



Does Refilling / Reusing PET Water Bottles Release Harmful Substances into the Water?

FREQUENTLY ASKED QUESTIONS CONCERNING REUSE OF PET PLASTIC BOTTLES

How do I know the plastic in my bottle is safe?

PET plastic is cleared for safety in food and beverage packaging for single and repeated use by the U.S. Food and Drug Administration (FDA) and European Food Safety Authority (EFSA). The FDA reviewed the submitted test data and was satisfied that PET plastic is safe for its intended use.

Is it true that PET is only approved for single use containers? Is it safe to refill or reuse PET plastic beverage bottles?

PET is cleared for single and repeated use containers. FDA has evaluated test data that supported repeated use. All bottles that are reused should be properly cleaned and dried thoroughly after each use to prevent bacterial growth.

Will a PET plastic bottle enable harmful substances to migrate into water if I reuse it?

No. PET bottles are safe for reuse. The simple act of reusing a PET bottle does not make it hazardous. The FDA, EFSA, and the Swiss Federal Laboratories for Materials Testing and Research tested PET bottles and found no harmful substances in either new or reused bottles.

CONCLUSION: PET is cleared for use in food and beverage packaging for single and repeated use.

BACKGROUND INFORMATION:

E-mail rumors alleged that reusing plastic beverage bottles causes harmful chemicals to migrate into water. One version of this e-mail stated “the bottles are safe for one use only; if you must keep them longer, it should be no more than a few days, a week max, and keep them away from heat as well.” The e-mail also stated that PET bottles “contain a potentially carcinogenic element (something called diethylhydroxylamine or DEHA).” In fact, PET does not contain DEHA. This e-mail got a lot of things wrong, including the compound studied in a Master’s thesis that examined chemical migration from reused PET plastic bottles. This student project sought to determine the potential for organic chemical migration from reused PET bottles by exposing the bottles to environmental stresses such as heat, sunlight, storage time and physical degradation. Data from this study was then used by the Master’s candidate to assess human health risks from reuse of PET bottles “due to migration of potentially harmful chemicals into the water being consumed.” This study was not subjected to peer review.

SCIENCE: The U.S. Food and Drug Administration (FDA) and the European Food Safety Authority (EFSA) review container and bottle materials that come in contact with food before allowing them on the market, including compounds that potentially transfer (migrate) from the package. DEHA is not inherent in PET as a raw material, byproduct, or decomposition product.

The Swiss Federal Laboratories for Materials Testing and Research tested PET bottles for DEHA Migration in 2003. The results:

- Levels of DEHA detected were similar to controls.
- They found no difference between new and used bottles.
- Levels of DEHA were far below WHO guideline of 80 ug/L.

CONCLUSION: PET is cleared for safe use in food and beverage packaging for single and repeated use.



REFERENCES

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WHO Guidelines for drinking water quality, Di(2-ethylhexyl) adipate World Health Organization, Geneva, 1993

M. Kohler and M. Wolfensberger, *Migration of organic components from polyethylene terephthalate (PET) bottles to water*, Swiss Federal Laboratories for Materials Testing and Research, Dübendorf, Switzerland, 2003

U.S. FDA information on Food-Contact Substances

Plasticizers.org/FAQ

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www.petresin.org

355 Lexington Avenue, 15th Floor • New York, NY • 10017 • www.petresin.org
Contact: Ralph Vasami, Esq. 212.297.2125 or rvasami@kellenccompany.com