



# THE NEXT STEP Toward a Healthier Future

A BI-MONTHLY NEWSLETTER OF THE SEBASTOPOL TOXICS EDUCATION PROGRAM

## Avoiding Toxic Flame Retardants

Over the years, studies have shown that flame retardants such as PBDEs (polybrominated diphenyl ethers) are increasingly being found in our bodies.

In fact, scientists now believe that these toxic chemicals are in the bodies of nearly everyone in North America. California's women and children show some of the highest levels in the world.

These materials have been linked with serious (and expensive) health problems, including: lower IQ, autism, learning and motor skill issues, infertility, impaired thyroid functioning, and cancer. PBDEs are chemically similar to PCBs, which were largely banned in the 1970s.

We can bring these toxics into our homes in products such as: upholstered furniture, mattresses, cribs, curtains, carpet padding, bedding, and clothes. They're also in cars, computers, TVs, and other electronics. A peer-reviewed study last year found flame retardants in 80% of the baby products tested.

Once these products are in our homes, the toxics within them can move onto our skin, air, food, dust, and surfaces.

These chemicals have also permeated our overall environment, where they persist and accumulate in the air, water, and soil, harming creatures and ecosystems along the way. One study found that California peregrine falcon eggs had some of the highest levels ever found

in wildlife. These toxics are even in polar bears in the remote Arctic!

Experts are also concerned because:

- These toxics are being used without any meaningful assessment of the health risks.
- Scientists have found no conclusive evidence that these materials even offer any real protection from household fires.
- When these toxics burn, they actually can make fires more deadly, for people in the building and firefighters. Plus it's likely causing increased cancer in firefighters.
- There's evidence that chemical manufacturers have promoted use of these toxics via front groups, paid experts, and untruths. This promotion was apparently first initiated by tobacco companies who wanted to deflect attention from cigarettes as a key cause of house fires.
- These toxics have become prevalent in our food, including fish, meat, poultry, eggs, and dairy.

### Good news

Thankfully, after years of work by public health advocates, governments have put some limits on the use of toxic flame retardants.

And we were glad to recently hear that California Governor Brown has directed state agencies to review and recommend changes to our state flammability standards, which often effectively require the use of toxics. His goal is to "protect public safety" by reducing the use of toxic flame retardants while ensuring fire safety. This review

could benefit consumers nationwide, because many manufacturers work off California's standards.

A wide range of groups support changes to these standards, hoping that they'll help both manufacturers and consumers avoid these toxics.

### What you can do

- **Look for products that state no use of PBDEs.** For instance, Apple, Dell, and Ikea have eliminated PBDEs from their products. Encourage other manufacturers to do the same.
- **Avoid products with tags saying that they meet California's flammability requirements.**
- **Choose wild fish instead of farmed.** Also reduce your consumption of meat and dairy fats.
- **Reduce dust buildup with frequent mopping and vacuuming** (with a HEPA filter). Ask people to remove their shoes at the door. Offer them slippers!
- **Wash hands frequently**, to avoid hand-to-mouth transfer.
- **Learn more.** Read the Chicago Tribune's powerful "Playing With Fire" series at <http://media.apps.chicagotribune.com/flames/index.html>. Get more consumer and product info at [www.toxicfreefiresafety.net](http://www.toxicfreefiresafety.net) and [www.greensciencepolicy.org](http://www.greensciencepolicy.org).
- **Ally with others who are acting for better shared protections**, at both the state and federal levels. For instance, see [www.toxicfreefiresafety.net/CaliforniansForToxicFreeFireSafety.php](http://www.toxicfreefiresafety.net/CaliforniansForToxicFreeFireSafety.php) and [www.saferchemicals.org](http://www.saferchemicals.org). Current goals include banning PBDEs and reforming the outdated federal TSCA toxics law to better serve our community's well-being.

FOR MORE INFORMATION: "Governor Brown Directs State Agencies to Revise Flammability Standards," June 18, 2012, [www.gov.ca.gov/news.php?id=17598](http://www.gov.ca.gov/news.php?id=17598) • "Chemical Makers Fan the Flames of Fear," May 12, 2012, By Patricia Callahan and Sam Roe, [www.latimes.com/business/la-fi-flame-retardants-20120512,0,336933.story](http://www.latimes.com/business/la-fi-flame-retardants-20120512,0,336933.story)



## Toxic Impacts Pass Down the Generations

A recent study, reported in the *Proceedings of the National Academy of Sciences*, shows how our exposure to toxic chemicals today can quite directly impact the well-being of later generations.

In their research, these scientists found that, when pregnant rats were exposed to a common crop chemical, their descendants three generations later showed psychological issues more often than the offspring of unexposed peers.

