

Testimony of
Michael Belliveau, Executive Director
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before the Maine Board of Environmental Protection

regarding Draft Chapter 882,
**Designation of Bisphenol A as a Priority Chemical
and Regulation of Bisphenol A in Children's Products**

Augusta, Maine
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Chairwoman Lessard and Members of the Board of Environmental Protection, thank you for this opportunity to testify in favor of protecting children's health from unnecessary exposure to the hormone-disrupting chemical bisphenol A (BPA).

My name is Michael Belliveau and I live in Hudson, Maine. I represent a statewide public health organization, the Environmental Health Strategy Center, with offices in Bangor and Portland, whose mission is to promote human health and safer chemicals in a sustainable economy. I was trained at MIT where I graduated with a degree in environmental science and have 30 years of experience in chemical policy development and environmental public health protection. I was appointed by Governor Baldacci to serve on the Governor's Task Force on Safer Chemicals in Consumer Products in 2006. Working under the direction of the Speaker of House and legislative sponsor Hannah Pingree, I co-authored the 2008 law commonly referred to as the Kid-Safe Products Act, which is the governing statute that authorizes the proposed regulation before you today.

The proposed regulation represents an excellent beginning to a long overdue process to protect our children from the threat of serious chronic disease and disability associated with exposure to the common industrial chemical known as BPA. The scientists, doctors and parents that follow me will review the rapidly growing body of scientific evidence and public concern that justifies designating BPA as a priority chemical and taking immediate policy action to reduce children's exposure.

My testimony focuses on the solution – what that policy action should look like. I'll refer to the chart that's attached to my testimony, in which I analyze the proposed regulation for each BPA-containing product category in relation to the seriousness of children's exposure to BPA and the availability of safer BPA-free alternatives.

But first, let me summarize my major conclusion. **The proposed regulation of BPA in products fails to adequately protect children's health. The proposed rule fails to eliminate the greatest source of BPA exposure to young children – food packaging. BPA leaches from the linings of metal cans and lids to significantly contaminate infant formula, baby food and food items intentionally marketed for toddlers.**

1. The Proposed Designation of Bisphenol A as a Priority Chemical is Well Justified

There is hardly a better candidate chemical than BPA for designation as a Priority Chemical. Public concern about BPA is high, fueled by the growing body of research results linking low-dose exposure to serious hormone-mediated adverse health effects. The Maine Department of Environmental Protection has listed BPA as a Chemical of High Concern. Although a Chemical of High Concern need only meet at least one of the exposure-related criteria specified in statute in order to be designated a Priority Chemical (38 MRSA §1694, sub-§1), BPA meets all six criteria. The U.S. Environmental Protection Agency listed BPA as one of its first five priority chemicals under its Enhanced Chemical Management Program (USEPA 2010). Seven U.S. states and several countries already regulate bisphenol A in common products, further restrictions are contemplated and additional governments are expected to act. Even the U.S. Congress will consider proposed restrictions on BPA.

2. The Proposed Sales Prohibition on Reusable Food and Beverage Containers containing BPA follows Leading Policy and Market Trends and is Well Justified

In response to public outcry by angry moms, product manufacturers have already largely abandoned the use of BPA in reusable food and beverage containers in favor of safer alternatives. Seven states have banned BPA in reusable containers by statute (Connecticut, Maryland, Minnesota, New York, Vermont, Washington and Wisconsin). Massachusetts will take administrative action on BPA under existing statutory authority.

Safer alternatives to BPA use in polycarbonate plastic containers are widely available. These include containers made with other BPA-free plastic resins as well as non-plastic alternatives, such as glass for baby bottles or stainless steel for water bottles. A recent assessment of BPA alternatives examined 12 alternatives to polycarbonate bottles and found that 8 passed a screen for technical effectiveness, human health and environment, and economic affordability (Greiner 2009).

The proposed sales prohibition on reusable food and beverage containers in Maine (DRAFT Chapter 882, §5.A.), while fully justified and a proper starting point, will have virtually no impact on current BPA exposures facing Maine children. You would have great difficulty today finding and buying a BPA-containing polycarbonate plastic baby bottle, sippy cup or reusable water bottle at retail. Although the Maine rule may catch a non-brand name laggard or speed the phase-out of other reusable polycarbonate containers, such as 5 gallon water bottles, it will do little to enhance the protection of Maine children from bisphenol A.

3. The Proposed Regulation Fails to Protect the Health of Maine Babies from Very Significant Exposure to BPA from Infant Formula and Baby Food

***RECOMMENDATION:** The Board of Environmental Protection should exercise its authority to prohibit the sale of cans, jars or plastics containers used to store infant formula and baby food that contain intentionally-added BPA, since all the necessary criteria have been met.*

A. Authority to Prohibit Product Sales in Favor of Safer Alternatives. In order to prohibit the sale of a product containing a priority chemical such as BPA under the law, the Board must find that (1) distribution of the product directly or indirectly exposes children to the priority chemical, and (2) one or more safer alternatives are available at comparable cost. (38 MRSA §1696, sub-§ 1).

Further, when making the above determination, the Board may legally presume that a safer alternative is available by making any of three simple showings, which include: (1) if the sale of the children's product containing the priority chemical has been banned by another state within the United States or (2) if the alternative is sold in the United States. (38 MRSA §1696, sub-§2).

The Department's basis statement acknowledges a serious concern about BPA exposure from infant formula and baby food that is stored in cans, jars or plastic containers that contain BPA. (DEP 2010 at 4). However, the rule only proposes that manufacturers of such products submit information to the Department on BPA product use with limited additional information requested on known alternatives to BPA. (DRAFT Chapter 882, §4.A.)

