

Reducing Microplastic Exposure at Home

Five changes, ranked by what the evidence actually supports

The principle here is **low-cost precaution**: do the things that are cheap, easy, and have no downside first, ahead of expensive or inconvenient ones with thinner evidence behind them. Nearly everything below saves money over the alternative, and none of it requires treating your home as contaminated.

1 Switch from bottled water to filtered tap

Bottled water consistently tests higher than tap — one widely cited study found roughly twice the particle count, and newer, more sensitive work found far higher nanoplastic counts in bottled specifically. Look for a filter certified to **NSF/ANSI 401**, or reverse osmosis, whose pore size sits far below typical particle sizes.

2 Keep plastic out of the microwave

Heat is the single biggest accelerant of particle release: microwaving plastic containers has been measured releasing millions of microplastics per square centimetre in three minutes, and plastic kettles millions per litre. Transfer food to glass or ceramic before heating, cover it with a plate rather than plastic wrap, and use a stainless or glass kettle.

3 Wash synthetics cold, full, and filtered

Polyester, nylon, and acrylic shed fibres every wash — a single load can release hundreds of thousands. Wash synthetics less often, in cold water, in full loads, since fuller loads mean less fabric-on-fabric friction. Add a machine filter or a mesh bag. Cotton, wool, and linen don't shed microplastic at all.

4 Run HEPA where you sleep — and change your car's cabin filter

Indoor air typically carries more microplastic fibre than outdoor air. A 2025 analysis put the median indoor concentration at 528 particles per cubic metre — and car cabins at 2,238, several times any room in a house, making the cabin filter the highest-yield change most people never make. Run True HEPA where you sleep, vacuum with a sealed HEPA machine, and damp-dust rather than dry.

5 Then the cheap wins with smaller impact

Loose-leaf tea with a stainless infuser instead of plastic mesh bags, which can release billions of particles into one cup. Wooden or stainless cutting boards. Rock or well salt over sea salt, though that difference is small. Retire plastic containers once scratched or cloudy — shedding rises with wear.

Four things that don't work the way people assume

- **"BPA-free" is not automatically safer.** The label addresses one chemical, not the category. Testing of BPA-free products found many still released hormonally active compounds, and heat made it worse.
- **Carbon-only filter pitchers can make water worse.** A 2023 study found pitchers using only carbon and resin released more particles than the tap water going in — without a membrane there is no mechanism to catch suspended particles.
- **Boiling only helps in hard water.** It traps particles in the limescale that forms — up to 80–90% removal in hard water, but roughly 25% or less in soft water, where little scale forms.
- **Consumer test kits can't tell you much.** No home kit reliably identifies plastic in water or air. The money is better spent on a filter that removes something.

Full guide, with every claim linked to its primary study: microplasticdefense.com/learn/how-to-reduce-microplastic-exposure

Free to print, copy, and share. Not medical advice — for health concerns, talk to a qualified professional.