



# The Problem(s) with *Microplastics*

*Microplastics are small plastic particles—typically less than 5 millimeters in size—resulting from the gradual breakdown of larger plastic items like bottles, packaging, and textiles. They persist in the environment, are ingested through air, food, and water, and may be related to a host of health-related issues.*

## 1 Persistence and Exposure

Microplastics represent a complex class of pollutants, driven by enormous global production and disposal of plastics. Most are made from synthetic hydrocarbons that don't decompose. Instead, ultraviolet radiation breaks molecular bonds, oxidation weakens surfaces, and physical abrasion grinds these polymers into ever-smaller fragments.

**Progressive disintegration results in plastic particles that accumulate in the environment and food chain for decades - or even centuries.**

Microplastics have become virtually impossible to avoid. They drift in the air, settle on crops and soil, wash into rivers and oceans, and circulate back into the food supply. Current reviews suggest humans may consume on the order of 0.1 to 5 grams of microplastics per week—roughly the mass of a credit card.

## 2 Potential Health Impacts

The effects of microplastics are not yet well-understood, but studies show that they may result in chronic low-grade inflammation; interfere with hormonal signaling, reproduction, and metabolic regulation; and lead to oxidative damage of cell membranes, proteins, and DNA. Nanoplastics—particles below one micron—may enter the bloodstream and reach secondary organs such as the liver, kidneys, or brain. Finally, early observational studies have correlated higher microplastic levels in human tissues with atherosclerosis, sperm abnormalities, and placental inflammation.

## 3 Reducing Exposure and Its Effects

Consult your healthcare professional about strategies that support the body's natural filtration and waste-elimination systems. Additionally, you can reduce exposure by avoiding bottled water, minimizing plastic in food storage/preparation, using HEPA filters in vacuums and air conditioning systems, and limiting single-use plastic packaging.

**Professional Formulas is eliminating plastic supplement bottles and replacing them with amber glass, beginning in 2026.**

It doesn't solve the global problem, but we're doing what we can to reduce the cumulative burden of microplastics - for the environment and the health of patients.