

Aeroflow Breastpumps

Microplastics Exposure During Infant Feeding

Microplastics are present almost everywhere in our environment, making them hard to avoid.¹ Many everyday items, including baby bottles, breast pump parts, and milk storage bags contain plastic that can release microplastics, especially when heated. We wanted to provide you with some information on the prevalence of microplastics in breast milk supplies and ways you can navigate this to minimize exposure.

Why It's Difficult to Avoid Microplastics

Breast pumps are made up of plastic pieces and many families store pumped breast milk in plastic storage bags. Plastic bottles are commonly used by families due to their convenience, durability, and cost-effectiveness. Research has shown though, that simple actions like heating or shaking breast milk in plastic bottles and storage bags can lead to microplastic release.² While glass, stainless steel, and silicone bottles and storage containers for breast milk are a great alternative, they can be more expensive, heavier, and less convenient for some parents.

Microplastics have been found in both formula and breast milk. While breast milk is packed with protective factors to keep your baby as safe as possible, recent studies have found microplastics in human breast milk, with about 39% of samples testing positive for these particles.³ This should not steer you from breastfeeding. By working to minimize your personal exposure to microplastics as well as baby's, you can help you optimally limit the amount passed from you to your baby when breastfeeding.

What Is Polypropylene?

Polypropylene is a chemical compound that makes up plastic. This is considered non-toxic and does not contain Bisphenol A (BPA) or phthalates that we should avoid. Recent studies have shown, though, that both babies and mothers are exposed to dangerous levels of microplastics. Bottles and milk storage containers made with polypropylene can release microplastics when heated.⁴ Similarly, mothers are exposed to microplastics through plastic containers she eats and drinks from as well as through self-care products, clothing, cookware and food storage. Microplastics are particles smaller than 5 millimeters.⁵ When ingested they have been shown to potentially cause long-term health complications for children, including:^{6,7}

- Damage to digestive tract, immune system, and reproductive systems

- Metabolic disorders
- Immune response issues
- Reproductive and developmental toxicity

Practical Tips to Minimize Exposure⁷

1. Use glass, stainless steel, or silicone when possible
 - Glass, stainless steel, and silicone bottles, milk storage containers, and pump parts do not release microplastics and are a safe alternative. You should try to use these same products to minimize your exposure to microplastics.
2. Incorporate safe practices with plastic bottles
 - Prepare breast milk in glass or stainless steel containers and allow it to cool before transferring to plastic bottles.
 - Do not microwave breast milk, especially in plastic bottles.
 - Rinse plastic bottles and pump parts with cool water multiple times to remove any microplastic particles after sterilizing or removing from the dishwasher.
3. Practice hand washing instead of machine washing
 - Hand-wash plastic bottles and pump parts instead of using a dishwasher to prevent plastic breakdown and reduce microplastic release.
4. Avoid excessive shaking
 - Minimize shaking plastic bottles or storage bags to reduce the release of microplastics into the milk
5. Slowly thaw frozen breast milk
 - If breast milk is stored in plastic storage bags, slowly thaw it in the refrigerator overnight, then transfer to a glass, stainless steel, or silicone container to warm for a feeding.

It's nearly impossible to eliminate all microplastics, but taking these steps can significantly reduce exposure. Finding a balance between safety and convenience is key. Use glass and silicone when practical, and adopt safer practices with plastic items when necessary.

Remember, every step you take to reduce exposure counts, and it's about finding what works best for your family.

What If I Have Questions?

If you are interested in learning more, these Aeroflow classes expand on some of the topics discussed above:

- Navigating Maternity Leave
- Pumping 101

To register for these classes, log into your portal or click [here](#).

Want More Info?

For a directory of Aeroflow's other Care Guides offering information on pregnancy, baby care, and more, browse our comprehensive list of titles:

<https://www.hersourcehealth.com/aeroflow-care-guides/>

References:

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