



9 everyday chemicals to avoid

By **Mara Gorman** for USA TODAY

WHEN YOU GOT UP THIS MORNING, you probably hopped in the shower and lathered up with body wash, washed your hair with shampoo, and then smoothed on some conditioner. After a quick breakfast, maybe you wiped the sink with a sanitizing wipe, grabbed your plastic travel mug, and headed out the door to drive to work.

What you may not realize is that in doing those simple everyday tasks, you expose yourself to hundreds of chemicals, some of which aren't as benign as you might expect.

"We spend our lives virtually marinating in toxic chemicals," says McKay Jenkins, author of *What's Gotten Into Us? Staying Healthy in a Toxic World*. "They're in our water, soaps, shampoos, cosmetics, food, furniture, and cars. Without thinking too hard about it, we've come to accept that these chemicals can't hurt us. If a product is sitting on a supermarket shelf in the United States, the reasoning goes, how bad can it be?"

Studies show serious consequences of exposure to chemicals, including increased allergic reactions, respiratory problems, developmental delays, and cancer. However, at least in the U.S., it's important to remember that chemical bans are hard to come by.

"Right now, there are two major strands of research when it

comes to chemicals: One is to see if they are present in people's bodies; the other is to see if they are harmful," Jenkins says. "In Europe, those two strands of research are enough to lead to regulation and even bans. If the chemicals are ubiquitous and cause cancer in a laboratory, they are banned. In Europe, chemicals are guilty until proven innocent. In the U.S., it's the opposite." This may be why chemicals like flame retardants are found in much higher concentrations in this country than elsewhere in the world. "We have 10 to 40 times higher levels of these chemicals in our bodies than people in Europe or Asia," says Susan Shaw, director and founder of the Marine Environmental Research Institute. "We need to find safer alternatives."

So which chemicals should we watch out for, and how can we cut down on our exposure? The first step is understanding the effects of common chemicals and knowing where to find them.

CONTINUED >>

Artificial coloring

WHERE YOU'LL FIND IT Many processed foods contain coloring made from synthetic chemicals, including Blue 2, Green 3, Orange B, Red 3, Yellow 5, and Yellow 6.

WHAT IT DOES Chemicals in artificial coloring have been associated with hyperactivity in some children and have even been linked to various forms of cancer.

HOW TO AVOID IT Stay away from processed foods, especially soda and candy. You'll be doing your body a favor, since most processed foods are loaded with sodium and preservatives anyway. The use of artificial coloring in juice drinks and other fruit-flavored products usually is a good indicator that the item contains little or no actual fruit or natural flavoring.



Download the Chemical Cuisine mobile app from iTunes. It lists common food additives, rates their healthfulness, and tells you what to avoid.

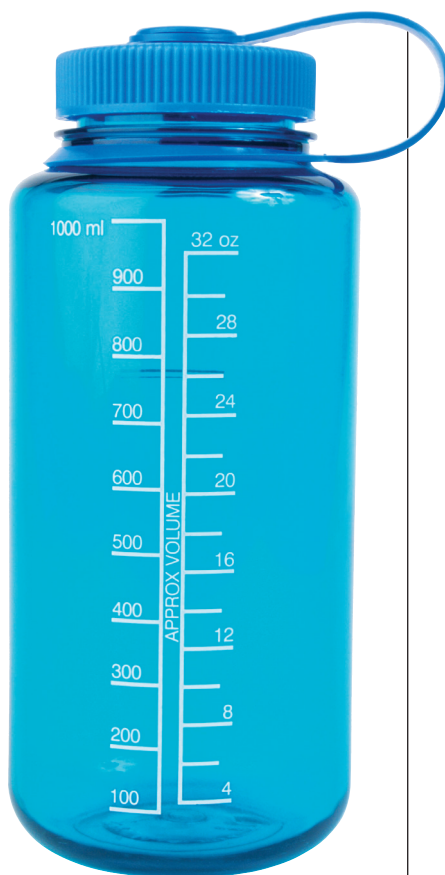


Bisphenol A (BPA)

WHERE YOU'LL FIND IT This chemical is found in plastic containers, personal electronics, computers, and pipe linings. You'll also find it in the resin that lines food packaging like canned vegetables and infant formula.

