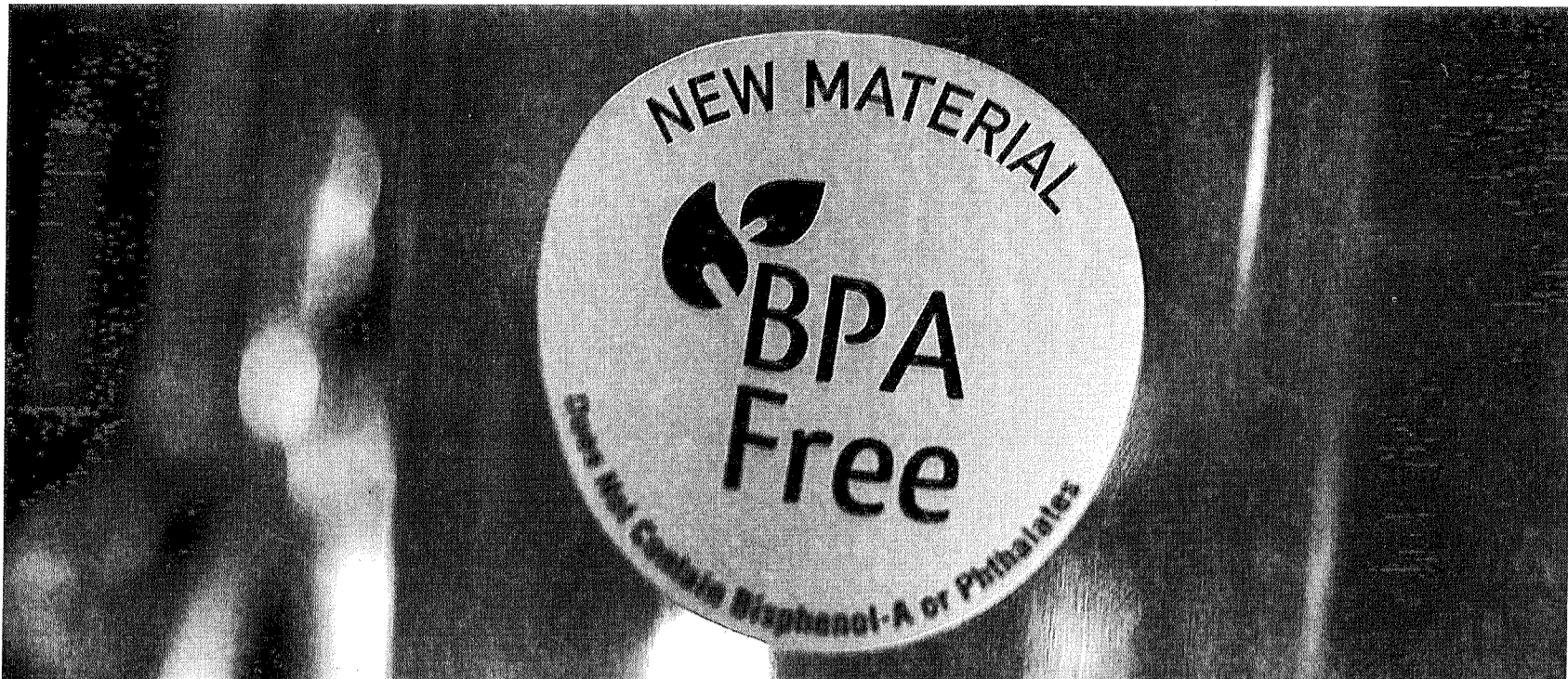


## BISPHENOL A



'On my list of a thousand things to worry about, BPA would rank about 892nd,' says Trevor Butterworth of STATS. DAVID McNEW / GETTY IMAGES

# The great plastics panic

So what if the evidence isn't conclusive – it's too late to stuff this genie back into the bottle



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At an elementary school near me, plastic water bottles have been banished. Instead, all the students carry half-litre stainless-steel water bottles that look like artillery shells. They come in metallic and navy blue for the boys, pastel colours for the girls.

The kids know what's at stake. *Plastic is death!* At home, their anxious parents have stopped microwaving with plastic wrap. They've thrown out their plastic baby bottles and replaced them with ones made of glass. Leading retailers – Wal-Mart, Shoppers Drug Mart, Home Depot and the Bay – have banished plastic containers, baby bottles, sippy cups and pacifiers containing one offending chemical from the shelves. No wonder. A barrage of media reports have warned that the chemical in question – bisphenol A, or BPA – may be linked to breast and uterine cancer as well as lowered sperm count, early-onset puberty, obesity, hyperactivity, miscarriages, diabetes and other horrors.

"That water bottle may be toxic," headlines scream. On the *Today* show last week, one doctor warned co-host Matt Lauer that "unfortunately, there is no level of exposure that has been identified as being safe." This week, an important U.S. toxicology group issued a report that was said to have warned that BPA is a health risk. And yesterday, Canada became the first jurisdiction in the world to announce it will ban baby bottles containing BPA (should no compelling information be brought forward in the next few weeks that BPA is significantly less dangerous than believed).

