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Common Chemical, Bisphenol A (BPA), in Plastic Bottles Threatens Public Health

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When Bisphenol Is Said and Done

Key ingredient in clear plastics called unsafe, except by industry

A chemical widely used in the making of clear plastic products, including baby bottles, food storage containers, and even dental fillings, is the subject of debate between those who say it is safe, namely plastic-industry flacks, and those who say it's not, namely most everyone else. Many scientists have found evidence that bisphenol A, or BPA, is harmful, even in the small doses leached from plastic during heating or exposure to acidic foods or strong detergents, because it can mimic sex hormones. A new paper in the journal Environmental Health Perspectives surveys 115 studies on BPA and reports that 94 of them show harmful effects. In a wacky coincidence, researchers Frederick vom Saal and Claude Hughes found that all 11 industry-funded studies conclude BPA is nothing to worry about, while 90 percent of the 104 government- or university-funded studies conclude otherwise. California's legislature is considering a ban on BPA in children's products; if successful, it would be the first ban on the chemical in the world. straight to the source: Los Angeles Times, Marla Cone, 13 Apr 2005 straight to the source: USA Today, Elizabeth Weise, 14 Apr 2005

From:
http://www.usatoday.com/news/health/2005-04-14-leaching-chemical_x.htm

Debate over a leaching chemical heats up By Elizabeth Weise, USA TODAY Is it possible that a chemical's effect is in the eye of the beholder?

That's the implication of a paper published this week in a prominent environmental health journal.

It concerns a debate over the safety of low doses of a chemical used to make hard, clear plastics such as those found in baby bottles, food-storage containers and the lining of soda cans.

When the plastic industry examines the health impact of a ubiquitous chemical called bisphenol A, everything's fine.

If the government or a university funds the study, there are big problems. Those are the conclusions drawn by Frederick vom Saal, a developmental biologist at the University of Missouri who reports his findings in Environmental Health Perspectives, published by the National Institute of Environmental Health Sciences. Vom Saal and others seek revised risk

assessments for the chemical in the light of a new research into its effects.

Bisphenol A mimics the sex hormone estradiol in the body, acting "like birth control pills," says vom Saal. The body is exquisitely sensitive to sex hormones, needing only tiny amounts to trigger major changes. That's why scientists are concerned about the impact of even the extremely low levels of bisphenol A found in people.

In mice and rats there is evidence that low doses of bisphenol A can cause structural damage to the brain, hyperactivity, abnormal sexual behavior, increased fat formation, early puberty and disrupted reproductive cycles.

Vom Saal looked at 115 published studies concerning low-doses of bisphenol A. Overall, 94 of them reported significant effects in rats and mice, while 21 did not.

Eleven of the studies were funded by chemical companies. None of those 11 found harmful effects of the chemical, which the Centers for Disease Control and Prevention says is detected in 95% of all people tested.

But more than 90% of the studies conducted by independent scientists not associated with the chemical industry found adverse consequences, says vom Saal. He called the disparity between the industry and government or university conclusions "stunning."

Steven Hentges of the American Plastics Council counters that the article is not a research paper but a commentary < "an op-ed" piece rather than a scientific paper. The real issue is the weight of evidence, he says, not the number of studies.

"You can have 1,000 studies, but if they're all weak, adding up weak evidence doesn't necessarily give you strong evidence of anything," Hentges says. "Jumping to who sponsored it is a way to dodge the facts."

He says that, in the view of the plastic industry, vom Saal has presented nothing new to change the conclusion that there's no cause for concern. "Government bodies worldwide have reached the conclusion that bisphenol A is not a risk to humans at very low levels."

Over 6 billion tons of bisphenol A are used each year to make polycarbonate plastics, which have the useful property of not becoming brittle over time. First synthesized in 1957, the material didn't come into widespread use until the 1970s.

Chemical bonds that bisphenol A forms in plastic can unravel when heated, washed or exposed to acidic foods, causing the chemical to leach into foods. "There's good evidence to show cause for concern," says Patricia Hunt, whose research found abnormalities in developing egg cells in female mice when exposed to low levels of bisphenol A.

"We now know enough to know that we need to look at this stuff in great detail," she says.

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