WHAT IT DOES BPA leaches from containers into liquids, especially when the containers are heated. Increasingly, higher levels of BPA have been found in the human body. A government study shows 93 percent of people in the U.S. have traces of BPA in their urine. It has been shown to disrupt the endocrine system in humans and to affect reproduction and brain development in animals.

HOW TO AVOID IT As public awareness has increased about the risks of BPA, some manufacturers have stopped using it. You'll now find many plastic products labeled "BPA free." Most manufacturers stopped using BPA in baby bottles in 2009, so if you've got older bottles (especially ones that are scratched), throw them away. The same goes for water bottles. In general, choose glass containers for food storage, and don't use plastic containers in the microwave. When possible, buy food that is fresh or sold in glass jars, rather than in cans.



Volatile organic compounds (VOCs)

WHERE YOU'LL FIND IT These chemicals evaporate easily at room temperature and are often found in paint. When you use paint containing VOCs, it will emit gas for days, even weeks.

WHAT IT DOES VOCs can cause short-term problems like nausea, dizziness, and irritation of the eyes and respiratory tract. They have also been linked to long-term damage to the heart, lungs, and kidneys.

HOW TO AVOID THEM Choose paints with low levels of VOCs, especially for indoor use. These include milk paint, natural paint, and latex paint. When painting, keep the area well ventilated.





Flame retardants (PBDEs)

WHERE YOU'LL FIND IT Polybrominated diphenyl ethers (PBDEs) are toxic chemicals traditionally used to keep things from burning quickly. They show up in everything from mattresses and car seats to electronics and rugs. There are three formulations of these chemicals: penta, octa, and deca. The first two are no longer legal because of health concerns, but they can be found in items manufactured before 2005. The deca formulation is still widely used in items like television casings.

WHAT IT DOES During the manufacturing process and with normal use, PBDEs leach out of everyday products and into our homes and the air we breathe. PBDEs are so widely used that they are also found in the environment and in our food sources, especially fish. Most of us have PBDEs in our bodies. We have been exposed to them so much that they have accumulated in our blood and even show up in breast milk. Studies show that exposure to small amounts of PBDEs during important stages of human development can cause learning disabilities, problems with motor skills, and reproductive issues. They have also been linked to memory loss and hearing impairment.

HOW TO AVOID THEM Stay away from any foam in older furniture or mattress pads, especially if there are tears in the covering. Don't reupholster any furniture that contains foam yourself. And if you own an older mattress, cover it with a hypoallergenic pad to help limit exposure to PBDEs.

Since these chemicals get into dust in our homes, use a vacuum with a HEPA filter to help trap particles and keep them out of the air. If you remove any old wall-to-wall carpeting or the padding underneath, close off the room from the rest of the house and vacuum and clean thoroughly afterward.

Whenever possible, buy PBDE-free furniture and electronics. Ikea is one of the biggest manufacturers that doesn't use PBDEs. When shopping, avoid farmed fish, which contain higher concentrations of PBDEs than wild varieties.

Perfluorochemicals (PFCs)

WHERE YOU'LL FIND IT Also called Teflon, these chemicals are found in everything from nonstick cookware to stain-resistant coating on clothing and furniture. You might be surprised to know that PFCs are also used in the coating of microwave popcorn and fast food containers.

WHAT IT DOES These chemicals are known carcinogens and also may cause liver and heart problems. The biggest problem is that these chemicals resist breaking down and can be found in our bodies and in the water, soil, and air around us.

HOW TO AVOID THEM You can remove PFCs from your home by getting rid of nonstick cookware and replacing it with stainless steel or cast iron. If you do use nonstick cookware, use it in a well-ventilated kitchen and avoid heating it to more than 450 degrees Fahrenheit.

Buy rugs and clothing made of natural materials like cotton and wool, which do not have a stain-resistant coating. Consider replacing wall-to-wall carpeting with sustainable flooring materials or all-natural rugs. Check the labels of your personal care products, including nail polish, moisturizer, eye makeup, and dental floss for ingredients including the words "flouro" or "perflouro." And consider cutting back on microwave popcorn.

