Nalgene water bottles and BPA leaching? [1]

Dear Alice,

I use Nalgene bottles for about 75 percent of the water I drink each day. Therefore, I was startled to find out that there is some possibility that these bottles leach chemicals into the water. I've found conflicting opinions about the veracity of these claims on the Internet. What's the truth? Should I dump my Nalgene for glass? You have an earlier post about bottled water, but it doesn't seem to address this issue specifically, and you recommend purchasing reusable bottles like the ones that might be poisoning me. The bottles I use have #7 on the bottom in the recycle symbol.

Please Help.

Thirsty David

Answer

Dear Thirsty David,

It's unsettling to hear that something you ingest everyday might not be the healthiest choice, but take heart! This is one instance where ignorance is not bliss. What you've heard has led you to ask important questions, whose answers will help make you an informed consumer of both bottles and water.

Nalgene bottles are polycarbonate plastics ? the hard, unbendable, often shiny plastics that can be clear or tinted. Polycarbonate plastics fall into the "catch-all" plastic category #7 (usually labeled inside the recycle symbol on the bottom of a bottle), along with several other types of plastics. Polycarbonates are often manufactured with bisphenol A, BPA for short. BPA is an unstable chemical that has been shown to break down and leach into liquids, especially when they are heated or very acidic (like coffee or orange juice). The problems that some research associates with ingesting BPA stem from BPA's tendency to mimic estrogen in the body, which can throw off the endocrine system, interfering with normal developmental, neural, and reproductive functioning.

There have been many back-and-forths over the past few years about research on the safety or toxicity of BPA, but overall the experiments show that BPA exposure in animals can lead to a range of serious health problems. For example, The Breast Cancer Fund [2] says that exposing animals to low levels of BPA has been linked with animal versions of:

- Prostate and breast cancer,
Early onset of puberty, Obesity, Hyperactivity, Lowered sperm count, Miscarriage, Diabetes, and Altered immune systems.

Many scientists suggest that similar effects are occurring in people as well. BPA has been found in the urine of about 93 percent of people tested, with the highest levels found in the urine of children, teens, and women. BPA may especially affect infants and young children, because they can't process chemicals as efficiently as adults and because endocrine disruptions alter normal growth patterns. Likewise, high levels of BPA in pregnant women can adversely affect fetal development.

As part an ongoing investigation, the United States Food and Drug Administration (FDA) recently amended its position on BPA safety. Based on a moderate level of concern about the harmful effects of BPA on infants and young children, the FDA is supporting manufacturers’ steps to remove BPA from baby bottles and the lining of infant formula cans and other food cans. However, the FDA has not recommended that families stop using infant formula or canned foods.

The widespread BPA exposure in the U.S. population cannot be blamed only on water bottles. BPA is used quite extensively in other products such as dental sealants, the epoxy resins that line food cans, and items that stay out of the mouth like CDs, DVDs, and eyeglasses. Once BPA is ingested, it stays in the body for approximately ten hours, so with almost continuous exposure, most people have it in their systems at all times. But again, no need to despair. There are simple and practical things you can do to limit your BPA exposure. In a neat, bulleted list, they are:

- Avoid plastic containers with the #7 on the bottom. So yes, that would include certain Nalgene and similar water bottles (although some newer bottles by Nalgene and other companies are being manufactured BPA-free). Drinking out of glass would eliminate your exposure to BPA in your water, but there are plenty of BPA-free water-carrying alternatives that are non-toxic, easy to find, and not as breakable or cumbersome as glass. Stainless steel bottles are lighter than glass, safe for hot or cold drinks, and very sanitary. A quick internet search yields tons of companies offering stainless steel bottles in snazzy colors, shapes, and sizes. You can also use bottles made from polypropylene plastic, which will have a #5 on the bottom, which have been shown to be safer alternatives to #7 plastics in terms of BPA leaching.
- Don’t microwave plastic food containers. Heating plastic dramatically increases BPA leaching.
- Decrease your use of canned foods. BPA can leach from the lining of the can into your food.
- If using a #7 plastic drinking bottle, avoid washing it in the dishwasher, using harsh detergents, or putting hot or very acidic liquids in it, which can all increase leaching.

Thirsty David, hopefully this information can help you to decide how you'd like to carry and drink your water. Some states are considering passing bills that would limit the use of BPA-containing plastics, so BPA may be joining the ranks of trans-fats and smoking in restaurants? unhealthy trends of the past. In the meantime, it might be wise to steer clear of the old bottle.
and find your refreshment with BPA-free plastic, steel, or glass.

Alice!
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