The Alliance
for a Clean and Healthy Vermont

bisphenol A

According to the Centers for Disease Control and Prevention, more than 90% of Americans have levels of BPA in their bodies.

What is bisphenol A?

Bisphenol A (BPA), found in the 1930s to be a synthetic estrogen and considered for use as a pregnancy aid[1], is now a high-volume production chemical used to make epoxy resin and polycarbonate plastic. Approximately 7 billion pounds of BPA is produced globally each year for use in baby bottles, dental sealants, compact discs, water bottles, food cans, and a large variety of other items.[2]

BPA in our bodies

Due to the widespread use of BPA, human and environmental exposure to the chemical is prevalent. According to the Centers for Disease Control and Prevention (CDC), more than 90% of Americans have detectable levels of BPA in their bodies, and children have higher concentrations of BPA in their bodies than adolescents and adults.[3] Prenatal exposure is to BPA is also significant as the chemical can be absorbed and distributed in the fetus through the placenta.[4]

Primary sources of exposure:

Baby bottles

Infant and baby food containers

Water bottles

Food cans

Tupperware

Other food and beverage containers

Sources of Exposure

Human exposure to BPA comes primarily from contaminated food and beverages.[5] Food and beverage packaging made with BPA – such as plastic bottles, metal cans, and reusable storage containers – can leach the chemical into food and drinks. A study by the Harvard School of Public Health found that concentrations of BPA in urine increased by 69% when polycarbonate water bottles were used for cold beverages during the course of a week.[6] BPA can also leach from infant formula cans and heated baby bottles, the primary source of exposure to the chemical for newborns and infants.[7]

Quick Facts on BPA

BPA is a synthetic estrogen that was first considered for use as a pregnancy aid.

BPA is now used in baby bottles, food cans, water bottles, and more.

BPA leaches from food and beverage containers such as baby bottles.

Children have higher concentrations of BPA in their bodies than adults.

Over 90% of the government-funded studies on low dose exposure to BPA have resulted in adverse health effects.

Health Effects

BPA is a synthetic estrogen that can have toxic effects on the body even at low dose exposures. Over 90% of the more than 100 government-funded studies on low dose exposures to BPA have resulted in adverse health effects.[8] Health effects that have resulted from low dose exposures include:

Developmental and Behavioral Issues:
Hyperactivity[9], altered maternal behavior[10], changes in male infant behavior[11], impaired learning[12], and delayed development[13].

Reproductive Disorders:
Recurrent miscarriages[14], ovarian dysfunction[15], abnormalities in female eggs[16], early onset puberty[17], altered mammary gland development[18], early vaginal opening[19], reduced sperm count[20], increased anogenital distance[21], and impacts on the testis.[22]

Cancer:
Breast cancer[23], prostate cancer[24], and reduced effectiveness of chemotherapy treatments[25].

Heart Problems, Liver abnormalities, Diabetes, and Obesity:
Heart disease[26], diabetes[27], liver abnormalities[28], insulin resistance[29,30], obesity[31], and heart arrhythmias[32].

Later life health effects:
BPA can result in the altered behavior of over 200 genes[33], impacting the health of the body and how it responds to its environment throughout its entire life.

Over 90% of the government-funded studies on low dose exposure to BPA have resulted in adverse health effects.

Source: F Vom Saal, W Welshons. Large effects from small exposures. II. The importance of positive controls in low-dose research on bisphenol A. Environmental Research 100:50-76. 2006.

Alternatives to BPA

Alternatives to BPA in food and beverage containers not only exist, but are already in use. With growing frequency, manufacturers are producing BPA-free products and seeing benefits to their bottom lines. Retailers have also joined the ranks by refusing to sell items containing BPA.

Baby bottles

Glass is a common and popular alternative for replacing the synthetic estrogen in baby bottles. For those parents concerned with breakage, many bottles come with silicone sleeves to protect against this. Plastic alternatives such as polyamide, used by Born Free, also exist.

Water bottles

Many manufacturers are opting for stainless steel, aluminum, or an alternative plastic called Tritan copolyester.

Infant Formula and Food

Manufacturers of infant formula and baby foods have also begun to shift away from the use of BPA. According to Nestle, more than 80% of their infant formula is sold in BPA-free packaging.[34] Similarly, all Similac powdered infant formula products are now BPA-free[35] and BPA is not used in "the plastic cups for Gerber pureed baby food products.[36]

Food cans

Alternative food can linings include a natural blend of oil and resin extracted from plants (such as the balsam fir)[37] and polyester-based coatings.[38] However, finding a suitable replacement for all applications is a challenge due to the corrosive nature of highly acidic foods.

Governments Taking Action on BPA

In the last year, governments working to protect the health of children from BPA have made extraordinary progress. The Canadian government recently took steps to reduce BPA exposure in infants and newborns by banning the importation, sale, and advertising of polycarbonate baby bottles.[39]

In the United States, Minnesota was the first state in the country to ban BPA, prohibiting its use in baby bottles and sippy cups.[40] Connecticut soon followed, passing an even more extensive law that prohibits the use of BPA in baby bottles, infant formula and baby food jars and cans, and reusable food and beverage containers.[41] And the Massachusetts Department of Public Health recently issued a public health advisory on BPA.[42]

In addition to states, cities and towns are also taking action. The city of Chicago as well as three New York counties (Albany, Schenectady, and Suffolk) established policies that restrict the sale of BPA-tainted baby bottles and sippy cups.

Vermont Organizations that Support Banning BPA

Informed Green Solutions • Voices for Vermont's Children

Mama Says • Planned Parenthood of Northern New England

Toxics Action Center • Vermont Public Interest Research Group

Retailers that no longer sell baby bottles made with BPA:
Wal-Mart
Toys "R" Us
Whole Foods
Rite Aid Corporation

Companies that no longer sell water bottles made with BPA:
Patagonia
Kleen Kanteen
Nalgene
CamelBak
Polar Bottle

Baby bottle manufacturers that no longer use BPA:
Born Free
Avent
Disney
First Years
Gerber
Dr. Brown
Playtex
Evenflow

Food companies that use BPA-free alternatives for some products:
Liz Lovely Cookies
Heinz
Eden Foods
Vital Choice

Baby food manufacturers that offer some BPA-free products:
Nestle
Similac
Enfamil
Gerber

Governments that have banned BPA

Canada

Minnesota

Connecticut

Chicago, Illinois

New York Counties (Albany, Schenectady, and Suffolk)

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