



Focus on Phasing out the use of PBDE flame retardants in the home

from the Washington State Department of Ecology



PBDEs are chemical flame retardants added to many household products such as computers and televisions so that the products will not catch on fire or will burn more slowly. PBDEs have been widely used for the last 30 years. More than half of all PBDEs produced were used in the U.S. and Canada. Studies show that PBDEs are escaping from these products and are building up in people and the environment throughout the world. PBDEs have been found in human breast milk, house dust and indoor air, wildlife (including marine mammals, fish and birds) beef, dairy products and sediments.

Three types of commercial PBDE mixtures have been produced and sold. The Penta and Octa commercial mixtures are no longer produced and are banned in a number of countries and in eight states. The Deca mixture is still in production.

PBDEs are harmful and levels are rapidly rising

Studies in laboratory animals- the standard testing method for toxicity- show that PBDEs can damage the developing brain, affecting behavior, learning and memory. These effects can be permanent and recent animal studies show they may worsen with age. Developing fetuses and infants are the most sensitive to the toxic effects of PBDEs.

Studies also show that levels of PBDEs are rising in people and the environment. Levels are doubling every five years and people in North America have the highest levels in the world. In fact, based on limited human testing, PBDEs in humans are approaching the levels that cause harm in animals.

Deca is a concern

Like Penta and Octa, Deca has been shown to damage the developing brain in animal studies though it takes more of it to do so. Recent studies show that Deca now appears to be more toxic than previously thought. In December, 2006, the U.S. EPA significantly lowered its estimate of the allowable intake level for Deca. Studies show that Deca builds up in people and the environment even though scientists did not initially expect this. The very large volumes of Deca that are put into products every year are creating a reservoir of these chemicals in the home and the environment. They represent a long lasting potential source of toxic chemicals far into the future.

Deca is not as stable as originally thought. Laboratory studies designed to mimic naturally occurring environmental conditions show that Deca can break down in sunlight, in fish and cows, in sewage sludge, and in sand. These studies show that Deca can break down into Octa and Penta, which are known persistent, bioaccumulative toxins, as well as a number of unidentified chemicals. We know very little about the toxicity of these unidentified chemicals.

Everyone is exposed

Unlike other persistent chemicals, our home environments are a significant source of PBDE exposure. Levels of PBDEs in house dust are about 10 times higher in the U.S. than in Europe, and most of the PBDE in house dust is Deca. PBDEs have been found in a variety of foods and in breast milk. Studies show that children are more exposed to PBDEs than adults because of their contact with house dust and their intake from breast milk. And consumers have no way of knowing what products in their homes contain PBDEs.

Protecting people in their homes

Mattresses

The bill bans the sale of mattresses containing Deca after January 1, 2008. Under new fire safety standards issued by the U.S. Consumer Product Safety Commission (CPSC), Deca may be used in mattresses to meet these standards. (Mattress manufacturers have until July, 2007 to comply). This bill will prevent this new and expanded use. The Departments of Health and Ecology have confirmed that there are chemical and non-chemical alternatives for fire retarding mattresses that are clearly safer than Deca approved by the CPSC. Washington State mattress manufacturers do not currently use Deca and have stated a preference to use non-chemical alternatives.

Computers, TVs and Upholstered Furniture

The bill bans the sale of computers, TVs and upholstered furniture containing Deca after January 1, 2011, provided that safer and effective alternatives are available. Establishing the effective date of the ban in the future provides manufacturers time to find less toxic alternatives and provides an incentive for industry to demonstrate the safety of new alternatives.

Maintaining fire safety

The ban on the use of Deca in computers, TVs and upholstered furniture can go into effect *only* after the Departments of Health and Ecology determine that less toxic alternatives are available **and** Washington's fire fighting professionals determine that any proposed alternative meets fire safety standards.

If both of these conditions are not met, Ecology must issue rules to allow the ongoing use of Deca after January 2011. This exemption will be reviewed annually. When acceptable alternatives become available, manufacturers will be given at least two years to comply.

Protecting retailers

Under the bill manufacturers of mattresses, TVs, computers and upholstered furniture must notify retailers if their products contain Deca. Manufacturers must recall these products after the effective date of the ban. The legislation also allows retailers to sell their existing stock after the effective date of the ban.

Exemptions

The bill is focused on reducing the amount of PBDEs in our homes. The bill exempts transportation vehicles, space program and military applications, safety systems required by the Federal Aviation Administration, medical devices and used products.

Penta and Octa

This bill also bans the use of Penta and Octa. While these mixtures are no longer in commercial production, this will prevent possible future uses of Penta and Octa.

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