Phthalates

WHERE YOU'LL FIND IT These chemicals can be found in plastic products like toys, vinyl flooring, and shower curtains. You'll also find them in nail polish, shampoo, hair spray, soap, and in both aerosol and solid air fresheners.

WHAT IT DOES In testing, phthalates have been found to disrupt hormone balance and the reproductive system. They may also cause asthma and damage to the liver and kidneys.

HOW TO AVOID THEM Choose wood over vinyl for doors and flooring, and use a cloth shower curtain. Avoid containers and packaging with the No. 3 label. Use plastic wrap made of polyethylene or glass containers for food storage. It can be tricky to tell whether cosmetics have phthalates. Often, these chemicals are used as a component of fragrance. You're best off looking for products labeled phthalate-free. Instead of using air fresheners, try simmering cinnamon sticks in a pan of water on your stove.





Formaldehyde

WHERE YOU'LL FIND IT This chemical is used in many products since it can work as an adhesive or a preservative. It is commonly found in glue, nail polish, and facial powder. Formaldehyde is also a component of many building materials, particularly plywood and particle board. And, it's used in cigarettes.

WHAT IT DOES Formaldehyde can cause breathing problems, especially in people with asthma or other respiratory conditions. It also causes rashes and eye irritation. In animals, it has been found to cause cancer, and it may pose the same risk to humans.

HOW TO AVOID IT Proper ventilation is one way to keep formaldehyde levels from building up in the air in your home. Using air conditioning and dehumidifiers can help as well, since heat and dampness increase the rate at which formaldehyde is released into the air. If you're doing any renovations, look for exterior-grade materials, which give off less formaldehyde, or opt for building materials that list low formaldehyde content.

Since this chemical may be referred to by different names or show up in one of the product's ingredients without being listed separately, choose personal care products with labels that specifically say they are free of formaldehyde. And because formaldehyde is a byproduct of cigarette smoke, ban smoking in your home.

Pesticides

WHERE YOU'LL FIND IT There are multiple synthetic pesticides for use in the home or garden. Weed killers include glyphosate and 2,4-dichlorophenoxyacetic acid (2,4-D)—better known as Agent Orange, a highly toxic chemical used to defoliate the jungles during the Vietnam War. Pesticides can also be found in and on nonorganic produce.

WHAT IT DOES Some pesticides can affect the nervous system, causing muscle weakness and nausea. They can also aggravate breathing problems. Some studies show increased exposure to pesticides can cause delayed development, learning disabilities, and cancer.

HOW TO AVOID THEM In your home, consider using traps instead of chemical pesticides to handle pests. If you use a lawn or landscaping service, choose one that uses only organic fertilizers and pest control agents. Consider replacing some of the grass in your yard with native plants that need fewer chemicals to thrive in your area. You can get information on organic gardening from the National Wildlife Federation (nwf.org) or from your local wildlife authority.

Sodium nitrate

WHERE YOU'LL FIND IT Used as a preservative and for flavoring and coloring, sodium nitrate is commonly found in lunchmeat, hot dogs, bacon, smoked fish, and corned beef.

WHAT IT DOES Studies have linked foods containing sodium nitrate to different types of cancer. Pregnant women in particular should avoid eating foods with sodium nitrate.

HOW TO AVOID IT A simple way to avoid this chemical is to cut back your intake of sodium nitrate-containing foods. Since sodium nitrate is most often used in fatty, salty foods, it's generally a good idea to do this anyway. Be wary of all-natural or no added nitrates versions of processed foods, including organic bacon and sandwich meats. These may not contain the synthetic sodium nitrate, but they often are made with celery powder or juice, which is high in natural nitrates. These products may contain 10 times as much natural nitrate as conventional bacon or ham and actually can be more harmful than foods with synthetic sodium nitrate.

