



Canned food. Image courtesy of Luvo Inc. (March 20, 2017).



POLICY BRIEF: THE HIDDEN COSTS AND IMPACTS OF BISPHENOL A IN CAN LININGS

SUMMARY

Bisphenol A, or BPA, is a hazardous industrial chemical used primarily to produce plastic, reusable food and beverage containers. Humans are exposed to BPA through air, water, and dust, but greatest exposure occurs through their diet. BPA is found predominately in canned products—existing in the lids and bodies of several canned items—but it also appears in other consumer commodities such as plastic water bottles. BPA can leach into food and beverages stored in metal cans and plastic containers, especially when the container is heated, washed with a harsh detergent, or damaged. BPA has also been used in baby bottles, sippy cups, and infant formula packaging and continues to be used in many children's products. Infants and children can ingest BPA by mouthing materials containing BPA or through hand-to-mouth contact. Due to this frequent exposure, children and infants have the highest daily intake of BPA. Aside from ingestion, BPA can also enter the body through direct skin

contact. BPA has been found in human urine, blood, tissues, and even breast milk. Though BPA may be a convenient and cost efficient option for manufacturers, this harmful chemical affects the lives of many consumers who may unknowingly purchase products containing BPA.

EFFECTS ON THE BODY

Hundreds of scientific studies have explored the potential effects of BPA and accumulated mounting evidence that BPA is harmful to humans, even in low doses. BPA mimics the hormone estrogen. As hormones are vital to normal body functioning, interference has developmental, reproductive, neurological, and immune response consequences. Developing fetuses, infants, and children are more vulnerable to these effects. Low doses of BPA can induce changes in many of the reproductive organs, increasing susceptibility to cancer later in life. The EPA added BPA to its Toxic Substances Control Act (TSCA) Work Plan in October of 2014 for its reproductive toxicity. Low doses of BPA can also

induce changes in brain structure, brain chemistry, and behavior such as the masculinization of females and the feminization of males. One study found that behavioral changes such as increased anxiety, aggression, and cognitive impairments after BPA exposure continued across generations. BPA has also been linked to heart disease, obesity, and diabetes. Many of the observed effects of chronic, low dose BPA exposure mirror recent human health trends such as the increase in prostate and breast cancer; reproductive abnormalities in babies and children; diabetes; obesity; and neurobehavioral problems such as ADHD.

STUDIES CONDUCTED

Today, despite the persistence of environmental organizations and the public to remove BPA from numerous products, BPA persists in the lining of several canned food items found in local grocery stores. According to a study published in 2015 by the Breast Cancer Fund, over 67% of canned food



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products from the 192 that were tested contain BPA. Among those tested are canned items from local North Carolinian retailers like Kroger and Harris Teeter. 13 out of 21 cans tested from Kroger and 2 out of 6 cans tested from Harris Teeter contained BPA. In a recent study conducted by the Center for Environmental Health (CEH) from January to April 2017, 252 canned items were tested for BPA across eleven states, including North Carolina, and 38% of those cans contained BPA. Of the four major retail stores tested—Kroger, Albertsons, Dollar Tree, and 99 Cents Only—24 of the 73 canned items from Kroger, approximately 33%, contained BPA. Despite a decrease of BPA found in canned items, about a 1.8% reduction since 2015, several canned products sold in local grocery stores still contain BPA, potentially triggering endocrine disruption and other health concerns.

CONSUMER DEMOGRAPHICS

Low-income and fixed-income consumers are more likely to purchase canned items and, thus, those more likely to be exposed to these toxins. According to a 2016 survey published by the AARP Foundation, individuals aged 50 and above that purchase canned items have an average annual income of \$40,000 or less (Fig. 1). These consumers identify their chief motives for purchasing canned products as “easy/quick preparation” and “long shelf-life.” A study published by Environmental Health Perspectives (EHP) indicates that males, individuals from rural and low-income areas, and individuals aged 50 or below have higher percentages of BPA concentration in their bodies. These individuals are also more likely to not have proper health insurance providing access to a doctor for preventative treatment.

How often do you use these types of foods in preparing meals?

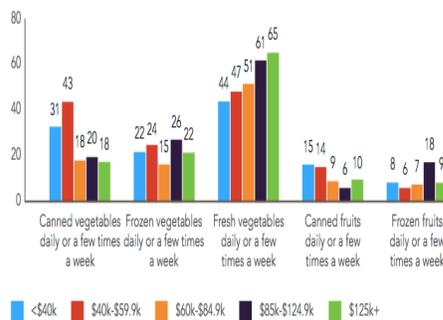


Figure 1. Consumer Income and Product Correlation. This graph indicates that canned product use is largely income driven. As income increases, the reliance on canned products decreases.

ANALYSIS

Research indicates that many purchase and consume canned products in the U.S., signifying a high demand for BPA-free products in local grocery stores. Grocery stores with current-standing toxics policies in North Carolina are lacking, especially in popular grocery chains such as Harris Teeter and Kroger. While Kroger has made some changes to limit products with BPA since 2015, BPA still persists in several of their canned products. Harris Teeter as a North Carolina-based company and a subsidiary of Kroger—one of the largest supermarket chains in America—should also aim to phase out BPA and move toward safer alternatives as it affects North Carolina more directly. Regardless of whether one uses food stamps to purchase food, is hyperconscious of time, or enjoys the ease of purchasing canned items, consumers deserve to know what is in their food.

RECOMMENDATIONS

1. There is a need for local grocery stores such as Harris Teeter and Kroger to

eliminate products containing BPA from shelves.

2. There is a need to increase consumer awareness by labeling products with BPA.
3. There is a need for manufacturers to use BPA alternatives with sensitivity to regrettable substitutions.
4. Consumers can avoid heating plastic containers in order to prevent BPA from leaching into food.
5. Consumers can purchase glass or stainless steel water bottles with BPA-free labels.

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Toxic Free North Carolina’s mission is to engage North Carolinians in the transition to a toxic-free society through initiatives that promote human and environmental health.



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