

# How to reduce toxic chemicals in your home

Chemicals are part of our lives. We treat illnesses, paint our houses, and even clothe ourselves with products that have been developed through chemical research. However, there are reasons to be cautious about our exposure to some chemicals.

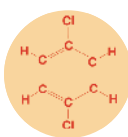


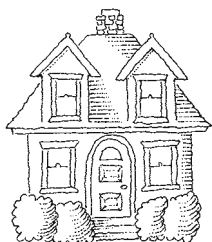
## Why reduce toxics?

From the foods we eat to how we maintain our yards and clean our homes, we can be exposed to chemicals in many ways. According to the U.S. Environmental Protection Agency (EPA), only a small fraction of the more than 84,000 registered chemicals have gone through complete testing for human health concerns. Some chemicals have immediate toxic effects. Others are toxic to our bodies only after repeated, long-term exposure.

**Children are especially susceptible** to the negative effects of chemicals, warns the EPA's Office of Children's

Health Protection. Pound for pound, children breathe more air, drink more water, and eat more food, and when they play, they crawl and put things in their mouths. As a result, children have an increased chance of exposure to potential pollutants, and because children's bodies are still developing, they may process these pollutants differently from adults. Nursing mothers and women who are pregnant, or plan to become pregnant, should also take precautions.





## A good principle

to follow is to always look for ways to reduce or eliminate the use of toxic chemicals as we go about our daily lives, in order to keep our homes healthy for our families and pets.



## Reducing toxics inside your house

Until recently, indoor air pollution has been largely ignored as a source of exposure to toxicity. But studies have shown that levels of harmful chemicals in indoor air may exceed the standards set by the EPA to protect us from harmful chemicals. You can reduce the problem by using products that are free of toxic chemicals whenever possible.

## What you can do

Simple changes in our everyday routines can reduce our long-term exposure to low levels of potentially harmful substances—changes in the products we buy, changes in the way we clean our houses, changes in how we take care of our yard. These changes will not only make our homes safer, they may also save us money.

## Choosing the products you buy

Whenever possible, buy products that are free of toxic chemicals. Alternatives are available. The market for nontoxic household products is growing in response to customer demand.

- ▶ When purchasing products, take a minute to carefully read the label. Look for products that appear to disclose all their ingredients. The words “warning,” “danger,” and “poison” indicate that the product’s ingredients are harmful. Choose the least hazardous product to do the job.
- ▶ Before you use a product, carefully read the directions and follow the instructions. Be sure to use the correct amount of a product. Remember, you won’t get twice the results by using twice as much.
- ▶ Select products (cleaners, shampoos, etc.) made from plant-based materials, such as citrus, seed, vegetable, or pine oils. By doing so, you are selecting products that are biodegradable and generally less toxic. These products provide the additional benefit of

### Become a label reader

Look for key words on labels and choose the least hazardous product.

Less toxic	Caution	mild/moderate
↑	Warning	moderate hazard
↑	Danger	extremely flammable, corrosive or highly toxic
More toxic	Poison	highly toxic

Source: Minnesota Pollution Control Agency

being made from renewable resources. Ask for plant-based products at your local grocery or retail store.

- ▶ Choose pump spray containers instead of aerosols. Pressurized aerosol products often produce a finer mist that is more easily inhaled. Aerosols also put unnecessary volatile organic chemicals into your indoor air when you use them.
- ▶ Ask for unbleached paper products or products bleached with hydrogen peroxide or oxygen, which produce less pollution during papermaking.
- ▶ Look for products with the EPA's Design for the Environment logo to help you find safer choices that won't sacrifice quality or performance.



