

## Is reusing water bottles safe? <sup>[1]</sup>

Dear Alice,

I started buying bottled water because it seemed to taste better. As an experiment, I tried refilling the empty bottles with tap water and refrigerating them. And I discovered that what I really liked was drinking chilled water out of the bottle. If no one else is using the bottles, how often do I need to wash the bottles out with soap as opposed to just re-filling them?

### **Answer**

Dear Reader,

Ahh water, it's the ultimate refreshment, but just how "fresh" is that refilled container? Your question offers an opportunity to learn a bit more about the safety issues regarding the ubiquitous water bottles many folks carry around town.

A little research has turned up two opinion groups:

- The refillers
- The non-refillers (represented, in particular, by the International Bottled Water Association, an organization that represents the interest of companies that sell bottled water)

The refillers say that washing and reusing water bottles is safe, particularly if they are washed regularly with hot, soapy water. Many advocate for an occasional swish with a diluted bleach solution to kill any stubborn bacteria and eliminate that "old water" smell that sometimes develops. In terms of frequency, you'd want to assess your own comfort while also keeping hygiene in mind. For example, cups, glasses, and other tableware are usually washed after each use — with good reason. Also, if you've had a cold, cold sore, or any other condition, washing your bottle daily can help eliminate re-infecting yourself. If you're a lip gloss or lipstick wearer, you may have also noticed that your bottle has been marked with your signature color. A little scrub around the neck might not be a bad idea once in a while!

In addition, refillers are often advocates for the environment. Washing and reusing those bottles might help to cut down on waste and landfill. The jury's still out, however, about which is worse: contributing to landfill, or using natural resources for the washing and adding detergents to our

water supply. In many places, plastic bottles are recyclable. As an aside, if you are worrying about the quality of tap versus bottled water, know that city tap water is actually more regulated than bottled water, and thus may contain fewer contaminants or impurities than some bottled water.

Those in the non-refilling camp state that only bottles specifically made to be reused should be refilled. For starters, they say that all kinds of bacteria can thrive in made-to-be-disposed bottles, even after washing. Wear and tear on the bottle can form cracks that could harbor bacteria. An additional concern is that harmful chemicals can leach out of single-use plastic bottles and into your drinking water. Chemically speaking, the plastics used to make single-use bottles are not designed to stand up to washing. Therefore, the heat from wash water — either from hand washing or machine washing — and possibly the detergents used can degrade the plastic of the bottles, increasing the likelihood of chemical leaching.

There is still much research that needs to be done to determine the significance of leaching from plastics used for water bottles; however, some people are concerned with the chemical bisphenol A (BPA) since it seems to disrupt the endocrine system (which controls hormones). BPA is typically found in plastic bottles made of polycarbonate (which bear the number 7 and the letters "PC"). Bleach, harsh detergents, and high temperatures (like those found in the dishwasher) may increase the amount of BPA leaching. It is still unknown how much BPA people are actually exposed to when they use polycarbonate bottles and what level of exposure (if any) is safe. The United States Food and Drug Administration continues to investigate BPA safety and is now working with manufacturers to limit BPA in the lining of metal cans and other food containers. For more background on BPA, check out [Nalgene water bottles and BPA leaching?](#) <sup>[2]</sup> in the *Go Ask Alice!* [General Health](#) <sup>[3]</sup> archive.

You might want to consider purchasing a water bottle made especially for multiple uses. Many popular plastic-ware brands now market water bottle designs, some with handy foldable straws, attached insulation, belt clips, and the like. If you are concerned about chemical leaching, be aware that some reusable plastic-ware brands are made with polycarbonate and have been caught up in the BPA controversy. An alternative is to use a container marked "BPA-free" or one made of reusable polyethylene (marked with the number 2), polypropylene (number 5), stainless steel, or enamel-lined aluminum water bottles, which are not known to leach chemicals into your drinking water. These types of bottles are typically found in camping stores and designed with daily wear-and-tear (and certainly years of reuse) in mind.

In the refilling debate, both camps have arguments that hold water. Whichever container you choose, a daily rinse with some suds will help make sure your water bottle is a safe way to quench your thirst.

Alice!

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