



THE NEXT STEP Toward a Healthier Future

A BI-MONTHLY NEWSLETTER OF THE SEBASTOPOL TOXICS EDUCATION PROGRAM

Decline in Toxic PBDEs Offers Positive Model

A recent study at UC San Francisco (UCSF) shows the difference that community level change can make in our personal lives.

In 2008 and 2009, pregnant women at San Francisco General Hospital were tested for blood levels of polybrominated diphenyl ethers (PBDEs). They were found to have the highest levels reported among pregnant women anywhere in the world. However when patients there were tested three years later, in 2011 and 2012, the levels were two-thirds lower.

The study researchers said that this dramatic decline was likely the result of the statewide ban of two kinds of PBDEs that began in 2004, helped by a voluntary national phase-out soon after. Recent studies in California have also shown a drop in dust PBDE levels since the ban.

"We were pleasantly surprised by the extent of the decline," said Ami R. Zota, ScD, MS, the study's lead author. Her takeaway? "Regulations can have an impact on people's everyday lives."

As we discussed in *TNS XII/4*, PBDEs are a class of flame retardants linked to serious health problems, including lower IQ, autism, learning and

motor skill issues, infertility, impaired thyroid functioning, and cancer. They're estimated to be in the bodies of 97% of Americans. Babies can be exposed to PBDEs through mother's milk, and we all can come in contact through our clothes, furniture, electronics, and food. PBDEs have been found throughout the world — even in Arctic polar bears!

While this study offers encouraging news, the researchers are concerned that furniture makers have simply substituted other potentially dangerous chemicals, in order to meet flammability standards. California's proposed new rules should help reduce toxic use somewhat; they're expected to be finalized this year.

However, Tracey Woodruff, PhD, the study's senior author and director of UCSF's Program on Reproductive Health and the Environment, thinks the real solution is to fix the Toxic Substances Control Act (TSCA). For instance, she believes that chemicals need to be tested for health risks *before* going to market, instead of trying to assess impacts after distribution. "Because then it's too late," she says. "People have been exposed."

Currently, tens of thousands of chemicals are on the market (and in our homes) without any health or safety data. Companies largely don't have to prove a material safe; instead, the public has to prove it unsafe. But even with clear evidence of harm, it's still nearly impossible to ban a material nationally under current law.

■ **To learn more about flammability chemicals**, and how you can protect yourself via both individual and community action, you can read

Timely Tips

■ **The next Sebastopol Toxics Collection Day is on Tuesday Dec. 17**, from 4 to 8pm. To make an appointment, call (707) 795-2025 or (877) 747-1870 at least 24 hours before the event.

■ **Toxic disposal information.** For more about what's toxic and how to discard it, see the Sonoma County Waste Management Agency's website www.recyclenow.org or its Recycling Guide in your AT&T yellow pages. Or call them at (707) 565-3375.

■ **The TNS Online Index makes it easy for you** to quickly discover what's toxic and the effective alternatives. For instance, look under these **bolded** words in the Index at www.healthyworld.org/STEPIndex.html.

- Healthier **housecleaning**
- Less-toxic approaches to **ants, snails, mold, and weeds**
- Your healthy **holidays**

■ **For more ideas for detoxing your holidays**, see www.askecogirl.info/AEThemeGreenHolidays.html.

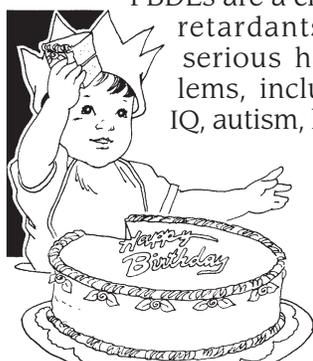
■ **To get *The Next STEP* by email, just signup at** www.healthyworld.org/EList.

TNS XII/4 at www.healthyworld.org/GRAPHICS/STEP/stepvol12no4.pdf.

■ **To send an email supporting changes to California's flammability standards**, and learn more about TSCA reform, see www.nrdc.org/health/toxics.asp.

■ **To connect with a key coalition working to make TSCA truly protective**, and see their updates, go to www.saferchemicals.org/chemical_safety_improvement_act.html.

SOURCES: "Flame Retardants in Pregnant Women's Blood Drop After State Ban," by Laura Kurtzman, September 25, 2013, www.ucsf.edu/news/2013/09/109061/flame-retardants-blood-drop-after-state-ban
• "New study: Toxic flame retardants fall dramatically in pregnant women in California," by Paul Rogers, San Jose Mercury News, Sept. 25, 2013, www.mercurynews.com/science/ci_24168546/new-study-toxic-flame-retardants-fall-dramatically-pregnant



Autism & Toxics

At the annual International Society for Autism Research conference earlier this year, researchers presented two new studies that reveal more about the links between autism and pre-birth pollutant exposures.