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

## For yourself—bath, beauty, and hygiene products

- ▶ Avoid using antibacterial soaps. Antibacterial agents, while not directly harmful to you, contribute to the growing problem we face when bacteria mutate to strains that are more drug-resistant. Remember, however, that hand washing with any soap is still vital to maintaining good health.
- ▶ Purchase a mercury-free fever thermometer. Many effective alternatives are on the shelves at your local pharmacy. Broken mercury fever thermometers can be a source of toxic mercury levels in your home and discarded products containing mercury contribute to higher levels in the environment. Consult your county household hazardous waste program manager to learn where to take your old thermometer or visit [www.pca.state.mn.us/hhw](http://www.pca.state.mn.us/hhw).



*Ingredients lists don't always tell you everything that is in a product, but they can offer clues to the toxicity.*



*Using paper bleached without chlorine helps avoid the introduction of dioxin into the environment.*

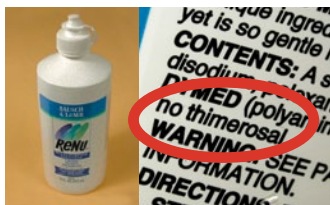


*Antibacterial agents tend to promote the growth of antibiotic-resistant bacteria strains.*



*Older mercury-containing thermometer*

*New electronic thermometer*



*Avoid hidden sources of mercury by looking for thimerosal-free products.*



*Take your shoes off at the door. They bring in lots of toxic pollutants from outside.*



*By cleaning with products like these, you can save money and avoid exposure to toxic chemicals.*

- ▶ Use eye drops, contact lens solutions, and nasal sprays and drops that are free of thimerosal or other mercury-containing preservatives.
- ▶ Look for unscented and natural dyes in products to avoid potential allergic reactions.
- ▶ Recipes for products using natural ingredients, such as baking soda, lemon juice, etc., can be found at [www.care2.com](http://www.care2.com). Search under non-toxic cleaning recipes

## Keeping your house clean

Remove your shoes when you enter your house. Your shoes can track in harmful amounts of pesticides, lead, cadmium and other chemicals. Keeping a floor mat at your doors for people to wipe their feet on when they enter will also help.

Vacuum carpets and floors regularly. Children playing on your carpet may actually be more exposed to pesticides lodged in the carpet than from the outside, because pesticides break down less readily indoors than outdoors. Use a fine particulate filter, such as a HEPA filter, in your vacuum cleaner, if possible. Otherwise, the dust vacuumed up is redistributed into the air where it can be inhaled.

Single-ingredient, common household materials such as baking soda, vinegar, or plant-based soaps and detergents can often do the job on your carpet or other surfaces. Soap and water have been shown to keep surfaces as free of bacteria as antibacterial soaps do. If your carpet needs professional cleaning, enlist a carpet service that uses less-toxic cleaners that are low in VOCs and irritants.

- ▶ Baking soda works well to clean sinks, tubs and toilets, and it freshens drains as well.
- ▶ Vegetable oil with a little lemon juice will clean wood furniture.
- ▶ Simmer a mixture of cloves and cinnamon or use vinegar and water as a safe and environmentally friendly air freshener.

- ▶ Use vinegar and water in a pump spray bottle for cleaning mirrors and shining chrome. Vinegar or soap and water with drying rags or a squeegee work well for cleaning windows.
- ▶ Use reusable unbleached cotton towels, rags, and non-scratch scrubbing sponges for all-purpose cleaning instead of bleached disposable paper products.
- ▶ Use dishwasher detergents that are free of chlorine bleach and lowest in phosphates.
- ▶ Use bathroom cleaners that are free of aerosol propellants and antibacterial agents.

## Watching what you eat

- ▶ Choose organic fruits and vegetables for your family whenever possible. They have been shown to have less pesticide residue.
- ▶ Rinse all fruits and vegetables to remove more of the pesticide residues and to ensure that fertilizer residues have been removed, too.
- ▶ Don't microwave foods in plastic containers. Chemicals from the plastic container can become absorbed by food during microwaving. Cover with waxed paper instead of plastic wrap to keep food from splattering.

