Protecting Public Health from Toxic Flame Retardants

Fighting fires does not have to have toxic consequences. While fire retardancy is important, flame retardants known as Polybrominated diphenyl ethers (PBDEs) are rapidly accumulating in our bodies and the environment. PBDEs have been found to be toxic to animals and may threaten our own health. Safer, affordable, and equally effective alternatives are available.

- There are three commercial forms of PBDEs: Penta, Octa, and Deca. Due to mounting health concerns, the sole U.S. manufacturer of Penta and Octa voluntarily ceased production of the chemicals.

- Deca continues to be used heavily in the United States. Over 40% of all Deca produced worldwide is used in North America. Deca is used in television enclosures, some computers, wire and cable and some textiles.

- PBDEs including Deca are widely found in the environment and wildlife, and build up in the human body, including cord blood and breast milk. They are also present in household dust.

- PBDEs are reproductive and developmental toxins and children are highly exposed to these chemicals.

- Safer substitutes exist and many companies have already phased out the use of Deca in their products. 95 percent of computer products and 57 percent of televisions are already Deca-free.

What are toxic flame retardants?
PBDEs are flame retardants used in foam products, textiles, electrical equipment, building materials and transportation. Penta (pentabromodiphenylether), Octa (octabromodiphenylether) and Deca (decabromodiphenylether) are three of the most common commercial forms. Chemically, they are very similar to PCBs, which were banned in 1979 due to their high toxicity, persistence, and evidence that they can cause developmental problems in children. Like PCBs, PBDEs accumulate in the environment, in wildlife, and in humans. They are also commonly found in household dust.

Toxic Levels on the Rise
While PCB levels in fish and breast milk have slowly declined since being banned, PBDE levels are increasing at an exponential pace, as they are still largely unregulated in the U.S.

- Levels of PBDEs in U.S. women’s breast milk are 10–100 times higher than levels in European women.

- Total PBDE levels in breast milk, blood and tissues have increased by a factor of 100 during the past 30 years, doubling about every five years.

Vermont Organizations Support Banning PBDEs
AFL-CIO
INFORM, Inc.
Mama Says
Planned Parenthood of Northern New England
Professional Fire Fighters of Vermont
River Network
Toxics Action Center
Vermont Public Interest Research Group
Voices for Vermont’s Children
Health Impacts of PBDEs
Laboratory studies in animals indicate that PBDEs, like PCBs, are toxic to the brain, reproductive system and liver, and disrupt thyroid function.

- The U.S. Environmental Protection Agency considers Deca a possible human carcinogen.  

- Exposure to Deca in mice and rats during brain development “can give rise to irreversible changes in adult brain function.”

- PBDEs have been linked to delayed onset of puberty and reproductive development.

- Deca has the ability to cause the same effects on developing brains of mice as Penta, which has already been banned in eleven states and Europe.

- Deca can break down into more toxic forms in soil, sediment, house dust and fish tissue.

- An estimated 5 percent of American women have levels of PBDEs in their bodies greater than levels that have been shown to cause reproductive problems in laboratory animals.

- Children are receiving up to 300 times greater exposure than adults, primarily from breast milk and dust ingestion.

VERMONT MUST TAKE STEPS TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT FROM THESE TOXIC FLAME RETARDANTS.

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