



Connecticut Public Health Association

c/o SCSU-Department of Public Health
144 Farnham Avenue
New Haven, Connecticut 06515
Telephone: 203-392-6952 Fax: 203-392-6965

WRITTEN TESTIMONY OF CONNECTICUT PUBLIC HEALTH ASSOCIATION

AN ACT CONCERNING BANNING CERTAIN CHILDREN'S PRODUCTS CONTAINING BISPHENOL-A, FOOD PRODUCT [CONTAINERS] AND PROHIBITING CERTAIN ALTERNATIVE SUBSTANCES H.B. 6572

and

AN ACT PHASING OUT THE USE OF POLYBROMINATED DIPHENYL ETHERS S.B. 919

Environment Committee
March 2, 2009

Senator Meyer, Representative Roy and the distinguished members of the Environment Committee, my name is Annamarie Beaulieu and I am the Campaign Director for the Connecticut Public Health Association (CPHA). Thank you for the opportunity to testify on behalf of CPHA in favor of both H.B. 6572, an act banning certain children's products containing bisphenol-A (BPA) and S.B. 919, an act that will phase out the use of polybrominated diphenyl ethers (PBDE's) from being manufactured or sold in Connecticut. BPA and PBDE's are both chemicals that have been strongly linked to adverse human health effects. In October 2008 Connecticut Attorney General Blumenthal contacted 11 companies urging them to stop using BPA in baby bottles and baby formula containers and more recently urged Connecticut retailers to not allow products containing BPA on their shelves.[1] CPHA strongly urges members of this committee to help further reduce exposures to both chemicals by acting favorably on H.B. 6572 and S.B. 919.

BPA Exposure and Health Effects

Humans are routinely exposed to the chemical BPA, an endocrine disruptor, that it is widely used in the manufacturing of polycarbonate plastics and epoxy resins. Studies have shown that under normal conditions BPA leaches from consumer products such as baby bottles, canned food and beverage containers, dental sealants and many other consumer goods. [2,3] The CDC's NHANES 2003-2004 analysis of over 2,500 Americans (ages six and older) found BPA in 93% of the urine samples with children having the highest concentrations of BPA and adolescents having higher levels than adults. [4] Several other studies have also indicated the widespread exposure of BPA among the general public with children and adolescents being the most highly exposed. Additionally, researchers have stated that at the current levels of BPA measured in humans, it is plausible and even likely that BPA has the potential to cause human disease or dysfunction.[2]

Exposure to BPA has been associated with adverse animal and human health effects. Experimental animal studies have linked low-dose levels of BPA exposure to mammary and prostate cancer, and neurological and developmental dysfunctions. [3,5,6,7] Adding to the findings from the animal studies, the first major epidemiological study examined the health effects associated with BPA on a representative sample of adults in the U.S.. The findings suggest a significant relationship between urine concentrations of BPA and an increased prevalence of cardiovascular disease, diabetes, and liver-enzyme abnormalities. [8]

Human fetuses, infants, children, and teenagers undergo critical windows of development when they are particularly vulnerable to the adverse health effects of endocrine disruptors such as BPA. There are concerns of the effects on the brain, behavior, and prostate gland in fetuses, infants, and children at current human exposure levels to bisphenol A. Additionally, analyses of cord blood show that every baby born today has bisphenol A in

his or her blood, as well as other chemicals including PCBs, phthalates, flame retardants, pesticides, lead, and mercury.[12,13]

BPA Expert Panels, Research and Review

Expert panels have reviewed the scientific research literature on BPA exposure in human and animals and their analysis indicates that although more research must be conducted, human exposure to BPA is a cause for concern.

- The Chapel Hill bisphenol A scientific expert panel developed the following consensus statement regarding BPA and its impact on human health.
“The published scientific literature on human and animal exposure to low doses of BPA in relation to in vitro mechanistic studies reveals that human exposure to BPA is within the range that is predicted to be biologically active in over 95% of people sampled. The wide range of adverse effects of low doses of BPA in laboratory animals exposed both during development and in adulthood is a great cause for concern with regard to the potential for similar adverse effects in humans. Recent trends in human disease relate to similar adverse effects observed in experimental animals exposed to low doses of BPA. Specific examples include: the increase in prostate and breast cancer, uro-genital abnormalities in male babies, a decline in semen quality in men, early on-set of puberty in girls, metabolic disorders including insulin resistant (type 2) diabetes and obesity, and neurobehavioral problems such as attention deficit disorder (ADHA).” [9](Pg. 136)
- The National Toxicology Program-Center for the Evaluation of Risks to Human Reproduction’s (NTP-CERHR) evaluation acknowledges that the possibility that bisphenol A may alter human development cannot be dismissed.[10]
- The Collaborative on Health and the Environment recently released a research tool named *Critical Windows of Development*, a comprehensive timeline that illustrates the developmental health effects from three different chemicals including BPA, on the various critical stages of human development. This tool can be accessed at: <http://www.endocrinedisruption.com/prenatal.criticalwindows.overview.php>

BPA, Safer Alternatives and Policy Changes

Safer alternatives to BPA do exist. Currently there are BPA free baby bottles available from several manufacturers including Playtex, Gerber and Medela. These safer alternatives as well as glass baby bottles are available at leading retailers including Toys-r-Us and Wal-Mart. Safer alternatives to formula can linings are emerging on the market. Formula makers such as Abbot Labs (Similac) are working to develop alternative packaging options that are BPA free.