## Controlling pests

In order to survive, pests need food, water, and living space. Remove all food sources through good sanitation and storage habits (i.e. screw cap jars, zip lock bags, garbage pails with tight fitting lids). Block pest entrances to your kitchen by caulking holes, using door sweeps on the bottom of doors, and keeping window screens in good repair. Avoid placing chemical pesticides around your kitchen to kill indoor insect and rodent pests. For more information on controlling pests without the use of chemical pesticides, go to [www.reduce.org/toxics](http://www.reduce.org/toxics).



*Replace toxic chemicals with some elbow grease: abrasive (green) and non-abrasive (blue) sponges, and cotton rags.*



*When storing winter clothing, use cedar blocks or bags of cedar chips hung with your clothes. Avoid mothballs that contain p-dichloro benzene or naphthalene, which are very toxic and also contribute to respiratory problems. Above: cedar scraps cut from lumber and wrapped in a mesh bag that once contained oranges.*



*Cleaning up and plugging holes is a good way to keep pests out of your house.*





Keep bugs out of the house by first keeping bugs out of your food. Use tightly sealed reusable containers to store your food.



Try simple ingredients like borax, non-chlorine bleach, and washing soda.



Avoid laundry cleaning products with chlorine.



Conventionally dry-cleaned clothes emit a possible carcinogen called perchlorethylene.

- ▶ Avoid using no-pest strips. They contain pesticides that are released to the air in your home.
- ▶ Consult your veterinarian for nontoxic pest control products for use on pet pests such as fleas and ticks.
- ▶ Use nontoxic head lice treatments, including combing, enzyme-based treatments, and mayonnaise or oil. See [www.headlice.org](http://www.headlice.org) for more information.

## Doing the laundry

- ▶ Instead of more complicated detergents, try using a combination of washing soda and borax in your machine. These are usually as effective as more complex formulas and are also usually cheaper.
- ▶ When possible, hang clothes to dry outside to avoid using the dryer, which uses energy and depletes resources.

In winter, fluff the clothes in the dryer, and then hang to dry indoors. You get the added benefit of increased humidity.

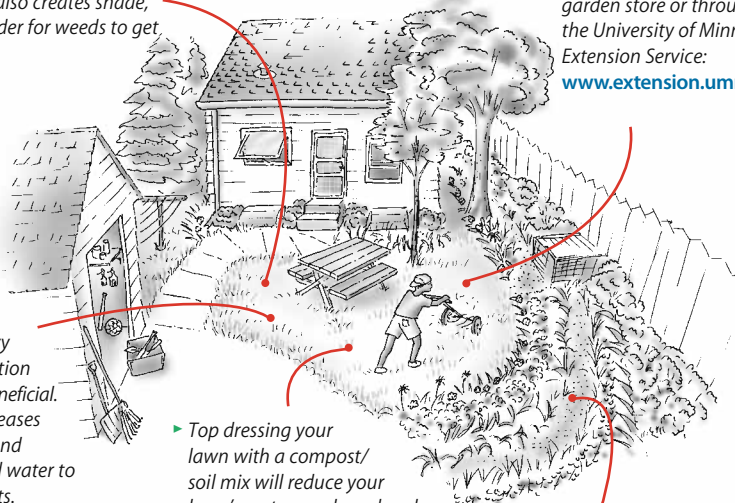


- ▶ Avoid bleach when possible. If whitening is needed, use non-chlorine bleach. These oxygen-based bleaches are often highly effective.
- ▶ Buy clothes that don't need dry cleaning, or use an alternative to dry cleaning called "wet cleaning." Clothes that have been dry cleaned emit perchlorethylene, a chemical that is a suspected carcinogen. The wet cleaning process uses water so there are no harmful gases emitted from the cleaned clothing. For a list of cleaners that use the wet cleaning process, go to [www.mntap.umn.edu](http://www.mntap.umn.edu) and search for "consumer dry cleaning".



