



Comments from the Natural Resources Defense Council

In support of SB 70

**An Act to Amend Title 6 of the Delaware Code Relating to Protecting the Health of Children by
Prohibiting Bisphenol-A in Products for Young Children
Sponsored by Senator Hall-Long**

Thank you for this opportunity to testify in support of SB 70. These comments are submitted by Natural Resources Defense Council (NRDC), who on behalf of our 1.2 million members and online activists uses law and science to ensure a safe and healthy environment for all living things. NRDC has no financial interest in bisphenol A (BPA).

I am Jennifer Sass. I have a doctorate degree in molecular biology, and a post-doctoral certificate in environmental toxicology. I am a Senior Scientist at the Natural Resources Defense Council (NRDC). I have published over three dozen articles in scientific journals, provided written and oral testimony to Congress, to the Environmental Protection Agency, and to the National Academies, as well as served on Federal scientific advisory and stakeholder committees. I am also a professorial lecturer in the Department of Environmental and Occupational Health at George Washington University, where I teach the regulation of hazardous chemicals and emerging contaminants like nanotechnologies.

I am also the mother of a grown son. Although he is now in college, his physical, emotional, and intellectual development continue to be a daily priority for me. At this point in his life I think about what effect hormone-disrupting chemicals like BPA may have on his reproductive health and the health of my future grandchildren.

BPA was intentionally developed in the laboratory as an estrogen mimicking chemical over 70 years ago. Now, its widespread use in consumer products has resulted in 9 out of every 10 Americans carrying residues of this chemical in their body. BPA has also been found in breast milk, cord blood and amniotic fluid, indicating exposures are occurring during vulnerable periods of development. The FDA and other federal agencies have identified food as a major source of exposure and infants are amongst the most highly exposed. As a scientist and a mom, I am quite concerned that the levels found in humans have repeatedly been associated with harm in laboratory animals.

I would like to make four pertinent points supporting this legislation:

1. The weight of scientific evidence supports Delaware's decision to ban BPA.
2. Market changes have already occurred which indicate alternatives to BPA are easily achieved.
3. While removing BPA from infant and children's products is a big step forward, our children will not be out of harm's way unless we take BPA out of the products that they have access to, including those that expose pregnant and nursing mothers.
4. Delaware should not wait for federal action, either by the U.S. Congress, the Food and Drug Administration, or the Environmental Protection Agency to take action on BPA.

Over 200 scientific studies on BPA have been published which have demonstrated that exposures occurring during fetal or early childhood development can have life-long impacts on reproduction, including early puberty, learning and behavior, and a predisposition for the development of cancer in the prostate and breast. More recent research has demonstrated that BPA can interfere with the development and function of fat tissue and has been linked to pre-diabetes, cardiovascular disease, and thyroid hormone function.

Low levels of BPA, similar to those found in humans, have been demonstrated in dozens of well-conducted studies published in the peer-reviewed scientific literature by many different independent, academic laboratories to cause adverse effects on the development of an animals' reproductive system, brain and behavior, and potentially the metabolic system. Prenatal exposure has also been shown to increase susceptibility to prostate and mammary (breast) cancer later in life. Moreover, low doses of BPA, within the range of common human exposure, have been shown to interfere with prostate cancer treatment in human/animal models, to promote the transition of normal breast tissue to tissue which expresses genes found only in highly aggressive human tumors, and to interfere with the action of drugs used to treat human breast cancer.

The FDA and other federal agencies have identified food as a major source of exposure and stated that infants are amongst the most highly exposed. These agencies have identified use of polycarbonate bottles and infant formula as the major sources of exposure to infants. Previously concerns have been raised about drinking warm beverages from polycarbonate but now, a new Harvard study has demonstrated that drinking even cold beverages from polycarbonate containers increases exposure to BPA by as much as two-thirds.

Also of concern are studies done on non-human primates and in humans that have shown exposure to BPA during critical periods of development interferes with the formation of parts of the brain that are important for learning and memory. More recent studies in monkeys and in young human toddlers, have found that BPA exposure early in life causes males to behave more like females. These troubling results are consistent with findings described previously in rodent studies.

In sum, we have abundant evidence in multiple species from laboratories across the globe, which have consistently shown that the developing fetus and infant is exquisitely sensitive to this chemical. Exposures in adults during their reproductive years are also of concern because of the potential effects of BPA on sperm and eggs.