The researchers specifically sought to see how third generation adolescent male rats reacted to a stressful situation. They found that rats with a family history of exposure had higher testosterone levels, were more anxious and sensitive to stress, and weighed more. Another test



found that they “showed less interest than other rats in new individuals and environments.”

Co-author Michael Skinner of Washington State University says, “We did not know a stress response could be programmed by your ancestors’ environmental exposures.”

Lead author David Crews of the University of Texas notes, “We are now in the third human generation since the start of the chemical revolution, since humans have been exposed to these kinds of toxins. There is no doubt that we have been seeing real increases in mental disorders like autism and bipolar disorder. It’s more than just a change in diagnostics.”

The researchers believe that chemical exposure alters the genetic makeup of the sperm and egg, which can lead to upcoming generations showing worsened stress responses.

SOURCE: “Chemical Exposure Influences Rat Behavior for Generations,” By Agence France-Presse, May 22, 2012

## Did Hidden Lead Harm the Roman Empire?

According to a Canadian researcher reporting in *The New England Journal of Medicine*, toxic lead might actually have contributed to the fall of the Roman Empire!

Apparently much of the food and wine consumed by the affluent elites was contaminated with lead levels far exceeding today’s safety standards. A particularly toxic source was a thickened syrup made from grape juice simmered in lead pots and often used to sweeten and preserve wine and fruit, plus make sauces for a wide range of dishes.

Accumulations of lead in the body can cause a specific form of gout that inflames joints. Other lead impacts can include kidney damage, anemia, gastrointestinal problems, neurological symptoms, reproductive issues, reduced IQ, memory loss, impaired mental development, and erratic and aggressive behavior.

The researcher says that many of the Roman aristocracy, including

most of the emperors, suffered from this particular gout plus other symptoms. (The article doesn’t mention if the psychological symptoms also correlated.)

Now lead poisoning probably wasn’t the primary cause of the Roman Empire’s fate. However this does show that even powerful elites can have self-damaging blind spots. Plus, people increasingly offered warnings about lead’s health harm for many centuries after that time, but went largely unheeded, causing untold suffering and loss.

Today we’ve gotten somewhat better at avoiding lead in the U.S., which improves our health. But this story reminds us once again how much our well-being depends on whether we proactively recognize and avoid sources of toxic harm.

SOURCES: “Roman Empire’s Fall Is Linked with Gout and Lead Poisoning,” By John Noble Wilford, *New York Times*, [www.nytimes.com/1983/03/17/us/roman-empire-s-fall-is-linked-with-gout-and-lead-poisoning.html](http://www.nytimes.com/1983/03/17/us/roman-empire-s-fall-is-linked-with-gout-and-lead-poisoning.html) • [www.dartmouth.edu/~toxmetal/toxic-metals/more-metals/lead-history.html](http://www.dartmouth.edu/~toxmetal/toxic-metals/more-metals/lead-history.html) • [www.en.wikipedia.org/wiki/Lead\\_poisoning](http://www.en.wikipedia.org/wiki/Lead_poisoning)

## Beware Poison Scents

In previous issues, we’ve talked about the hidden toxic hazards in perfumes and scented products. Although they’re often advertised with natural images, about 80% to 90% of the chemicals they contain are actually derived from petroleum. Over 80% haven’t been tested for human toxicity, and some are listed on the EPA hazardous waste list. The National Academy of Sciences listed fragrances as one of the top six chemical categories needing better neurotoxicity testing. The industry is not required to disclose the specific ingredients labeled as “fragrance.”

It’s clear to me that people are having health symptoms without even considering scents as the cause. Until we get improved labeling and testing, the easiest solution is to avoid mainstream perfumes and scented products, and buy natural and unscented options instead. For many people, essential oils derived from natural sources can offer a healthier option. See more specific suggestions, plus a handy flyer to give to others on this topic, at MCS America’s page [www.mcs-america.org/fragrantfactsheet.pdf](http://www.mcs-america.org/fragrantfactsheet.pdf). There’s also more information in these past TNS issues, [www.healthyworld.org/GRAPHICS/STEP/stepvol4no6.pdf](http://www.healthyworld.org/GRAPHICS/STEP/stepvol4no6.pdf) and [www.healthyworld.org/GRAPHICS/STEP/stepvol4no1.pdf](http://www.healthyworld.org/GRAPHICS/STEP/stepvol4no1.pdf).

Also remember that you can look up a wide range of toxic topics in our STEP newsletter index at [www.healthyworld.org/STEPIndex.html](http://www.healthyworld.org/STEPIndex.html).

### ABOUT STEP

The Next STEP (TNS) is published six times a year by the **Sebastopol Toxics Education Program (STEP)**. STEP is a project of the City of Sebastopol, implemented by local citizen volunteers. STEP’s mission is to support city residents in reducing their toxic use and exposure, creating a healthier and safer Sebastopol for everyone.

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