Toxic Flame Retardants (PBDEs)

A Priority for a Healthy Washington

A Toxic-Free Legacy Coalition Fact Sheet · September 2005

Toxic Flame Retardants: An Overview

Over thirty years ago, the government acted to ban PCBs-brain damaging poisons that were being found in the environment and food supply. Today, scientists are finding chemical cousins of PCBs, the toxic flame retardants PBDEs, everywhere they look. Polybrominated diphenyl ethers (PBDEs) are widely used as flame retardants in many products such as mattresses, furniture, electronics, automobiles, and computers. PBDEs are **not** used in children's pajamas. These toxic flame retardants persist in the environment, build up in the food chain and in our bodies, and are toxic at low levels.

There is strong scientific evidence that levels of PBDEs are rising rapidly in the environment and in human bodies. For example:

- PBDEs are likely found in the breast milk of **all** women. Levels found in the breast milk of women in Washington state were 20 to 40 times higher than levels found in Europe and Japan.
- Studies in wildlife have shown that PBDE levels are rising at alarming rates, doubling every one to five years. In the Columbia River system, levels in fish doubled in a mere 1.6 years. High levels have also been documented in studies of orca whales, salmon, peregrine falcons, terns, osprey, and other wildlife.
- PBDEs contaminate everyday foods bought at the supermarket, including certain meat, dairy, and fish products. Levels found in U.S. foods are higher than levels found in Spain and Japan.
- PBDEs are also found widely in house dust and indoor air.

Health Impacts

PBDEs impair memory, learning, and behavior in laboratory animals at very low levels. They also affect thyroid hormones and other bodily functions. Those at highest risk include developing fetuses, infants, and young children.

Alternatives

Buildings, transportation vehicles, and products can be kept safe from fires without using harmful chemicals that build up in our bodies and environment. Stringent fire safety codes can be met by:

- Using naturally flame-resistant materials such as wool and leather, plastics containing sulfur, preceramic polymers, and, aramide blends (like Kevlar).
- Using safer flame-retardant chemicals such as: aluminum trihydroxide; ammonium polyphosphate; and red phosphorus.

Many companies such as Ikea, Panasonic, Sony, NEC, and others have eliminated PBDEs in their products.

Banning Deca: Top Priority for Action

United States chemical makers have ceased the production of two forms of PBDEs, but have not stopped making the most heavily used form — deca-BDE (deca) — used primarily in TV and computer casings. Increasing evidence strongly indicates that deca is persistent, toxic, is taken up by organisms, and poses unacceptable risks to human health and the environment.

Toxic-Free Legacy Coalition
4649 Sunnyside Avenue N., Suite 540, Seattle, WA 98103 ❖ 206-632-1545 ext. 123 ❖ Fax 206-632-8661 ❖ sdiver@toxicfreelegacy.org
www.toxicfreelegacy.org

- Deca is used in massive quantities. An estimated 49 million pounds were used in the U.S. in 2001 and this use is expected to grow by 2% a year. Approximately 500 million pounds of deca are already in consumer products that are in our homes, offices, schools, or landfills.

- New studies show that deca breaks down into other more toxic, bioaccumulative forms of PBDEs. The breakdown products identified include the other PBDEs that have already been banned in California, Maine, New York, Michigan, and Europe. Europe also has a ban on deca for consumer electronics that goes into effect in 2006.

- A recent study showed deca has the ability to cause some of the same effects on the developing brains of mice as penta-BDE, one of the two forms banned in California, Maine, New York, Michigan, and Europe.

- Deca builds up in breast milk, people, and wildife. In a breast milk study of 40 Northwest women, 24 had deca contamination. In 2004, a U.K. World Wildlife Fund study found that members of the public can be exposed to levels of deca ten times higher than occupationally exposed individuals. Studies have even found deca contamination in polar bears and gulls in the Arctic.

- Cost-effective alternatives to deca exist and are being used by companies—including Matsushista, of Vancouver, which previously was the largest user of deca in Washington.

- A recent study on levels of toxic flame retardants in computer dust found deca in every sample.

What the Washington State PBDE Bill Will Do

HB 1488/SB 5515 passed through 5 committees of the Legislature in 2005 and is currently in the House and Senate Rules committees. It will:

- Ban the manufacture and sale of products containing PBDEs by July 2007. It provides a exemption process for products containing deca where there is no reasonable, safer alternative available.

- Provide for Ecology to study other actions needed to address PBDE contamination, including label ing and proper waste management of products containing brominated flame retardants.

- Require state agencies to lead by example and purchase PBDE-free products, including computers, electronics, and carpets.

Organizations Supporting HB 1488/SB 5515

American Academy of Pediatrics — WA State Chapter • WA Academy of Family Physicians • **WA Physicians for Social Responsibility** • WA State Public Health Association • **WA State Medical Association** • WA State Council of Fire Fighters • **Washington Toxics Coalition** • Washington Public Interest Research Group • **People for Puget Sound** • Washington Conservation Voters • **American Lung Association** • Washington State Nurses Association • **Healthy Building Network** • Washington Environmental Council • **Institute for Childrens' Environmental Health** • Seattle Alliance for Good Jobs and Housing for Everyone (SAGE) • **Amalgamated Transit Union Local 587** • Washington Association of Churches • **Institute for Neurotoxicology and Neurological Disorders** • Lutheran Public Policy Office • **Northwest Environment Watch** • Autism Society of Washington, Spokane Chapter • **Breast Cancer Fund** • .Midwives Association of Washington State • **Children's Alliance** • Planned Parenthood Affiliates of Washington • **Pacific Coast Federation of Fishermen's Association (PCFFA)**

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