

BISPHENOL A FACT SHEET

Human Safety

Bisphenol A (BPA) is an important chemical building block that is used primarily to make polycarbonate plastic and epoxy resins. The safety of bisphenol A has been extensively studied by regulatory agencies, academic and scientific institutions, and industry scientists for more than four decades. The potential human exposure to bisphenol A from polycarbonate plastic and epoxy resin products is extremely small and poses no known risk to human health. This conclusion is based on these key points:

- **Bisphenol A is Efficiently Metabolized and Rapidly Excreted**

Studies on human volunteers have confirmed that bisphenol A is efficiently converted to a metabolite after oral exposure. The metabolite is then rapidly excreted from the body with a half-life of approximately 4 hours, which means that bisphenol A is essentially all eliminated from the body within the day of exposure and does not accumulate in the body. While in the body, bisphenol A is in the form of a metabolite that has no known biological activity and, in particular, has been shown to be non-estrogenic. These properties indicate that bisphenol A is likely to have low toxicity.

- **Bisphenol A is Not Carcinogenic or Mutagenic**

Numerous studies indicate that bisphenol A is neither carcinogenic nor mutagenic. Most notably, these include lifetime animal studies conducted by the U.S. National Toxicology Program, which concluded that “there was no convincing evidence that bisphenol A was carcinogenic.” Government and scientific bodies worldwide have affirmed this conclusion in their comprehensive assessments of bisphenol A.

- **Bisphenol A Does Not Affect Reproduction or Development**

In their comprehensive risk assessment on bisphenol A, the European Union concluded that bisphenol A does not affect reproduction or development at any realistic dose. This conclusion is based on comprehensive studies that examine laboratory animals across multiple generations, including studies conducted by the U.S. National Toxicology Program, and several studies that specifically examined low doses.

- **Bisphenol A Does Not Cause Low-Dose Endocrine Effects**

In recent years, a hypothesis has been advanced claiming that exposure to extremely low doses of bisphenol A could cause health effects by disrupting endocrine functions. Reported low-dose effects have not been replicated or corroborated in independent laboratories and are not consistent from study to study. Large-scale experiments following internationally accepted guidelines have found no evidence for endocrine-related reproductive or developmental effects from low doses of bisphenol A. The validity of low-dose effects is not supported by the weight of scientific evidence, as reviewed by scientific and government bodies worldwide.

- **Human Exposure Poses No Significant Risk**

Consumers would have to eat more than 500 pounds of food and beverages in contact with polycarbonate plastic or epoxy resins every day of their lives to exceed exposure levels determined to be safe by the European Food Safety Authority and the U.S. Environmental Protection Agency. The safe exposure levels are defined as a daily oral exposure that is likely to be without an appreciable risk of deleterious effects during a lifetime. Numerous biomonitoring studies that measure actual exposure levels have confirmed that typical human exposure to bisphenol A is approximately 1000 times below the safe exposure levels.

Polycarbonate food and beverage containers and epoxy can coatings continue to be recognized as safe for use by government bodies, including the U.S. Food and Drug Administration, the U.K. Food Standards Agency, the European Food Safety Authority, the Japanese Ministry for Health, Labor and Welfare and other regulatory agencies worldwide.

For more information on bisphenol A, please visit <http://www.bisphenol-a.org>.

We welcome media inquiries about bisphenol A. Please contact:

Steven G. Hentges, Ph.D.
Executive Director, Polycarbonate/BPA Global Group
American Chemistry Council
703-741-5588
steve_hentges@americanchemistry.com