In the past 3 years, three different expert panels have recognized the impact of BPA on the developing child:

- First, in 2007 a panel of 38 internationally recognized BPA scientific experts, convened by the National Institute of Environmental Health Sciences, issued a consensus statement and published a series of articles in a peer reviewed scientific journal summarizing concerns about BPA toxicity.
- Second, in 2008, the U.S. National Toxicology Program, which acts as a science advisory panel to U.S. federal and state regulatory agencies, issued a report expressing concern current levels of exposures to BPA in fetuses infants and children potentially puts them at risk for health impacts. In January 2010, the FDA stated they were in agreement with the findings of this NTP report.
- Finally, the Endocrine Society, the premier professional organization comprised of over 14,000 research scientists and physicians from over 100 countries in 2010 issued their first public statement on the impacts of endocrine disrupting chemicals on human health, highlighting BPA as one of the chemicals which has been linked to a wide variety of health impacts caused by endocrine disruptors.

There is strong scientific evidence to restrict the use of BPA in children's products because it is a source of exposure during one of the most critical periods of development. However, getting BPA out of infant and children's products is not enough. Exposures occurring in the womb are likely to be as dangerous for development and requiring BPA-free 'adult' reusable containers is an important step to reducing a large source of BPA exposure during pregnancy. The National Toxicology Program scientific team determined that, "The primary source of exposure to BPA for most people is through the diet." Therefore, replacing BPA in reusable containers, sports water bottles, and other reusable polycarbonate plastic containers will reduce the intake of BPA by pregnant and nursing women, and therefore reduce the risk of exposure to the fetus and infant during this critical window of development when our babies are most vulnerable to harm from BPA.

After public outcry over the mounting scientific evidence of BPA toxicity, many retailers and manufacturers have taken their own initiatives to eliminate BPA from their products.

- Wal-Mart, Toys R Us, Target, and Sears are just a few of the national chains that have phased out baby bottles containing BPA.
- The nation's six largest baby bottle manufacturers announced in 2009 that they either have already eliminated or will phase out BPA.
- Several major infant formula makers are already using BPA-free packaging.

The sales of BPA-free products have sky-rocketed and many alternatives are available. However, we cannot rely on these voluntary measures to protect our children. Furthermore, parents should not have to take advanced chemistry lessons to be able to decipher which products are safe for their children.

Other countries and individual states are already taking action. Nine states have passed with bipartisan support legislation to remove BPA from children's products. The Canadian Ministry of Health has declared BPA to be a "toxic chemical" and has banned the use of BPA in baby bottles. A European ban on BPA went into effect earlier this year. Finally, China announced this year it would be banning BPA in children's products.

Just last November, a compromise was reached in the U.S. Senate between a Democratic and a Republican Senator to include a ban on the use of BPA in baby bottles and sippy cups as part of the Food Safety Bill then under consideration. Unfortunately, this opportunity to establish a uniform national rule on BPA in those children's products was lost when the chemical industry, represented by its trade association, the American Chemistry Council, applied sufficient political pressure on key Senators to kill this compromise provision. We fully expect that the industry opposition to ongoing efforts to address BPA through national legislation will be just as strong in the months and years ahead. Delaware should not wait for the U.S. Congress to act.

Meanwhile, the FDA has not completed its current assessment of the safety of BPA. This will be their third attempt, because previous attempts have been heavily criticized for methodological flaws. External scientific reviews of the previous two assessments have been critical of the Agency relying on studies funded by the chemical industry. FDA's legal mandate when

approving the use of food additives is that the chemical must be “*shown* by adequate scientific data *to be safe* for use in human food.” Given the number of concerns that have been raised by the dozens of studies published by independent academic scientists and other federal agencies, BPA does not meet this bar and should not be allowed for continued use as a food additive. Unfortunately, there is no deadline for completion of the assessment and no guarantee that it will pass muster with their Science Advisory Panel when it is completed. While the FDA has primary jurisdiction over the use of BPA in food packaging and containers, it has taken very little action on this issue, beyond the poorly conducted assessment just described. In light of FDA’s failure to date, Delaware should not wait.

I urge your support of this important measure and will be happy to respond to any follow up comments or questions you may have.

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