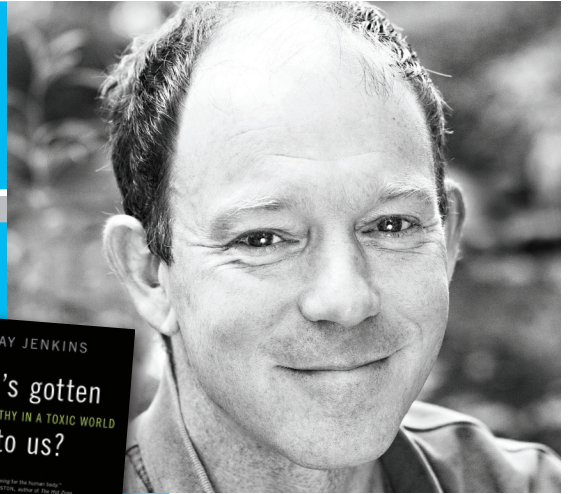


Be wary of organic bacon, which may contain 10 times as much natural nitrate as conventional bacon.

Q&A

with author of
What's Gotten Into Us?
Staying Healthy in a Toxic World

McKay Jenkins



How alarmed should we be when it comes to everyday toxins? Are there figures or studies that support our concern about these chemicals?

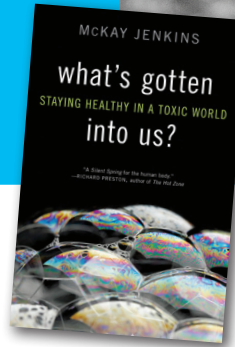
It is impossible to dispute the fact that chemicals are everywhere. They are found in all of our bodies—in our blood, our hair, and our urine. The Centers for Disease Control have been running an ongoing chemical study since 2003, and each year add more chemicals to the list of those showing up in people's bodies and in the air and water supply.

Before you can do something about the chemicals you come in contact with, you need to acknowledge just how many chemicals are part of your everyday life.

The first thing that often wakes people up to this is when they look at the number of products they use. Walk through your house and chronicle it. As you would with anything you are trying to better understand, make a list of the products (lotions, soaps, cleaning products, etc.) with which you come into contact.

Start thinking about it: Where can you find out what this stuff is made of? What products can you change? Once you start informing yourself, you can make decisions about what action to take.

price \$17.16;
available at
amazon.com



What are some steps the average person can take to reduce exposure to chemicals?

A good rule of thumb is to use products and methods from the past. Your grandparents may be a great source of information, especially if they were born before World War II, which is when chemical development and usage really exploded.

Try these simple suggestions:

- ▶ Choose cleaning and personal care products that clearly list all ingredients on the label and that indicate they are free of the nine everyday toxins mentioned here. You can also make your own products. It's easier than you might think.
- ▶ Keep hazardous particles out of your carpet and the air with a good vacuum cleaner and high-quality furnace filters. By removing shoes indoors, you can keep toxins from being tracked in from outside.
- ▶ Whenever possible, choose clothing, furniture, and flooring made of natural materials.
- ▶ Get rid of all of your air fresheners. The truth is, they do anything but freshen the air. If you want your house to smell like apple pie, bake an apple pie.
- ▶ Think long and hard about your yard and the products you use in it. Are there opportunities for incorporating native plants or eliminating high-maintenance grass? Getting rid of commercial pesticides and weed control will help reduce not only the chemicals that get into your house, but also those that seep into your local water supply.

In some ways, the simplest solution is also the most challenging: Buy less. By bringing less into your home, you also introduce fewer chemicals.

I want to help change what's happening with chemicals. How can I get involved in the fight?

Think of yourself as a consumer and an activist. Remember, no company makes changes out of the goodness of its heart. Sales are the bottom line. So every time you go shopping, your choices exert consumer pressure on the marketplace.

Consumer pressure works. Walmart recently discontinued sales of products containing flame retardants. When big companies act, the rest of the market responds.

When shopping, choose products that are clearly labeled and list all ingredients. When possible, choose organic food and avoid farmed fish.

If you want to get involved politically, many groups are trying to reform chemical regulation in the U.S. and could use your support. And while national groups are doing important work to rewrite legislation, look for political action in your own community. This might include participating in hearings about water treatment or property development or joining the local chapter of national organizations like the Sierra Club, which work to improve air and water quality.

To stay up to date on legislation and chemical studies, visit mckayjenkins.com.