLEANING SUPPLIES

Once upon a time, the tools for keeping your home free of dirt, pests and germs were fairly simple. Scrub brushes, soap and water were the key. After the first synthetic detergent was introduced in 1946, it wasn't long before Tide, Glade, Pledge and a host of other synthetic cleaning products were on the market.

Today, there are more than 10,000 household cleaning products of various brands. Because manufacturers are not required to list all ingredients, it's hard to tell if your air freshener, brass polisher, carpet cleaner or dryer sheet contains questionable ingredients. We do know that many ingredients in cleaning products are linked to health concerns including asthma, cancer, and neurological damage. And we also know that we can save money, be kind to the environment, and simplify our lives by using fewer ingredients to do the job.

## Avoid aerosol

Even the most earth-friendly product, when delivered from an aerosol can, will be a health hazard. Aerosol, by design, creates very tiny droplets that can be inhaled deep into the lungs and transferred quickly into the blood stream. Larger particles can lodge in the nose and throat. Aerosols also contain solvents and propellants that can cause long-term health effects. Because aerosol can create greater exposure, it is best to choose pump bottles.

## Avoid fragrance

Here's a trade secret: that signature scent in dryer sheets, candles, air fresheners, cleaners or potpourri may contain any of 2,000 oil, fixative, preservative and solvent ingredients. Manufacturers are not obligated to

reveal ingredients in their secret signature scent. One class of chemicals used to make scents linger and slow evaporation is phthalates—the same hormone-disrupting chemical that softens vinyl. Other fragrance ingredients can trigger allergies, asthma, headaches—or, in the long run, they may be linked to cancer and degenerative disease. Air fresheners are among the most toxic products in our homes. Even air fresheners labeled “natural” can contain harmful ingredients.

## Safety label

As with household repair materials, cleaners carry federally mandated “signal words” to warn you of immediate hazards. Skip products that have danger or warning labels if you can. There are limits to what such labels will tell you about chronic health effects, but they are a good first indication that the product may contain toxic ingredients.

## Active ingredients

If a product requires a “signal word” of caution, warning or danger, the manufacturer must also list the hazardous ingredient. Active ingredients to avoid include petroleum-based ingredients, butyl glycol, nonylphenol ethoxylates and hundreds of others that are hard to pronounce or remember. Many home products that are also used in the workplace have “material safety data sheets” (MSDS) that you can research on the internet. Unfortunately, when it comes to information about toxicity, these data sheets too often list only “unknown.” The best solution? Avoid products with unlisted ingredients or active ingredients you don't recognize.

## Dry cleaning

Today, about 85% of cleaners use perc as their primary solvent. It has a sharp, sweet odor that evaporates—and it is also quite toxic when inhaled, even in small amounts.

- ☐ To minimize exposure to the toxicant, remove plastic covering while outdoors and let dry-cleaned clothes air outside overnight. ★★
- ☐ Better yet, seek a dry-cleaner that does not use perc or try wet-cleaning for appropriate fabrics. ★★★
- ☐ Look for clothes that don't require dry-cleaning when you make your clothing purchases. ★★★

## Other labels

Cleaning products often carry claims that have no reliable standard. Claims including, “green,” “nontoxic,” “natural,” and “environmentally friendly” don’t mean much without more information. Check out these resources for meaningful labels:

### Eco-label.org

Consumer Reports sponsors a database to give you more information about whether labels are truly meaningful.



#### Green Seal

This independent, non-profit organization identifies products and services that meet performance standards and environmental health standards.



#### Design for the Environment

This EPA program promotes safer products that meet criteria for human and environmental health. These products contain only ingredients that pose the

least concern among chemicals in their class. They may be the safest choice for the job, but they are not always free from hazards.

## Back to basics for cleaning with fewer chemicals

Whether you search the internet or a bookstore, you’ll find many “green cleaning” recipes made from a few simple ingredients that have low toxicity. When you know what each ingredient can do, you can make up your own recipes.

