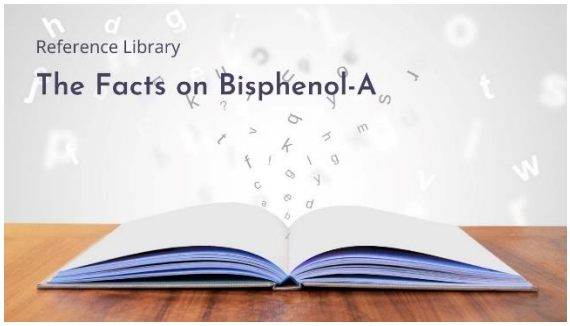

Overview

Bisphenol-A, or BPA for short, is an organic chemical compound that was first synthesized in 1905. BPA is an important ingredient in various plastic products and has been produced commercially for over 50 years, with annual production of approximately 3 million tonnes.

BPA is a key building block for polycarbonate, a plastic material that is lightweight, clear, strong, and near shatter-proof, with countless uses in water bottles, sports equipment and household electronics, among others. In addition, BPA is key ingredient of epoxy resins, which are used in protective coatings, paints and adhesives.

Safety of BPA

BPA was suspected of being a hazardous chemical since the 1930s, but it wasn't until 2008 that BPA caught news headlines and raised concerns of consumers, particularly over water bottles and baby plastic products containing BPA. There are reports that suggest BPA has low acute toxicity in living organisms. Hence there is concern that long-term, low-dose exposure to BPA may induce chronic toxicity in humans.

There have been studies that suggest BPA can leach from the plastic lining of canned food, or from polycarbonate plastic bottles that are heated or contain high-temperature liquids. Hence infants fed with liquid formula are among the most exposed.

In early 2008, Health Canada conducted a risk assessment of BPA, primarily focused on its effect on newborns and infants. While the scientific assessment concluded that BPA exposure to babies through polycarbonate bottles is *"below levels that may pose a risk,"* the gap between exposure levels and effect is not large enough.

Unlike Health Canada, The European Commission's Scientific Committee on Food, the United Kingdom Food Standards Agency and the Japanese Ministry for Health, Labour and Welfare concluded that BPA does not pose any threat to human health.

Industry groups, led by the American Chemistry Council, maintain that the weight of scientific evidence shows that BPA does not pose risk to consumers and that consumers can "continue to safely use products made of Bisphenol A."

Conclusion

The uncertainty surrounding toxicity of BPA creates confusion among consumers. The recent media hype around BPA may have amplified the risks associated with the chemical. However, all assessments conducted, even Health Canada's, confirm that exposure levels of BPA in polycarbonate bottles *do not pose immediate health risks*.

Nonetheless, when unequivocal evidence is not available, some people prefer to err on the side of caution.