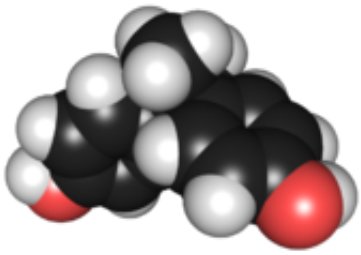
To Ban BPA in Plastics or Not -- That is the Question

April 26 2010, by Mary Anne Simpson



BPA. Image: Wiki Commons

Nearly three decades of bickering and wrangling among scientists and the chemical industry about the safety of bisphenol A, (BPA) used pervasively in consumer products finally has a new interested party—The US National Institute of Environmental Health Sciences, (NIEHS). A new rigorous set of consistent testing procedures has been agreed upon by leading BPA scientists and selectively funded for what may be the mother of all experiments on a compound.

In the mean time, Canada and Denmark have banned the use of BPA in baby bottles, toys and other infant products. The State of Maryland became the fourth state in the United States to ban the use of BPA in baby bottles and infant Sippy cups, Current medical research finds high concentration levels of BPA in human urine samples produced three times the likelihood for cardiovascular disease, 2.4 times more for the

presence of diabetes and abnormal levels in 2 liver enzymes as compared to samples with low concentration of BPA.

The BPA Dilemma:

Unlike the harmful effects of the Thalidomide catastrophe of the 1960s, BPA is more subtle. Following the approval by the Food and Drug Administration of BPA as a food additive in the 1960s, its primary use was in the production of shatter-proof bottles and epoxy resins for coating metals. Evidence accumulated over the next 30 years about BPA's potential to act as an endocrine disruptor.

In the early 1990s, leading endocrine researchers, Colborn T., Von Saal FS, Soto AM published Developmental Effects of Endocrine-Disrupting Chemicals in Wildlife and Human. It was established that organisms are highly sensitive to even the smallest amount of hormone-like chemicals in the developmental stage. These chemicals bind to the same receptors as hormones like estrogen and will mimic their effect which in turn can act as an endocrine disruptor and impact development.

Subsequent studies by Von Saal and others point out the insidious nature of BPA leaching from the container and packaging into content. Studies on landfills, waterways and habitats demonstrated high levels of BPA thereby exposing humans and wildlife alike.

In particular, Von Saal et al found the BPA compound in high prevalence in fetuses and infants indicating a need to reduce the exposure to the compound. As pointed out by Nature News' contributing writer, Brendan Borrell, leading researchers in the field like Gail Prin, a reproductive physiologist at the University of Illinois in Chicago, have been shot down by industry and fellow scientists for flawed research methodology. Some liken the problem to the chicken-egg dilemma.

In fact, previous industry standard testing procedures and those employed by contract labs were inadequate in the evaluation of how BPA works. The gap according to Von Saal between industry sponsored testing and toxicity testing can be traced back to 1993. The need for good laboratory practices, GLP, accurate reporting and valid data requires a more consistent set of guidelines for studying ubiquitous compounds like BPA.

The October, 2009 NIEHS summit included top scientific investigators of BPA, The Center for Disease Control, The EPA who is charged with the responsibility of setting acceptable limits of human exposure and RTI International whose job it is to evaluate the validation component of the study. One major problem pointed out by RTI was that some labs did not use radioimmune assay for thyroid hormone level testing. The assay test has been available for 40-years.

The result of the October NIEHS summit is that an objective set of standards, procedures and methodology will be employed which may settle a host of disturbing findings about potential health hazards of BPA. In other good news for consumers, Senator Lautenberg, Congressmen Waxman and Rush introduced “The Safe Chemicals Act” on April 15, 2010.

The Safe Chemicals Act will bring new life to the crusty *Toxic Substance Control Act of 1976*. The new bill will give broader investigative authority to the EPA and place the burden on industry to prove the chemical is safe for the public. In a Time magazine exclusive interview about the Act, Dr. Alan Greene, a pediatrician at the Stanford School of Medicine applauded the new legislation and stated, “It’s time to stop using kids as the canaries in the coal mine…I couldn’t be more excited that this law is being introduced.”

More information:

cerhr.niehs.nih.gov/chemicals/ … phenol/bisphenol.pdf
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