

What can I do?

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What can I do?

That's been the most common response to this newspaper's investigation into the chemicals we are carrying around in our bodies.

There are no easy answers.

Here's what we know:

- Phthalates, PBDEs, particulates and perfluorinated compounds contaminate our environment and our bodies almost without exception.
- In high doses, these chemicals seem to be harmful to animals.
- Although our exposure to these chemicals is apparently increasing, there's no solid evidence that they're doing anything TO us.

So the phthalates in your perfume may contribute to the possibility that your children will have reproductive difficulties. Or they may have no effect on you or your family.

Nobody knows. But that's not a very satisfying answer.

However, there are steps you can take to reduce the chemical load your body bears.

Eat low on the food chain

The principle is simple: We know that many chemicals — PCBs and PBDEs in particular — are stored in fat. So when a rainbow trout eats PBDE-laced feed, the chemical settles into its fat. When we eat the fish, we ingest its chemical load.

Such are the hazards of being at the top of the food chain.

Although PBDEs enter the environment as fire-retardants in the foam in upholstered furniture, in hard plastics such as the backs of computer monitors and heat-resistant plastics such as coffeemakers, many scientists theorize that our food is the biggest source of PBDEs in our bodies.

To reduce your risk, try to limit your intakes of animal fats. One of the most foolproof ways would be to become a vegan — eschewing all meat, cheese, eggs and fish — but not many people are willing to do that.

Here are three things you can do:

- Avoid farm-raised salmon and rainbow trout — which generally have the highest concentrations of PBDEs.
- Limit consumption of animal fats, since PBDEs are present in virtually all samples of them, especially dairy products, fish and beef.
- Choose skim versions of dairy products and low-fat meat such as chicken breasts. Or replace some of your meat and dairy foods with grains, vegetables and fruits.

Consider cosmetics

First the good news: The watchdog Environmental Working Group says that you shouldn't necessarily stop using your favorite makeup, hair gel or lotion.

After testing chemical levels in beauty products, they concluded that consumers should be "concerned, not alarmed."

The group did find that both men's and women's beauty products contain phthalates, chemicals used to soften nail polish and help dissolve fragrance in cosmetics. They can be found in nail polish, lip balms, hair sprays, shampoos, perfumes and deodorants.

That's starting to change, though.

European Union legislation has banned two widely used kinds of phthalates suspected of contributing to birth defects. As a result, a number of companies, including Revlon and L'Oreal, have developed phthalate-free products. Other brands — such as Aveda and most products from the Body Shop and Urban Decay — have always been phthalate-free.

In 2003, a coalition of environmental groups tested 72 cosmetics and beauty products for the presence of phthalates, and the results were, at best, random.

All the perfumes tested contained phthalates, but there wasn't much consistency in the rest. Aussie Megahold Mousse contained phthalates, but Aussie Mega Styling Spray did not. Maybelline Ultimate Wear Nail Enamel contained them; Maybelline Shades of You Nail Color did not. (To see the complete list of cosmetics tested, visit <http://www.nottoopretty.org>.)

Industry groups stress that the levels found in products are extremely small — that you'd have to essentially shower in nail polish, for example, to approach a phthalate exposure associated with negative health effects in lab animals.

The Environmental Working Group recommends making small changes to reduce your chemical load. Use one less hair styling product, for example. Choose a blush with fewer chemicals rather than one with more.

As part of their "Skin Deep" report, the group rated thousands of products and recommended products to try and products to avoid. Visit www.ewg.org/reports/skindeep for full results.

Major manufacturers of phthalates point out that the European Union ban was enacted without specific proof of phthalates' harm. They also say that phthalates help make nail polish flexible, give vinyl its bendability and make things smell nice. For industry's take, visit www.phthalates.org.

Sleeping on PBDEs

Mattresses are frequently cited as a source of the flame retardants called PBDEs — chemical cousins of carcinogenic PCBs — and themselves suspected of ill effects on human health.

Like with phthalates, the long-term news is optimistic. In 2003, the California Legislature banned two forms of PBDEs; they'll be phased out entirely by 2008.

In the meantime, they're probably present in the foam in your couch, chairs, car seats and dashboard. (Unless, of course you have a Volvo. The Swedish company makes PBDE-free cars.)

Mainstream mattress companies say that they're aware and concerned about the PBDE problem. The Web site for the Sleep Products Safety Council, an industry group, says PBDE-laden mattresses are being phased out and replaced by a new fire-resistant technology.

Will that technology spare us future problems? We can't tell. The next generation of flame retardants — a product called Firemaster 550 — lists two ingredients on its Material Safety Data Sheet: Ingredient A, Ingredient B. That's right. We have no idea. It's a trade secret.

Industry also notes that the Environmental Protection Agency has found no proven risk to human health associated with PBDEs. But the EPA has no data whatsoever on whether effects seen in PBDE-exposed lab animals can occur in humans.

Getting a mattress without PBDEs, meanwhile, can be tricky — primarily because most people have no idea what PBDEs are.

A call to a major mattress retailer in the Bay Area asking about the possibility of a PBDE-free mattress was telling.

"All our mattresses have flame-retardants," the salesman said. When asked specifically about PBDEs, he said he had no idea.

Some companies don't use PBDEs at all, though. IKEA finished phasing out all PBDEs in its products in 2002 — and haven't used PBDEs in their children's mattresses for at least 15 years. Other companies that make PBDE-free mattresses include European Sleep Works in Berkeley, McRoskey of San Francisco and Lifekind mattresses. You can get a completely chemical-free wool, natural latex or cotton-wool mattress from the Natural Bedroom in Santa Rosa. Or you can get a chemical-free mattress and bedding from the Web site www.nontoxic.com, based in Walnut Creek. But you may need a doctor's prescription to circumvent California's flame-retardant laws. You also should remember that there's an increased fire risk with these products.