### Baking soda

This alkali powder neutralizes acids—which makes it effective at absorbing odors, loosening grease and boosting laundry detergent. Its mild abrasive quality makes it an effective scouring paste. Its absorbent properties make it useful for lifting stains such as blood, wine and grass. And its effervescent properties when mixed with vinegar can help loosen a blocked drain. Use baking soda instead of scouring powder, carpet deodorizer, room deodorizer, stain remover, litter box freshener and laundry booster.

### Vegetable-based/liquid castile soap

Castile soap, made from plant oils, has one simple purpose: to lift oil or dirt from a surface and suspend it, so that it can be washed away. Simple vegetable-based soap can be used to lift dirt and oil nearly anywhere: dishes, floors, counters, laundry, and even to wash hands or in the shower. It is easier on the skin than artificial detergents. Mixed with baking soda, it makes a great all-purpose cleaner with scouring action.

### Hydrogen peroxide (*brown bottle in the first aid aisle*)

Hydrogen peroxide is often sold in the first aid aisle—but its ability to sanitize makes it great for cleaning, too. Peroxide works by breaking down cell structure, which also makes it good for lifting stains like grass and wine. To sanitize bathrooms and kitchens, spray on peroxide and let it evaporate. Peroxide breaks down harmlessly into water in about ten minutes. Hydrogen peroxide must be stored in a dark bottle and in a cool place so that it doesn’t break down.

### Distilled white vinegar

As a mild acid, vinegar kills germs and mold, polishes chrome and windows and stainless steel, dissolves mineral deposits from coffee pots, neutralizes odors, cuts soap scum, dissolves grease and adhesives, softens laundry and more. Don’t worry about the slight scent when it’s wet; dry vinegar leaves no odor.

## A word about chlorine bleach

It’s cheap, it’s effective, it’s been in households for over 80 years—and it is toxic to both people and the environment. If you aren’t ready to give up chlorine bleach in favor of safer alternatives, there are things you can do to limit exposure. For instance, bleach is an effective sanitizer at concentrations of one tablespoon to a gallon of water. That means it’ll kill 99% of germs, and you won’t be able to smell it. If you can smell bleach after cleaning, you are using more than you need—and you are being exposed to a health hazard.

## Chlorine bleach safety

Cleaning, sanitizing and disinfecting all help control germs. But one sanitizer, chlorine bleach, can harm health when in contact with skin or when vapors are inhaled. To avoid exposure, follow these guidelines:

| TASK         | SURFACE                               | WHEN TO USE                                 | CONCENTRATION                        | METHOD                                    |
|--------------|---------------------------------------|---|--------------------------------------|---|
| Cleaning     | All surfaces                          | When dirt, food, dust and grime are present | Use plain soap and water—no bleach.  | Scrub, rinse with water and dry           |
| Sanitizing   | Food contact, toys, hard surfaces     | On clean surfaces to kill 99% of germs      | 1 Tbsp bleach to 1 gallon cold water | Wet surface, let sit 2 minutes, wipe dry. |
| Disinfecting | Bathrooms, areas of concern for germs | On clean surfaces to kill 100% of germs     | 1 Tbsp bleach to 1 quart cold water  | Wet surface, let sit 2 minutes, wipe dry. |

Remember: *More* bleach is not *more* effective.

Source: [www.ucsfchildcarehealth.org](http://www.ucsfchildcarehealth.org)

### Other materials

Lemons can lighten stains, cut grease and remove tarnish on copper or aluminum. Table salt on burnt food makes pans easier to clean. Olive oil with a little vinegar makes an effective wood furniture polish. Borax is a laundry booster and a less-toxic pesticide for insects (use with caution).

### Essential oil

Essential oils distilled from plants are a good alternative to artificial scents because they have very simple ingredients. A few drops of clove oil in a box of baking soda, for example, can freshen a room. However, it is important to use essential oils with caution. Just because something is natural doesn't mean it's always safe. Tea tree oil, for example, can kill germs—but it can also cause adverse health effects. Both tea tree and lavender oils are suspected of interfering with hormones in boys when absorbed regularly from lotion, shampoo and other personal products.