"We've concluded it's better to be

safe than sorry," said Health Minister Tony Clement.

So, how worried should you be?

"On my list of a thousand things to worry about, BPA would rank about 892nd," says Trevor Butterworth, who's with an independent outfit called STATS (for Statistical Assessment Service). STATS is a non-profit, non-partisan U.S. group that analyzes the use and abuse of science and statistics in the media. (Its advisory board includes Stephen Strauss, a former science reporter with *The Globe and Mail*.) Lately, the BPA flap has kept them busy.

Mr. Butterworth maintains that most of the media have been reporting only one side of the story – the side that's driven by a handful of activist scientists and advocacy groups, such as Environmental Defence. Independent assessments conducted by food safety authorities in Europe and Japan, as well as various other risk assessments, have found no basis for the BPA scare. "We've had five major academic independent evaluations of the BPA risk over last two or three years, and they all keep saying the same thing," says Mr. Butterworth. "But they never get reported."

There are two other problems with the plastics panic. All the bad things known to have been caused by BPA have happened only to rats. And the amount of BPA in our bodies is probably far too small to hurt us.

Almost everybody's body contains minute amounts of BPA. It leaches from many common plastic goods and is ingested with your food. The concern is that because BPA mimics estrogen, it could be a major endocrine disruptor. For example, when scientist Frederick vom Saal injected BPA into rats, he found that it caused tumours and damaged their reproductive systems. Dr. vom Saal, who's frequently quoted in the media, is among the leading critics of BPA.

But unlike rats, people don't get BPA from being injected with it. They swallow it with their food or drink. A sugar in the human intestine removes

BPA's estrogen power, and it is rapidly excreted. "The biological pathways in rats and people are different," notes Mr. Butterworth.

Critics dismiss the studies exonerating BPA because some are funded by the plastics industry. But even industry studies are required to meet stiff research protocols. Many studies wielded by advocacy groups do not. Nor are those studies always bias-free. Two months ago, for example, a coalition of scientists and advocacy groups released a sensational report called *Baby's Toxic Bottle*. It claimed that when baby bottles are heated, they release alarming quantities of BPA. The report, which got widespread play, wasn't reviewed by independent scientists. (A study at the University of Cincinnati, published in peer-reviewed *Toxicology Letters*, did find that very small amounts of BPA leached from bottles under extreme conditions, when they were heated to near-boiling for 24 hours.) Calvin Willhite is a toxicologist with the California environmental protection agency. He's made a two-year study of the science surrounding BPA for a non-profit health and safety group. He calculates that according to "the most rigorous studies that we have available," the concentration of BPA in our bodies is 500 to 1,000 times less than the level that would have any effect.

Does this mean BPA is completely off the hook? No. Lots of people think it needs more study. "The possibility that human development may be altered by bisphenol A at current exposure levels cannot be dismissed," said an important U.S. toxicology report this week. Some media stories billed this statement as a five-alarm fire. But as Mr. Butterworth says: "It's a very mild caution. Essentially, it says there is possibility there may be some effects, but we need more research."

"We're certainly not out to alarm people," said Michael D. Shelby, director of the body that issued the report. The evidence of harmful effects from BPA – which came from studies on

rodents, not people – was "very limited," he added. "But our conclusion was that we couldn't dismiss the possibility that similar effects might occur in humans."

Well, that's a pretty long way away from "dangerous." But it's too late to stuff this genie back into the bottle. Despite the absence of evidence, the anti-BPA crusade is turning out to be one of the most effective public advocacy campaigns of recent years. Linking the words "toxic" and "baby" plays off people's deepest fears, and the word "plastic" – a synonym for all things chemical, man-made and artificial – doesn't hurt the cause either. People think: So what if the evidence is a little sketchy? Why take chances?

And so the plastics panic has become a self-fulfilling prophecy. Advocates kindle public fears and one-sided media reports fan the flames. Politicians who want to look good promise action. Prudent teachers ban plastic water bottles from schoolrooms. Manufacturers and retailers, hyper-sensitive to bad PR, rush to yank the offending products from the shelves. As one retailer admitted, a negative *Globe and Mail* story on the front page was "sufficient cause to take the high road and get it off the shelf. We are doing this out of an overabundance of caution." Pretty soon, everybody's convinced there must be a serious problem. After all, even Health Canada says so.

So who gets hurt? Nobody, in a way. The industry will adjust. The advocacy groups will gain credibility, which will come in handy for the next exaggerated scare. A few scientists will roll their eyes. Kids will grow up to believe that the world is full of invisible man-made perils. And the public will once again be deluded by a wildly distorted notion of risk.

"Letting your child outside the door to breathe in exhaust fumes is more risky than letting them drink from plastic bottles," says Mr. Butterworth. He suggests if you're really worried about plastic, give up plastic bags. They suffocate 25 children a year.