- IKEA has locations in Emeryville and East Palo Alto. Visit www.ikea-usa.com.
- European Sleep Works, (510) 841-5340, www.sleepworks.com.
- McRoskey Airflex Mattress Company, (415) 861-4532.
- The Natural Bedroom, (707) 824-0914, www.naturalhomeproducts.com.
- Lifekind mattresses, (800) 284-4983 or www.lifekind.com.
- The Web site for the Sleep Products Safety Council is www.safesleep.org.

Microwaving plastic?

The most alarming health scares inevitably come through e-mail forwards.

This is true even though forwarded e-mail messages are, hands down, one of the worst ways to acquire accurate information.

But what about the one that talks about microwaving plastic? The e-mail warns that if you microwave using plastic wrap, molecules of dioxin can migrate from the plastic to your food. Creepy.

And sort of true.

It's not true that "dioxins" go from your plastic into your food.

There is some evidence, however, that some molecules — phthalates in some flexible plastic, and another chemical plasticizer DEHA — can migrate into high-fat foods such as meats or cheeses. And that's not just if you're microwaving plastic. Many environmentally conscious Web sites, such as www.greenguide.org, tell consumers to avoid wrapping high-fat foods in plastic

altogether for fear that you'll end up eating minuscule plastic bits.

Cheese, for instance, is 40 percent fat. And fat is the perfect solution for fat-soluble compounds like PBDEs, phthalates, other synthetic chemicals.

So when Don Wigle, a semi-retired epidemiologist who spent his career tracking such chemicals for Health Canada, buys cheese, he shaves the outer layer off.

"I don't know if it's doing me any good," he said. "On the other hand, I know I'd rather not eat that stuff and find out later it's a problem."

Of course, manufacturers of plastic wrap don't like all this worry.

A Consumer Reports test in 1998 found worrisome plasticizers in both Saran Wrap and Reynolds Wrap, but none in Glad Crystal Clear Wrap.

Since then, S.C. Johnson has reformulated Saran Wrap, and makes it clear on its Web site that their products are made of polyethylene and do not contain either the plasticizers phthalates or DEHA.

Reynolds Plastic Wrap is still made of PVC, which contains DEHA. Alcoa, the company that manufactures Reynolds Plastic Wrap, says there are no health risks associated with its use.

What plastic wrap is made of is not required to be listed on product labels.

Whatever conclusions you draw, here are some guidelines you should follow:

- Everyone from plastic manufacturers to the USDA says that if you are going to microwave with plastic wrap it should be plastic wrap that explicitly says it's microwave safe.
- Never microwave in plastic containers that have not been specifically marked microwave-safe, especially containers made to hold other foods. And it's prudent to avoid microwaving in plastic take-out containers. Heat encourages leaching of some plastic molecules from the container into the food.
- When it's in the microwave, do not let the plastic wrap touch your food, because it can melt into fats or sugar. Keep the plastic one inch from food.
- More information is at www.plasticsinfo.org

Shower curtain alternatives

Vinyl shower curtains are almost all made of polyvinyl chloride (PVC), which contains phthalates and other plasticizers. If you want an alternative, here are few:

- A hemp shower curtain (\$79.99) from www.ecobathroom.com. It'll absorb water but will keep your bathroom from getting wet.
- A cotton canvas shower curtain (\$36) from www.realgoods.com.
- A hemp shower curtain with hand-carved Tatuga nut buttons from www.natural-fibers.com (\$89).

Clearing the air What does "clean" smell like to you?

For many people, clean air actually smells like fragrance — the fresh scent of Formula 409, the flowery smell of air fresheners, the snap of Pine-Sol. But many of these fragrance particles —

relatively harmless on their own — react with ozone, a smog ingredient and byproduct of traffic, to create carcinogenic particles.

Instead of spraying some air freshener, open a window and remove the source of the odors.

Smoke out

To improve indoor air quality, the single most important thing you can do is not smoke in your home and not allow others to smoke in your home. Beyond the smell, smoking releases tiny particles that attach to curtains, upholstery, carpets and walls. These particles are eventually inhaled.

Empower yourself The sad fact is that all the green buying you can afford might not change your body burden by a molecule. "The answer is not consumers making choices in the market," said Jeremiah Holland, father of the Bay Area family this newspaper tested for chemicals. "The answer is changing chemical policies."

Holland should know — the family lives as chemical-free a life as they can, yet his 20-month-old son has extraordinarily high PBDE levels.

That underscores the need for reform. "If it goes in anybody's carpet, it goes in everybody's environment," said Gopal Dayaneni of Silicon Valley Toxics Coalition.

Lots of groups are doing work on this front.

- Silicon Valley Toxics Coalition heads up a broad coalition looking to detox our high-tech lives. www.svtc.org
- Physicians for Social Responsibility has a whole division devoted to environmental health. www.psr.org.
- Both Greenpeace (www.greenpeace.org) and the Environmental Working Group (www.ewg.org) have spent a lot of time watchdogging the issue.

But when it comes to individual impact, nothing rivals a letter to your elected representative, said PSR's Susan Marmagas. "The more these issues are kitchen table issues that people talk about, the more members of Congress are going to feel the heat and feel responsible and feel the need to do something about it." Californians can find their legislators online at www.leginfo.ca.gov. Congressional members can be found at www.house.gov and www.senate.gov.

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