## More cleaning supplies resources

What labels really mean:

[www.greenerchoices.org/eco-labels/](http://www.greenerchoices.org/eco-labels/)

Green seal certified products: [www.greenseal.org](http://www.greenseal.org)

Design for the Environment products:

[www.epa.gov/dfe/](http://www.epa.gov/dfe/)

Green cleaning recipes:

[library.oregonmetro.gov/files//green\\_cleaners.pdf](http://library.oregonmetro.gov/files//green_cleaners.pdf)

## Your cleaning product inventory

Take a look at the inventory you've completed of the household products currently in your home.

- ☐ If there are items you use rarely and that carry a signal word of caution, warning or danger, take them to a hazardous waste recycling facility. [★★★]
- ☐ If there are items you use daily or weekly that carry a signal word of caution, warning or danger, read the instructions and ensure that you are following all recommendations for avoiding exposure. [★★]
- ☐ If there are items you use daily or weekly that include an artificial scent commit to replacing them with a fragrance free product. [★★]
- ☐ If you use air fresheners, candles, potpourri, incense or other scented products, try replacing them with a few drops of essential oil in a spray bottle of water, or in a dish of baking soda. [★★★]
- ☐ If you have products that come in an aerosol can, commit to seeking an alternative that comes in a pump bottle or squeeze bottle. [★★]
- ☐ Compare your inventory to the Hazardless Home Handbook from [oregonmetro.gov](http://oregonmetro.gov) to make a list of safer alternatives. Commit to trying these alternatives the next time you shop. [★★★]
- ☐ Make yourself a "green cleaning" kit with baking soda, vinegar, hydrogen peroxide, vegetable-based castile soap, a microfiber cloth, and a stiff brush. Try out green cleaning recipes to see what works for you. [★★★]

## NOW WHAT?

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We can't control all the pollutants in our lives. But in your home, every toxic-free change you make and healthy habit you adopt will make your family stronger and healthier.

### REACH FOR THE STARS!

Why let us know about the changes you are making? Because Oregon Environmental Council can help.

We will:

- Send you easy tips
- Keep you posted on environmental health news
- Show decision-makers how much you care about healthy homes
- Let you know when it's time to speak up for healthy communities and a healthy state

### Tell us about your commitment

- 1** Look back through the check boxes in this guide
- 2** Choose changes that you can truly commit to making in your home
- 3** Visit **[www.oeconline.org/healthyhomechallenge](http://www.oeconline.org/healthyhomechallenge)** to tell us about your commitment

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# The way you maintain your home can make a **big difference** to your family's health.



## Eco-Healthy Home Challenge

**Why?** Pollutants commonly found in households can trigger asthma, allergies, chronic disease and other negative health effects. You can protect your family's health by adopting "eco-healthy" practices in your yard, garden and any room in your house.

**What?** This booklet provides guidance on how to improve air quality in your home, prevent pests using least-toxic methods, avoid exposure to pollutants that accumulate in the home, and reduce harmful exposure from cleaning supplies, plastics, pesticides, furnishings, personal care products and household maintenance products.

**How?** **First**, use our room-by-room checklist to give your home an eco-healthy checkup.

**Second**, use our eco-healthy home guide to learn about:

[★★] Low and no-cost practices you can try with a small investment of time or a few dollars.

[★★★] Affordable alternatives you can try the next time you shop.

[★★★★] Investments to consider when you make a big change.

**Third**, set goals that you can achieve! Every change you make to promote a healthy home is a good one; and every change that endures will benefit your family's health.

## Reach for the stars!

Let OEC know if you're going the extra mile to try new things, adopt new habits and create an eco-healthy space. Visit [www.oconline.org/healthyhomechallenge](http://www.oconline.org/healthyhomechallenge) to tell us about your healthy home!

Oregon Environmental Council | 222 NW Davis Street, Suite 309 | Portland, OR 97209  
503.222.1963 | [www.oconline.org](http://www.oconline.org) | [info@oconline.org](mailto:info@oconline.org)

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