# Reducing toxics in the yard

- ▶ Mowing your grass to a height of about 3 1/2 inches is the single most important thing you can do to improve the health of your lawn. By keeping grass length longer, the roots grow deeper and can reach more water during dry periods. Longer grass also creates shade, making it harder for weeds to get established.
- ▶ If your grass grows in heavy clay soil, aeration can be very beneficial. Aeration decreases compaction and allows air and water to get to the roots.
- ▶ Ask at your garden store for less toxic alternatives to chemical pesticides to control pests. Weeds such as dandelions can be removed easily by digging them up with a fishtail weeder when the soil is damp.
- ▶ If you use a lawn service, consider a service provider that uses less toxic alternatives.
- ▶ Test the soil to see what your soil needs. Apply only as much fertilizer as is needed. Soil test kits can be purchased at a lawn and garden store or through the University of Minnesota Extension Service: [www.extension.umn.edu](http://www.extension.umn.edu).
- ▶ Top dressing your lawn with a compost/soil mix will reduce your lawn's water needs and make it more resistant to drought and disease. You will need to fertilize less often, and when you do, you can use less fertilizer.
- ▶ Consider replacing parts of your yard with native perennials that lower maintenance and lessen the need for water and chemicals.



## Phosphorus and Minnesota lawns

Fertilizers, grass clippings, and leaves from lawns contribute to phosphorus in our lakes and rivers. Using lawn fertilizers that do not contain phosphorus (where the middle number is zero) and sweeping up grass clippings from streets and sidewalks are easy ways a homeowner can improve water quality.

### Phosphorus ban

Fertilizer containing phosphorus cannot be used on lawns without a soil test that shows it is needed. New lawns and gardening uses are exempt. Minnesota soils are naturally high in phosphorus, so our lawns don't usually need any extra.



Fishtail weeder



Weed Hound

Hand- and foot-powered weeding tools.

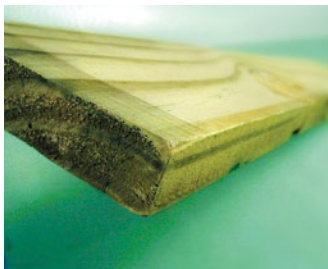




*Toxic fumes can come from unexpected sources like new carpet and cabinets.*



*Many products like paints and stains are now available in NO- and low-VOC formulations.*



*Look for newer types of treated wood that do not contain heavy metals. Or consider naturally rot-resistant woods like cedar.*

## Building and remodeling

- ▶ When building or remodeling your home, ask for building materials and supplies that have the least amount of formaldehyde and other volatile organic compounds (VOCs), which have been shown to cause cancer or developmental problems.
- ▶ Choose no- and low-VOC paints and varnishes when finishing walls, floors, and furniture. Make sure you have proper ventilation.
- ▶ Ask for carpeting that meets standards for indoor air quality established by the Carpet and Rug Institute ([www.carpet-rug.com](http://www.carpet-rug.com)). Once a carpet is installed, thoroughly air out the house for at least 48 hours.
- ▶ Use reclaimed cedar or redwood, which is naturally resistant to fungus and insects, or use recycled plastic lumber for decks and playground equipment. Ask at your home improvement store for vendors of these materials.
- ▶ Avoid using "green-treated" lumber which is treated with the toxic compound copper chromium arsenate (CCA). Never use it for eating surfaces on picnic tables, children's play equipment, and never burn the lumber scraps! Clean up all scrap treated wood and sawdust and dispose of it properly.

**For more detailed information** about reducing your exposure to toxics around your home and for links to other useful websites, go to [www.pca.state.mn.us/livinggreen](http://www.pca.state.mn.us/livinggreen).



**Minnesota Pollution Control Agency**

Minnesota Pollution Control Agency helps Minnesotans make informed decisions and take actions that conserve resources and prevent pollution and waste to benefit the environment, economy and society.  
[www.pca.state.mn.us](http://www.pca.state.mn.us)