B. Children are Exposed to BPA from Infant Formula. Analysis of exposure data shows that liquid canned infant formula poses a significant health risk to infants as well as a greater risk to infant health than baby bottles ever posed. A 2007 study by Environmental Working Group (EWG) found that BPA levels in canned infant formula were far higher than what was expected to leach from polycarbonate plastic baby bottles under normal conditions (EWG 2007b). In 1996, the U.S. Food and Drug Administration found that 14 samples of liquid baby formula in metal cans contained an average of 5 parts per billion (ppb) of bisphenol A with a maximum of 13 ppb reported (FDA 1996). Testing by EWG in 2007 confirmed those results finding an average of 5.3 ppb and a maximum of 17 ppb of BPA in six samples of liquid infant formula from cans (EWG 2007a). In a 2010 peer-reviewed update, FDA scientists reported that BPA levels in canned infant formula ranged from 0.48 ppb to 11 ppb, based on 160 samples from 104 containers representing 36 products (Ackerman et al. 2010). FDA recently reviewed and confirmed children's exposure to BPA from infant formula and other food packaging sources (FDA 2009).

Based on government surveys of formula consumption, and considering the latest science showing low dose toxic effects of BPA, EWG concluded that: "One of every 16 infants fed **ready-to-eat canned formula** would be exposed to BPA at doses exceeding those that altered testosterone levels, affected neurodevelopment, and caused other permanent harm to male and female reproductive systems." and that "At the highest BPA levels found in formula, 17 parts per billion (ppb), nearly two-thirds of all infants fed ready-to-eat formula would be exposed above doses that proved harmful in animal tests" (EWG 2007a).

C. Children are Exposed to BPA from Baby Food. For example, in a recent study, Health Canada tested 122 baby food jars for BPA and found that 84 % of the baby foods tested contain bisphenol A (Health Canada 2009). The average BPA levels were 1.1 ppb with a

maximum of 7.2 ppb reported. Across all brands, the average BPA concentration in fruit products (0.6 ppb) was lower than mixed-dish (1.1 ppb) and vegetable (1.2 ppb) products.

D. Safer alternatives are available. Both criteria cited above that can be used to trigger a presumption that safer alternatives are available have been met. Other states have banned BPA in containers for infant formula and baby food. Alternatives to BPA-contaminated infant formula and baby are being sold in Maine and the United States.

Two states have banned BPA in containers used to store infant formula and baby food – Connecticut (2009) and Vermont (2010). Similar legislation is pending in other states. In Congress, U.S. Senator Dianne Feinstein has announced plans to introduce an amendment in September to the pending Food Safety Act that would include infant formula and baby food in a BPA phase-out (Feinstein 2010).

For infant formula, several alternatives to canned infant formula tainted with BPA are already widely available in the marketplace and more are on the way. First, we should acknowledge from a public health perspective that breast-feeding is best and offers the most beneficial alternative to infant formula. Breast milk can also readily be expressed and stored in a BPA-free container for feeding to the baby in a BPA-free bottle at a later time.

At retail, major formula manufacturers sell liquid infant formula in BPA-free plastic containers. For example, Similac liquid infant formula manufactured by Abbott Laboratories is sold in a High Density Polyethylene (HDPE) container, relying on the same plastic resin used for gallon milk jugs, and Nestle also sells a BPA-free liquid formula. Enfamil powdered infant formula produced by MeadJohnson & Company is sold in a BPA-free Polypropylene (PP) container, the same safe plastic resin used for yogurt containers. Other BPA-free powdered formulas include Nestle's GOOD START and Similac.

Other powdered infant formulas are packaged in cardboard containers with metal lids and bottoms, which dramatically reduces the potential for BPA-exposure from the metal lining. A recent FDA survey detected any BPA in only 1 of 14 samples of powdered infant formula (Ackerman 2010).

For baby food, several BPA-free alternatives are also widely available. Most baby cereals are packaged in cardboard. BPA-free plastic containers of processed baby food are beginning to crowd the classic glass jars with BPA-based epoxy resin-lined metal jar lids on the retail shelves.

For example, Beech-Nut sells many varieties of baby and toddler food in plastic containers advertised as BPA-free with no metal lid under the Let's Grow brand. Gerber sells many processed baby foods in plastic containers marketed as NatureSelect as an alternative to the same foods it sells in glass jars with BPA-containing metal lids. The Parent's Choice store brand of baby food sold by Wal-Mart is packaged in BPA-free Polypropylene plastic containers and is available in a wide variety of fruits and vegetables.

In addition, a screening level alternatives assessment conducted for BPA used in epoxy resin linings for food and beverage cans concludes that safer alternatives are available (Greiner 2010). Eleven alternatives were evaluated and two passed all technical performance, environmental health and safety and economic affordability criteria. One of the alternative can coatings that passed is a DAREX polyester that's commercially available. The other alternative that passed all screens has been commercially demonstrated in Japan and is a Toray biaxially oriented PET film. A third alternative, Oleo Resin passes the technical and economic screens and the resin itself passes the environment and human health screen. This is the material used to coat Eden Foods cans for beans. However, the primer likely used with the Oleo Resin system involved a carcinogenic compound. Greiner cited the need for more disclosure of product chemistry from coating manufacturers in order to more accurately evaluate alternatives.

Conclusion:

The Maine Board of Environmental Protection should amend the rule as proposed to include a sales prohibition on cans, jars and plastic containers that are made with bisphenol A and used to store infant formula, baby food and toddler food, and adopt the amended rule.

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