

BPA 1: EATING IT? BPA FOUND IN SURPRISING PLACES¹

Melissa Breyer[©]

I've been concerned about the industrial compound bisphenol A (BPA) ever since I first read about it, and have been chronically frustrated by its potential harm and prevalence in our environment—most specifically in our food, and hence, our bodies. More than 100 peer-reviewed studies have found BPA to be toxic at low doses. BPA is a synthetic estrogen and commonly used to strengthen plastic and line food cans. As Nicholas D. Kristof points out in an Op-Ed (November 07, 2009) in *The New York Times* on Sunday, scientists have linked it, though not conclusively, to everything from breast cancer to obesity, from attention deficit disorder to genital abnormalities in boys and girls alike.

It's easy to slip into the (wishful) thinking that the FDA is protecting us from toxic threats like this, and that we probably, hopefully, aren't getting enough of these chemicals to have much of an effect. But now comes Consumer Reports' latest tests of canned foods (December 2009) including soups, juice, tuna, and green beans. The findings? Almost all of the 19 name-brand foods tested contain some BPA. The canned organic foods they tested did not always have lower BPA levels than nonorganic brands of similar foods analyzed. And, this was crushing to me, they even found the chemical in some products in cans that were labeled "BPA-free."

The site reports that a 165-pound adult eating one serving of canned green beans from the test sample, could ingest about 80 times more BPA than their experts' recommended upper daily limit. Children eating multiple servings per day of canned foods with BPA levels comparable to the ones they found in some tested products could get a dose of BPA approaching levels that have caused adverse effects in several animal studies.

The FDA says it isn't a threat, but body burden studies show that BPA was detected in 95 percent of the people included in one sampling—it's obviously getting to us somehow. Perhaps most telling is that in Japan major manufacturers voluntarily changed their can linings in 1997 to cut or eliminate the use of BPA because of concerns about health effects. A 2003 Japanese study found that the levels of the chemical in subjects' urine *dropped* by 50 percent after the change in cans was made. Time to kick the cans!

How to Limit Your Exposure to BPA

Canned Food: Canned foods are thought to be the predominate route of BPA exposure.

- Buy prepared foods in jars when possible—especially tomatoes and tomato sauce.
- Opt for fresh produce when you can, choose frozen produce over canned.
- Use dried beans instead of canned beans.

Infant Formula: All U.S. manufacturers use BPA-based lining on the metal portions of infant formula containers. Tests of liquid formulas by the FDA and EWG show that BPA leaches into the formula from all brands tested. Enfamil formula appears to have the highest concentrations of the 20 tests. The only solution here is to use alternatives to canned formula.

¹ Care 2, health & green living, November 10, 2009

Plastics: When possible it is best to avoid #7 plastics, especially for children's food. Plastics with the recycling labels #1, #2 and #4 on the bottom are safer choices and do not contain BPA.

- Find baby bottles in glass versions, or those made from the safer plastics including polyamine, polypropylene and polyethylene.
 - Soft or cloudy-colored plastic does not contain BPA.
 - Bottles used to pump and store expressed breast milk by the brand Medela are also labeled BPA-free.
 - Many metal water bottles are lined with a plastic coating that contains BPA. Look for stainless steel bottles that do not have a plastic liner.
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BPA 2: HUMAN EXPOSURE TO BPA SHOCKINGLY HIGH²

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A new study suggests that every day we are exposed to at least eight times the limit of bisphenol A (BPA) recommended by the US EPA. The research, published in the journal *Environmental Health Perspectives*, found that Americans are likely to be exposed at significantly higher levels than previously thought.

BPA is a synthetic estrogen and is commonly used to strengthen plastic and line food cans—scientists have linked it, though not conclusively, to everything from breast cancer to obesity, from attention deficit disorder to genital abnormalities in boys and girls alike. “This study provides convincing evidence that BPA is dangerous to our health at current levels of human exposure,” said Fredrick vom Saal, Curators’ professor of biological sciences at the University of Missouri. “The new results clearly demonstrate that rodent data on the health effects of BPA are relevant to predictions regarding the health effects of human exposure to BPA. Further evidence of human harm should not be required for regulatory action to reduce human exposure to BPA.”

More than 100 peer-reviewed studies have found BPA to be toxic at low doses, but the FDA says it isn't a threat. Body burden studies show that BPA was detected in 95 percent of the people included in one sampling. “For years, BPA manufacturers have argued that BPA is safe and have denied the validity of more than 200 studies that showed adverse health effects in animals due to exposure to very low doses of BPA. We know that BPA leaches out of products that contain it, and that it acts like estrogen in the body,” said Julia Taylor, lead author and associate research professor at the University of Missouri.

According to Gayathri Vaidyanathan of Greenwire, via The New York Times (September 20, 2010), the controversy about its adverse health implications hinges on the question: Does the liver detoxify the chemical completely enough to secrete most of it out in urine, or does BPA get into human blood where it can mimic important hormones? Thomas Zoeller, a biology professor at the University of Massachusetts, Amherst, notes that BPA has the ability to bind to not one, but three receptors — the estrogen, the male hormone and the thyroid hormone

² Care2, healthy & green living, September 23, 2010

receptors. (My question is, even if the liver does detoxify BPA, why would we want to consume it anyway, and do our livers really need all of that extra work?!)

“The body evolved to handle stuff that gets into our system — the liver is designed to detoxify,” he said. “There are a range of molecules that are natural, and some are incredible toxins. But when we start to make molecules that are not known to nature, we need to think a little more carefully about how they are going to interact with biological systems.”

Several states, including Connecticut, Massachusetts, Washington, New York and Oregon, have passed bills to reduce exposure to BPA, and similar legislation is pending in the U.S. Congress.