

The Risks of BPA and the Polycarbonate Plastic Ban by FDA

In previous articles, I previewed BPA and its use in Polycarbonate (PC) plastics. I reviewed PC plastic, its common usages, and assessed how prevalent it is in consumer items used in our daily lives.

But why is BPA under such scrutiny? The last article ended with discussing the controversy of using Polycarbonate plastic for consumer items, especially the food and beverage containers, bottles and sippy cups used by infants. This article will further explain the risks of using BPA - made Polycarbonate plastic and its subsequent ban by the Food and Drug Administration (FDA).

Risks associated with BPA

Why is BPA so controversial? Numerous well-documented studies have shown conclusively that BPA displays properties of certain human body hormones at high intake levels. But what exactly constitutes “high Intake” levels? Therein lies the controversy. In scientific terms, BPA is an endocrine disruptor,¹ but what does that mean in plain English?

Endocrine disruptor means that BPA can act like a naturally present – but externally derived - human hormone estrogen in the human body and will activate estrogen receptors.

Continued and prolonged exposure to BPA can further result in numerous health hazards including negative physical and neurological effects. What is “continued and prolonged” exposure?

That’s the problem – and the reason that most people test positive to exposure to BPA. How do you avoid BPA when it is a basic building block of so many consumer plastic products? PC plastic is literally everywhere and exposure can and does occur without most people even being aware they have been exposed.

Many scientifically sponsored, well-documented studies have shown that some of the health - hazards – and side effects - of BPA exposure include some really insidious things like reduced

¹ Bisphenol A. Wikipedia. http://en.wikipedia.org/wiki/Bisphenol_A#Health_effects. Accessed 24 October 2013.

survival rate of the fetus, delayed puberty, growth retardation, cancer, diabetes, obesity, genetic damage on a cellular level, reduced fertility and neuroblastoma. Numerous studies and much testing have been conducted in laboratory settings to verify these findings, which are disturbing to say the least.

Polycarbonate Plastics Ban by FDA

The evidentiary health risks posed by the intake of BPA concerned many regulatory bodies, including the FDA, to the extent that they took the unusual action to ban the use of its main product, the Polycarbonate Plastics (PC), in some consumer products related to infant care. Further to the results of so many of these studies, it is believed that BPA in the food container material (polycarbonate plastic) could leach chemicals and BPA specifically could be released into the liquid contents of the container.

The release rate is lower at room temperatures but increases substantially as temperature rises, primarily because most plastics including PC, are not designed or engineered to withstand prolonged exposure to heat and will start to break down and release chemicals including BPA when exposed to heated conditions.

In future articles I will look at other potentially hazardous chemicals that can also be released from plastics when they break down due to chipping or melting at higher temperatures.

Quoting a study result, that specified the rate of leaching even at room-temperature water, BPA was released at a rate of 0.2 to 0.8 nanograms per hour. Whereas when exposed to high heated conditions such as with boiling water, BPA was released 15 to 55 times faster, with a rate of 8 to 32 nanograms per hour.² Under those conditions, really not that uncommon or unusual, the food and/or beverages held in the PC made containers may have been contaminated with BPA.

REALLY? So the hot chocolate that I'm drinking from the polycarbonate plastic cup I just blasted on high in the microwave for 2 minutes could have BPA in it! Yup, it sure can my friends!

² Betty Kovacs, MS, RD. Plastic Types, Danger of Bisphenol A (BPA) and Recycling Plastics. MedicineNet.com. <http://www.medicinenet.com/plastic/article.htm>. Accessed 24 October 2013.

After the discovery of the health hazards of BPA, more round of tests were conducted on human exposure to BPA. As a result, it was found out that an astounding 93% of the population had BPA content in their urine samples, indicating the widespread profoundness of the chemical exposure to BPA. Consequently, FDA in most countries has banned the use of polycarbonate plastic bottles and other containers especially used for infants. Products for babies were particularly targeted because of the fact that babies' intake is greatest in proportion to their weight. Their exposure is also high due to the objects they continuously and directly put in their mouth.

While there are alternatives for this type of plastic, the concern is that healthier alternatives are not being widely used and still requires getting rid of the already existing material. We as consumers should also take caution and try to avoid heating plastics in the microwave with food or liquids in them.

Use stainless steel or ceramic lined containers and if the contents have been in the plastic container for a long time, discard them immediately.