Autism is a group of brain development disorders characterized (in varying degrees) by difficulties in social interaction, verbal and non-verbal communication, and repetitive behaviors. It can be associated with intellectual disabilities and difficulties in motor coordination and attention. It's estimated that 1 in 88 American children are on the autism spectrum, a ten-fold increase over 40 years ago and not fully explained by better diagnosis and awareness.

Genetics likely only account for 35% to 60% of autism's risk, and evidence is growing that environmental factors also play a role, probably by impacting early brain development.

At this conference, the Harvard School of Public Health presented its study based on the large national study known as the Nurses' Health Study II. The Harvard researchers examined pregnant women's exposure to 14 air pollutants suspected of links with autism (such as metals and diesel particles). They found that mothers with higher exposures were 30% to 50% more likely to have a child with autism than women exposed to the lowest levels. This confirms previously published work on traffic pollution and autism risk in California.

In the second study presented, researchers at the University of California-Davis analyzed data from the large Charge study, and found a link between autism and exposure to some insecticide use in the household (such as bug foggers).

"The exciting thing about looking at environment, or environment and genes in conjunction with each other, is this provides the possibility of intervention," said Irva Hertz-Picciotto, an environmental epidemiologist at the UC Davis, who presented the insecticide study.

For a list of the top ten chemicals suspected of causing

neurodevelopmental disorders in children, see www.care2.com/greenliving/top-10-toxins-suspected-of-causing-autism.html.

SOURCE: "Autism Linked to Environmental Factors," Wall Street Journal, by Shirley S. Wang, May 4, 2013, <http://online.wsj.com/article/SB10001424127887324766604578460533650317520.html> • www.autismspeaks.org

Smoking Out the Reality of E-cigs

The pitch for electric cigarettes (aka e-cigs) sure sounds appealing. Stars tout them on talk shows and websites feature sexy people smoking (or "vaping") wherever they want, without that bothersome smell or ash. It's only water vapor coming out; that should be safe, right?

However, it seems that more than water is going into the e-smoker's lungs — and our shared air. So it's important that folks look below the surface claims, especially if they're considering using this new tech, know someone who is, or have teenagers.

An e-cigarette is basically a battery-powered vaporizer. It contains a battery compartment, flavor cartridge, and atomizer (which heats the solution to produce the smoke-like "vapor"). There are a variety of brands and a cheap starter kit might cost \$45, plus ongoing refills.

Introduced nine years ago, sales of this Chinese-invented device have reached \$1 billion this year, and are expected to reach \$10 billion in the next five years, eventually surpassing traditional cigarette sales. According to the National Youth Tobacco Survey, close to two million U.S. middle and high school students tried e-cigarettes in 2012, double those in 2011. Most believe that e-cigs are safe.

However, that's not the picture Lauren Forcella outlines in her column "Girl craving friend's e-cigarette" (on Straight Talk Teens N Twenties, www.straighttalktnt.org/teen-advice/entry/girl-craving-friends-e-). She points out that e-cigs are largely unregulated and not required to list their ingredi-

ents. Analysis by the U.S. Food and Drug Administration and France's National Consumer's Institute has shown that some brands of e-cigs can contain toxics, including formaldehyde and diethylene glycol.

Also, e-cigs typically deliver nicotine, which is addictive and can hook people into a lifelong habit. Australia, Egypt, Brazil, and Hong Kong have banned e-cigs, on the grounds they haven't been sufficiently tested for safety. France has instigated a ban on public e-cig "smoking," and some U.S. states prohibit sales to minors (including California).

Abby Medcalf, PhD, also offers useful information in "What Parents Should Know About E-Cigarettes" (in Diablo Magazine, www.diablog.com/education/October-2013/What-Parents-Should-Know-About-E-Cigarettes). She notes that e-cigs can easily be accessed by youth online, and often come in kid-friendly flavors like bubble gum and chocolate. She adds, "the adolescent brain is more susceptible to nicotine than an adult brain, so this trend of rising use is something to be taken seriously." She recommends that parents teach their children that nicotine is highly addictive, make all cigarettes including e-cigs off-limits, and learn what e-cigs look like to be able to recognize them.

I can see why some features of e-cigs are attractive relative to tobacco cigarettes. But there are risks and unknowns to this technology. It's important to realize that they're not as innocent as they seem.

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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