



DO PLASTIC BOTTLES LEACH?

Many people have heard of problems with harmful substances leaching out of plastic bottles. This was brought to attention when BPA (bisphenol-A) was found to be leaching out of polycarbonate (Type-7) hardened plastic bottles, such as baby bottles, some reusable bottles and 5 gallon water delivery bottles. Fortunately, many of these sources have now changed their composition to remove the offending BPA and are clearly labeled as BPA-free. ^{2,8}

The good news is that this scare is completely unrelated to single-use plastic water bottles. All of these bottles are made from PET (Type-1) plastic that does not contain BPA.³

“Consumers are confusing two different plastics. Unfortunately many consumers and media reports have confused *polycarbonate* (Type-7) with *polyethylene terephthalate*, which is *PET* (Type-1). We want the public to know that PET doesn't contain any BPA and never has. Although the names of the two plastics may sound somewhat similar, they are chemically different.”

- Ralph Vasami
Executive Director
PET Resin Association ³

“The research available today suggests that **PET does not leach chemicals into the water**, unlike many other types of plastic. PET is widely considered to be one of the safest forms of plastic for food packaging, and few credible studies have ever claimed to find a risk of leaching.”

- Peter H. Gleick
President of the Pacific Institute
Author of *Bottled & Sold: The story behind our obsession with bottled water* ²

IS PET PLASTIC SAFE?

PET (Type-1) plastic is the most common plastic used for food and beverage packaging. PET plastic is resistant to heat, mineral oils, solvents and acids. It is also impermeable to carbonation in addition to being strong, light, impact-resistant, transparent and completely recyclable. Plus, it doesn't impart a taste to its contents, like aluminum cans do. ²

All major health-safety authorities have reviewed and cleared PET as safe for both single and repeated use. These agencies have also tested PET bottles and found no harmful substances in either new or re-used PET bottles. ⁴

Consumers can be confident that **PET bottles are perfectly safe for repeated use.** The perception that washing, refilling and reusing a PET bottle will cause the bottle to degrade or release harmful substances is simply not true. ⁴

In addition, drinking water from a PET bottle that has been left in a hot car, frozen, used more than once, or repeatedly washed and rinsed does not pose any health risk from the plastic itself. ⁶

OTHER GOOD NEWS ABOUT PET PLASTIC

- PET does NOT contain BPA (bisphenol-A) (Used to strengthen polycarbonate plastics) ^{3,6,8}
- PET does NOT contain phthalates (Used to soften plastics) ^{5,6,8}
- PET does NOT contain dioxin ^{5,6}
- PET does NOT contain endocrine disruptors ⁶
- PET does NOT contain lead or cadmium ⁶

WHAT ELSE IS PET PLASTIC USED FOR?

- Plastic bottles for soft drinks, sport drinks, beer, mouthwash, catsup and salad dressing ¹⁰
- Food jars for peanut butter, jelly, jams and pickles ¹⁰
- Ovenable film and microwaveable food trays ¹⁰
- Also used in textiles, fleece, carpet, monofilament, strapping, films and engineering moldings ¹⁰

WHAT ABOUT BACTERIAL CONTAMINATION?

As it turns out, a common problem with reusing a PET bottle is the potential for contamination on the mouth of the bottle itself. Since it's tight threads are nearly impossible to clean and sterilize, the bottle's narrow neck can easily collect debris and become a breeding ground for bacteria and other germs. (Think how quickly lip balm or lipstick can adhere to a bottle's threads, for example.)

"If there is any risk from PET reuse, it probably comes from bacterial contamination since the bottles' narrow necks make them hard to clean."

- Sheryl Eisenberg
National Resource Defense Council ⁷

"Your mouth leaves a film that harbors bacteria, and the [single-use] bottle's narrow mouth makes it hard to clean."

- Kellogg Schwab
Director, Center for Water and Health
Johns Hopkins Bloomberg School of Public Health ⁹

IS THERE A SUPER-CLEAN SOLUTION TO PREVENT BACTERIAL CONTAMINATION?

Yes, Eco DrinkShield solves the problem with a simple twist, providing a sanitary, removable mouthpiece that can easily be sterilized in the dishwasher or with soap and hot water.

Sources -Available online at: http://www.EcoDrinkShield.com/source_references/

2. *Bottled & Sold: The story behind our obsession with bottled water* by Peter H. Gleick, Island Press 2010, page 91
3. "Consumers are Confusing Two Different Plastics" PET Resin Association, 2009 http://www.petresin.org/news_NoBPAinPET.asp
4. "PET Safety & Use" PET Resin Association, 2009 http://www.petresin.org/safety_uses.asp
5. *Bottlemania: How water went on sale and why we bought it* by Elizabeth Royte, Bloomsbury USA 2008, page 148-149
6. "The Science Behind PET" PET Resin Association, 2009 http://www.petresin.org/science_behindpet.asp
7. "Plastic Water Bottles" National Resource Defense Council, February 2009 <http://www.nrdc.org/thisgreenlife/0902.asp>
8. "The Truth About Plastic" Time Magazine, July 21, 2008 p.55-56
9. "Health: Freshen Up Your Drink", Time Magazine, March 24, 2008 p.65
10. "Plastic Packaging Resins" American Chemistry Council, 2010 <http://www.americanchemistry.com>