



Bisphenol A

Safely Used for Fifty Years

Bisphenol A (BPA) is a chemical that is primarily used to make polycarbonate plastic and epoxy resins. The physical attributes of these materials make them ideally suited for a wide range of applications in consumer products. Because it is lightweight and shatter-resistant, polycarbonate is used in products ranging from CDs, cell phones and safety glasses to baby bottles and food storage containers. Epoxy resins, with high chemical resistance, toughness and adhesion, are used in products ranging from printed circuit boards and paints to protective coatings, including the coating inside most food and beverage cans. The manufacturers of BPA have prepared this information sheet so that you can be better informed about the safety of BPA and products made from BPA.

Extensive research conducted over almost 50 years of safe use provides strong reassurance that there is no basis for human health concerns from exposure to low doses of BPA.

In the manufacturing process, BPA is incorporated into the polymeric structure of plastics and resins. While there is some potential for trace amounts of BPA to migrate from these materials, the level is far below safety-based standards set by government bodies such as the European Union's Scientific Committee on Food (EU SCF).

The U.S. Food and Drug Administration (US FDA) and other regulatory agencies worldwide authorize the use of polycarbonate plastic and epoxy resins in food contact applications.

Many studies, for example those conducted by the US Centers for Disease Control and Prevention, have found that human exposure to BPA is extremely low – well below levels that could potentially cause harm. In fact, the human body rapidly metabolizes and excretes BPA, and exposure to such low levels poses no known health risk.

Q: Why would I have heard about BPA?

There has been an ongoing debate in the last decade about the hypothesis that some substances may disrupt natural hormonal systems and cause adverse health effects (“endocrine disruption”). For BPA, this debate originated with small, exploratory studies conducted with a limited number of laboratory animals that reported reproductive and developmental effects from low doses of BPA. However, the effects were not found when the experiments were repeated by other researchers. Reproducibility of experimental results by other scientists is absolutely critical in determining whether a study's findings can be accepted as valid, and is an accepted practice in the scientific community.

Large-scale, well-conducted research sponsored by both industry and government agencies, and specifically designed to look for low-dose reproductive and developmental effects, also found no evidence of such effects. These comprehensive studies were conducted in accordance with Good Laboratory Practices (GLP, the accepted quality standard for scientific research) and published in peer-reviewed scientific journals.

In 2004, an expert scientific panel was convened by the Harvard Center for Risk Analysis at the request of the plastics industry. This panel of independent experts concluded, after a comprehensive review, that the weight

Q: Is BPA safe?

Bisphenol A has been used safely for more than 50 years, and during that time, extensive health and safety studies have been conducted by both manufacturers and government agencies. Recent comprehensive assessments of the scientific data by government and scientific bodies worldwide all support the conclusion that as it is currently used, **BPA does not pose a risk to human health.**

Q: How are people exposed to BPA?



of the evidence does not support claims of low-dose effects from BPA. An updated evaluation reached a similar conclusion after reviewing studies published through February 2006.

These scientific panel conclusions confirm what government and scientific bodies worldwide – including the EU SCF and Scientific Committee on Toxicity, Ecotoxicity and the Environment (EU CSTE); the US FDA and Environmental Protection Agency (US EPA); and the Japanese Ministry of Economy, Trade and Industry (METI) – have concluded upon review of the evidence: the “low-dose hypothesis” for BPA is unproven.

The endocrine disruption debate has led to many scare stories, urban myths and Internet-spread rumors about

avoiding products made from BPA for fear of adverse health effects, including birth defects, sterility, premature puberty, genetic damage, and cancer. None of these adverse health claims have been proven, and extensive research conducted over almost 50 years of safe use provides strong reassurance that there is no scientific basis for human health concerns from exposure to low doses of BPA (see below).

Q: Where can I find more information?

Additional information about BPA is available at www.bisphenol-a.org, including information sheets and a summary of key published research.

For further inquiries, please contact Dr. Steven Hentges of the American Plastics Council at 703.741.5588 or steve_hentges@plastics.org.

Significant Studies Supporting the Safety of Bisphenol A

2001

Study conducted at the Safety Research Institute for Chemical Compounds and sponsored by the Japanese Ministry of Health and Welfare – Rats exposed to low doses of BPA over three generations showed no adverse health effects.

Report released by the National Toxicology Program (NTP) on its scientific peer review of low-dose effects – The panel noted “the inability of other credible studies in several different laboratories to observe low dose effects of BPA, and the consistency of these negative studies [showing no reproductive or developmental effects from low-dose exposure].”

2002

Review of the NTP report by the US EPA confirmed the panel’s conclusions that the “low-dose hypothesis” has not been proven.

Study conducted at Research Triangle Institute and sponsored by a plastics industry consortium – Rats exposed to low doses of BPA over four generations showed no adverse health effects.

Detailed review by EU SCF confirms that BPA is safe in food contact applications.

2003

Comprehensive risk assessment of BPA by the European Commission and reviewed by EU CSTE – “The CSTE agrees with the conclusion of the RAR [Risk Assessment Report] that there is no convincing evidence that low doses of bisphenol A have effects on developmental parameters in offspring.”

2004

Scientific evaluation by an expert panel convened by the Harvard Center for Risk Analysis – “[T]he panel found no consistent affirmative evidence of low-dose BPA effects for any endpoint.”

2005

Comprehensive risk assessment on BPA by the Japanese National Institute of Advanced Industrial Science and Technology, affiliated with METI – “[C]urrent exposure levels of BPA will not pose any unacceptable risk to human health.”

Statement from US FDA affirms that current uses of polycarbonate plastic and epoxy resins in food contact are safe – “[B]ased on all the evidence available at this time, FDA sees no reason to change its long-held position that current uses with food are safe.”

2006

Update of the 2004 Harvard panel evaluation – “[T]he weight of evidence does not support the hypothesis that low oral doses of BPA adversely affect human reproductive and developmental health.”

Safety of polycarbonate baby bottles affirmed by the German Federal Institute for Risk Assessment – “The BfR does not recognize any health risk for babies that are fed from baby bottles made of polycarbonate.”