

The issues surrounding bisphenol a chemical



**ASSIGN
BUSTER**

Bisphenol A, commonly known as BPA, is a chemical used to construct polycarbonate plastic and epoxy resins (Antonia M). It has been used in plastic products for over 40 years. Products including water and baby bottles, can linings, and dental sealants have been found to contain harmful traces of BPA (Frederick, 2005). Only at very high exposures is the compound toxic, according to The American Chemistry Council (Gale 1). In 2008, The Food and Drug Administration said the chemical was of some concern. For years now alarmed mothers and environmental groups have been warning people and spreading the word that BPA is not safe. In 2010, the FDA announced that based on new studies there are “subtle effects” of BPA toxicity (David W). Therefore there is huge controversy over whether plastics containing BPA are a hazard or not.

BPA is in more products than one could imagine. It is used not only for food storage but anything that is a hard clear plastic will most likely have BPA traces in it. Even organic food that is canned contains traces of BPA (Hood). Companies with products labeled, “BPA Free” have been documented to have BPA in them. There are no packaging regulations, and therefore plastic products that claim to be “microwave safe” do indeed contain BPA, “Companies are able to place it on their products without any official testing by the Food and Drug Administration” (JSOnline). BPA is known to leach into food, especially when heated (Sajiki). The FDA warns the public to be weary. Products with the recycle number 7 stamped on them contain polycarbonate plastic and epoxy resins. Recycling numbers such as 2 and 5 do not contain BPA. Some retailers have removed products containing BPA from their shelves to assure their customers safety (David W).

Epoxy resins, a chemical made from BPA, are used as protective liners in metal cans (Gale 2010). It is a combination of the toughest and roughest chemicals, making a very strong and durable product. In other words, it used in food packaging because it protects against outside contamination and food borne illnesses. Chairman of North American Metal Packaging Alliance, Inc states, “ BPA-based epoxy coatings in metal packaging provide real, important and measurable health benefits by reducing the potential for the serious and often deadly effects from food-borne illnesses”(Hood). Packaging food with BPA allows it a longer shelf life and protects against microbial contaminants.

There would not be such controversy if new studies hadn't shown BPA leaching into foods potentially affects brain behavior and prostate glands in fetuses, infants and young children (Frederick, 2005). But according to the U. S. Food and Drug Administration records, there has not been an incidence of food-borne illness resulting from a failure of metal packaging in the U. S. in more than 30 years. This record heavily backs up the continued use of BPA plastics (David W).

Household brand name products such as Green Giant, Del Monte, Hormel, Campbell's, Slimfast, Chef Boyardee, and Juicy Juice have been tested positive for BPA in their food. Exactly how it is leaching into the food scientists are not sure. What they do know is that consumers can not taste, smell or see it and are getting BPA in large doses (JOnline). Scientists have found levels of the harmful chemical BPA in animals that caused severe developmental damage. (Myers). “ Exposure to BPA at high doses is associated with estrogen-like effects.” (Antonia M) Just in female's animals

<https://assignbuster.com/the-issues-surrounding-bisphenol-a-chemical/>

results as dramatic as increased prostate gland volume and changes in mammary development (Antonia M). These mammary gland changes signals a red flag to scientist because women who run a higher risk of breast cancer have identical glands to these harmed animals (Antonia M).

It has been proven that heating food in such packaging releases more BPA in food. The FDA is advising consumers to avoid microwaving food in plastic containers or bags, especially those marked with the number seven on the bottom. According to scientific research, it was found that plastics marked with the recycling numbers 1, 2 and 5 are also leaching BPA into the food. (David W).

New mothers and mothers-to-be are the most concerned with the affects of BPA. Scientists are especially troubled about how the chemical affects fetuses and newborns. Babies up to one year of age cannot metabolize BPA as powerfully as adults see figure 1 attached (Antonia M). It is simple science that because of the size of the infant, she or he gets more of a concentrated dose of the chemical BPA, then an adult. The average for BPA in urinary concentrations clearly shows higher levels in children and adolescents than adults (Antonia M). Lots of baby supplies are made of plastic containing BPA. Companies like Playtex VentAire found BPA in their products and since then have reformulated their material makeup. Infant formula unfortunately has a problem with BPA leaching in its milk. Exposure to infants can be far greater then to adults by the fact that their diets are primarily made up of liquid baby formula from cans lined with BPA. (Antonia M)

A Washington State University scientist speech marks, “ Babies who drink liquid formula from bottles made with BPA are effectively getting a super-dose of the chemical” (JSOnline). According to the U. S. Surgeon General, breast milk has been found to be the healthiest food for newborns but recently BPA has also been found in it. The U. S Centers for Disease Control and Prevention did a study and found that less than one-third of babies are breastfed until they are 3 months old, and just one in 10 is exclusively breastfed to 6 months (JSOnline). Another real concern for mothers is how many premature babies are exposed to plastic tubing in hospitals. “ Four million babies are born in the United States each year, and roughly 500, 000 are born prematurely” (JSOnline).

Research being used to prove BPA is safe is conducted using GLP procedures. Good Laboratory Practices is a guideline for scientist to follow while conducting research. The United States made the decision that BPA is safe based on small amount of tests using GLP procedures (Myers). The GLP is in place to stop corruption of scientific research done by private research companies. It includes high standards of protocols and helps in caring for laboratory animals, equipment and personnel. If there were not “ safe guards” there would be scientific and academic fraud. “ GPL does not guarantee reliability or validity of scientific research.” (Myers). Measuring the “ reliability” of the experiment is finding out how replicable the experiment is. The “ validity” of an experiment is if the outcome that was expected by the researchers. In other words, “ GLP creates the semblance of reliable and valid science; it actually offers no such guarantee” (Myers). The argument over GLP credibility is a basic lack of understanding between the uses of

replication as a way to see reliability. Coincidentally, GLP was put into action to avoid grey areas in scientific research.

Important public health decisions should be based on hard facts. Such information should be backed by many replicable studies and the correct protocols. The very critical facts that come from an array of experiments should not be thrown out because the study did not include GLP. “ Simply meeting GLP requirements is insufficient to guarantee scientific reliability and validity” (Myers).