

Water in Plastic Bottles

By Doris Lewis, PhD

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Most of us have learned that Boston tap water is at least as pure and appealing to the taste as most bottled water, so there's no need to waste our consumer dollars, let alone the fossil fuels consumed in the bottle materials, their manufacture, and transport of all those plastic bottles. But most of us spend our days far from the kitchen sink. How are we supposed to carry around enough water to sustain us through a day of commuting, traveling, or even mall shopping?



Photo: Brett Weinstein

If we're traveling by air, we don't have much choice. Water can't be taken through security, and airlines can't be relied upon to give us enough water to keep hydrated during a flight-so we must purchase water after the security check. Airlines and other public places should do a much better job of supplying recycling bins for these water bottles- after all, they have no problem finding bins to throw away containers of water you might have tried to bring for

yourself! Bringing an empty bottle and refilling it with tap water after the security check may be an option, depending on the quality of tap water in a particular city. In New Orleans, for example, tap water is heavily chlorinated water from the mouth of the Mississippi River, and has been blamed for high bladder cancer rates there, among other ills.

The best option for everyday use should be refillable bottles, washable in hot water for sanitation. But before filling up, it's best to be aware that plastic is not simply one material; rather, it is a family of materials, all made by cooking up a chemical soup and then allowing the resulting material to harden into a desired shape. The bottle in which water is sold today is made of a type of polyester- that's why it can be melted down and used for fleece jackets. Although this type of plastic has no known health risks, keep in mind that good sanitation is the most important requirement for all water; you'd no more want to reuse a water bottle repeatedly without thorough cleaning that you would any of your other beverage containers, such as glasses and cups. Bottles meant for recycling are not meant for cleaning with their narrow tops and thin walls,

and the newer, more energy-efficient bottles being developed now are even flimsier. So, after only a few uses, these “disposable” bottles must be discarded- in a recycling bin, please. These bottles are much in demand by recyclers, and it is unfortunate that all but a small percentage of them end up in landfills.

In looking for alternatives, it's easy to determine the type of plastic you're getting by looking for the recycling code on the bottom. Number 2, for example, is high-density polyethylene, a safe choice. Polypropylene (#5) is another good option for a plastic water bottle. The newer kind of hard Nalgene plastic water bottles (often available in bright colors) are polycarbonate (PC) with a recycling number of 7. Polycarbonate contains



Photo: Lois Levin

traces of Bisphenol-A, a known hormone disruptor. It can have adverse effects on breast tissue and prostate development. PC, or lexan, is used in many baby bottles, too. A later article will describe the health concerns that have surfaced very recently about this product. A new and pricey option is an aluminum bottle with a plastic lining that the manufacturer claims will not leach harmful substances into the water.

Like our home planet, we are two-thirds water. And it's important that we drink plenty of water. We need several quarts a day just to keep going. You'd never want to drive your car routinely with the fluids a quart low! So, choose an appropriate container and enjoy your pure water- as the French say, a votre sante (a toast to your health)!

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