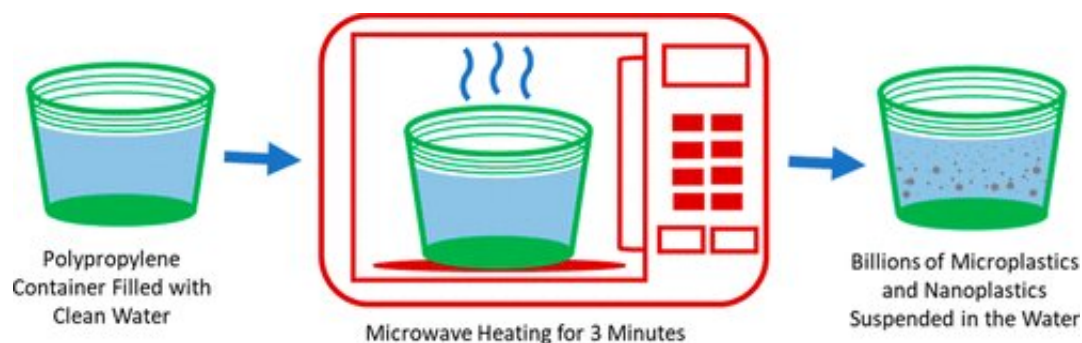


# Plastics used for baby food packaging found to release large numbers of microparticles when microwaved

June 28 2023, by Bob Yirka



Credit: *Environmental Science & Technology* (2023). DOI: 10.1021/acs.est.3c01942

A team of food scientists, engineers and environmental specialists at the University of Nebraska-Lincoln has found that high numbers of microplastic particles are released by plastic baby pouches when heated in a microwave oven. The study is reported in the journal *Environmental Science & Technology*.

Over the past several years, scientists around the world have found that [plastics](#) break down into tiny particles that contaminate the environment. Microplastics have been found in plants and in the bodies of animals and humans. In this new effort, the researchers noticed that many [baby foods](#) are now packaged in small, plastic pouches that can be conveniently

heated in a [microwave oven](#). Some are even marketed as organic, implying that they are healthier than other foods. The team members explored what happens to the plastic when it is heated in a microwave. They purchased microwavable baby food products and brought them to their lab for testing.

To ensure testing of the plastic rather than the food inside, the team removed the food and washed the containers. They then filled some of them with nanopure deionized water to simulate watery foods and others with 3% ACS grade [acetic acid](#) to simulate acidic foods. They heated the containers in the microwave for different amounts of time, then removed them and tested them to see how many particles of plastic had made their way into the simulated food. The team also tested to see how much plastic was released prior to heating when products were kept in the refrigerator for a length of time.

They found the amounts of microplastics varied dramatically, but all samples contained high amounts of plastic. One container, for example, that simulated food refrigerated for six months released approximately 580,000 bits of microplastics, ranging in size from 1 to 14 micrometers. The same container then released another 4 million particles when it was heated in a [microwave](#) oven.

**More information:** Kazi Albab Hussain et al, Assessing the Release of Microplastics and Nanoplastics from Plastic Containers and Reusable Food Pouches: Implications for Human Health, *Environmental Science & Technology* (2023). [DOI: 10.1021/acs.est.3c01942](https://doi.org/10.1021/acs.est.3c01942)

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