The Connecticut legislature has the opportunity to ensure that the sale and manufacture of bisphenol A is definitively addressed in the state. The scientific evidence warning of the severe adverse health effect of BPA in humans is mounting and other governments are taking action. The Canadian Government recently announced the drafting of regulations to prohibit the importation, sale and advertising of polycarbonate baby bottles that contain bisphenol A (BPA). [11] The European Union is expected to review whether or not to ban all endocrine disrupting chemicals, including BPA, by 2013. Legislation concerning BPA is currently being considered at the federal level. However, recent federal regulatory action on lead and phthalates serve as precedents illustrating the need for states to lead the way in chemical policy reform. The State of Connecticut can be a leader in the U.S. in the phasing out of BPA in children’s products just as it was with lead and asbestos in 2008. Other states such as Washington and California are also working hard on similar pieces of legislation that will ban BPA from children’s products.

PBDE Exposure and Health Effects

Polybrominated Diphenyl Ethers (PBDEs) are members of a broader class of brominated chemicals that are used as flame retardants in plastics, foams, fabrics and other materials.[14] There are three commercial PBDE products: penta-, octa-, and decaBDEs. Penta mixtures are used in foam for cushioning in upholstery, octa mixtures are used in plastics for business equipment, and deca mixtures, which make up 82% of all PBDE's manufactured, are used for electronic enclosures, such as television cabinets. [15]

Like other persistent organic pollutants (POPs), concentrations of PBDEs have been found in humans and wildlife worldwide. PBDEs can enter soil, water and air during manufacturing or by leaching from products containing PBDEs. PBDEs do not dissolve easily in water, however, they have a high affinity for binding to particles. Thus, PBDEs can readily attach to sediment and settle to the bottom of rivers and lakes or attach to dust particles and be transported through the air. [16] This allows PBDEs to travel long distances from their source and persist in the environment. Most human exposure occurs from contact with household consumer products that contain PBDEs and from breathing air or ingesting dust contaminated with PBDEs. Humans may also be exposed by eating contaminated foods with a high fat content such as fatty fish, or by working in industries that make, repair or recycle products containing PBDEs.[17] Environmental monitoring programs in Europe, Asia, North America, and the Arctic have found traces of PBDEs in humans, fish, aquatic birds, and in the environment. [18] PBDEs have been found in human blood, breast milk and body fat, indicating that most people are exposed to low levels of these chemicals. Tissue samples from humans in the United States have some of the highest levels of PBDEs in the world. [19]

While flame resistant products help save lives and prevent property damage during fires, there are increasing concerns about the health and environmental effects of PBDE use. Since PBDEs have the ability to bioaccumulate and persist in the environment, low exposures over time can lead to dangerously high PBDE concentrations in humans. PBDEs have not been found to cause immediate symptoms from acute toxicity and the long-term health effects of these chemicals are still unknown. However, tissue levels of PBDEs in humans are approaching levels associated with adverse effects in animals [19] Animal studies show an association between exposures of PBDEs and several health effects including neurobehavioral toxicity, thyroid hormone disruption and cancer. Based on these studies, the EPA classified decaBDEs as a possible human carcinogen. Other animal studies suggest that PBDEs may cause developmental effects, endocrine disruption, immunotoxicity, and reproductive effects. [18]

PBDE and Policy Changes

Increasing concerns about the health and environmental effects of PBDEs have already led to significant policy changes. The European Union enacted a ban on penta- and octaBDEs in all products that took effect in August 2004. The Great Lakes Chemical Corporation, the only U.S. manufacturer of penta- and octaBDEs, announced a voluntary phase out of these products by the end of 2004. The state of California enacted a law banning the use of penta- and octaBDEs by January 2008. Maine, Hawaii, Washington and New York have also considered or have passed similar legislation. [20]

Conclusion

The Connecticut Public Health Association wishes to thank the Committee for the opportunity to address the impact that these two chemicals can have on our health. While significant progress has been made in reducing toxic exposures in Connecticut, much work remains to be done. Phasing out the manufacture and sale of products containing PBDEs and prohibiting the sale of children's products that contain the chemical bisphenol-A would be a positive step toward protecting both individual health and the status of Connecticut's public health. CPHA once again urges the committee to act favorably on H.B. 6572 and S.B. 919. For additional information on CPHA's position on bisphenol-A, polybrominated diphenyl ethers or other public health issues, please contact CPHA's me at annamarie.beaulieu@cpha.info ; 860.301.8857, or CPHA Advocacy Committee co-Chair Alyssa Norwood at alyssa.norwood@gmail.com ; 860.424.1345.

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