BLUEPRINT BIOMARKERS

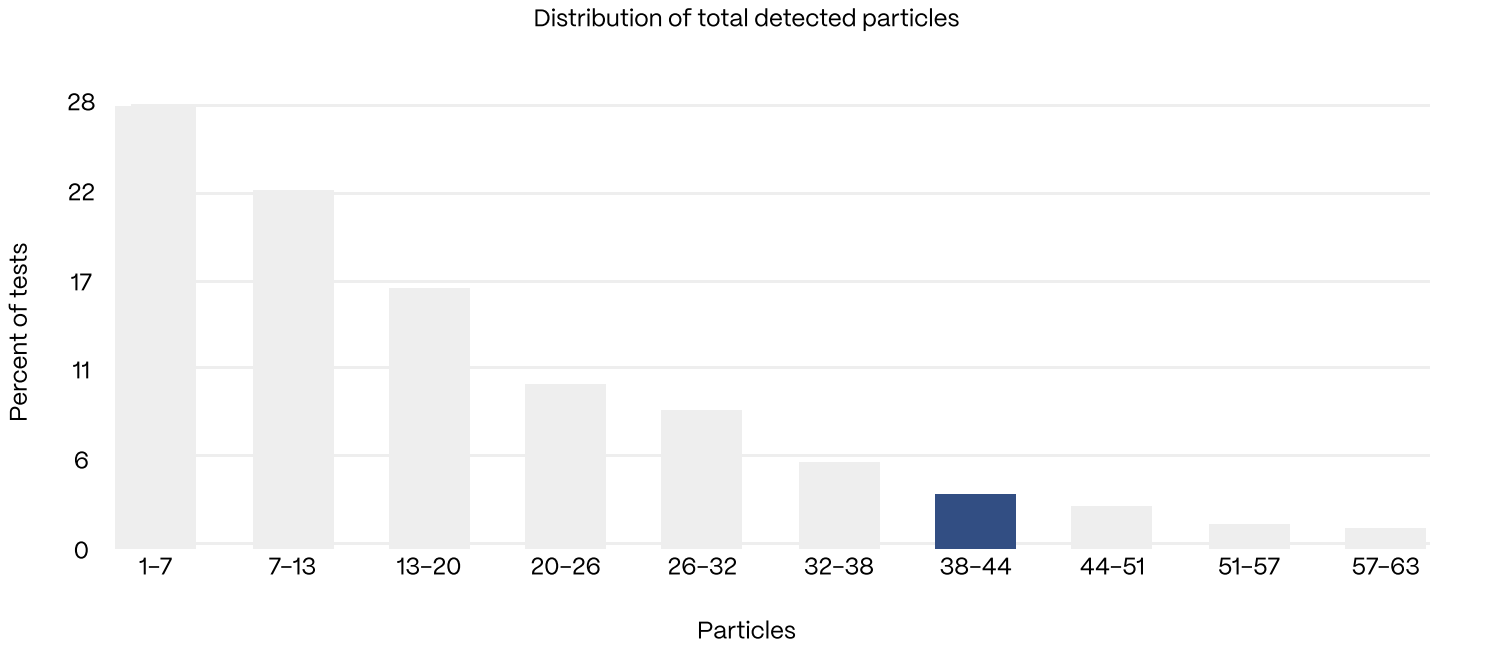
Microplastics Test Results

REPORTED 2025-04-07
COLLECTED 2025-02-26

RESULTS

42 particles	19 particles	18 particles	5 particles
TOTAL MICROPLASTICS	SIZE < 10µm	SIZE 10µm - 30µm	SIZE 30µm - 70µm

420 P/ml calculated concentration based upon assumed collection of a 100µl sample.



Your result is highlighted in blue relative to reference population data based on 1,000+ samples (generated on 2025-10-27). Compared to results at the time of this report, your total microplastic particles is higher than 84.3% of people who have taken the test. About 3.4% of the population falls in the same range as you.

(Note: Population percentile text auto-generated and may be inaccurate · added Oct 2025.)

UNDERSTANDING YOUR RESULTS

Microplastics levels are typically measured in terms of concentration (particles/mL). Microplastics testing is a relatively new field, and while there are no universally established "safe" levels, lower is generally better.

Quantifiable goals: While there's no specific target, aim for a consistent downward trend in your microplastics levels over time. A reasonable goal might be to reduce levels by 20–30% annually through lifestyle changes.

If this is your first test, your results can serve as a baseline to track changes over time. Studies have detected microplastics in human blood, lungs, placenta, and other organs. Early research (not in humans) suggests potential links to inflammation, oxidative stress, and metabolic disruption, though more studies are needed to confirm causation. If your levels are higher than expected, it may indicate increased exposure from food, water, air, or personal habits.

It's important to understand that your microplastic levels are not solely a reflection of personal choices, but also a result of broader environmental factors and societal patterns of plastic use.

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HOW DO MY RESULTS COMPARE TO OTHERS?

Most people have detectable microplastic levels, influenced by geography, diet, and lifestyle. Microplastics from sources like car ties break down into tiny particles, which become airborne and can be inhaled. This is common in urban areas, where higher traffic volumes and proximity to roadways increase exposure. We can provide you some insight based on recent research:

1. One study found microplastics in 88.9% of participants' blood samples, indicating that the presence of microplastics is common.
2. The most common size range for microplastics in the blood is 20–50 um. Another study found particles with a mean length and width of 127.99 um and 57.88 um, respectively.
3. The most frequently detected types in human blood include polyethylene (32%), ethylene propylene diene (14%), and ethylene–vinyl–acetate/alcohol (12%).

WHAT IF MY LEVELS ARE HIGH?

Don't be discouraged– exposure reduction is possible. Research is still evolving, but some early studies suggest that microplastic levels in the body may decrease over time with reduced exposure.

WHAT DO THE SIZES MEAN?

As this test relies on microscopic scanning of plastic particles, it can sensitively detect and accurately measure the size and quantity of microplastics in the blood, however the specific identification of polymer types remains a challenge with this particular method, as the dye used is universal to most plastics giving high detection capability at the expense of polymer specificity. The measured size distribution offers valuable insights into your exposure and potential health impacts, as particle size is a known factor in how microplastics interact with the body. The data is a significant step in understanding your personal microplastic burden and guides our recommendations for reducing exposure.

Microplastics vary in size, which affects how they interact with the body. The size breakdown of microplastics can provide additional information into their sources, behavior, and potential health impacts:

1. Less than 10 um– these are the smallest particles detected in the test. Due to their tiny size, they can penetrate deep into tissues and cells, potentially causing more significant biological effects.
    1. Sources can include airborne microplastics such as particles from car tires, synthetic textiles, and industrial emissions. Larger plastics can also break down over time into smaller pieces (fragmentation).
2. Between 10 and 30 um– this range falls within what many studies consider the lower limit of microplastic detection. These particles are still small enough to be inhaled or ingested but they may not penetrate as deeply as the <10 um particles.
    1. Sources can include household dust. Fibers from synthetic textiles often fall into this size range and accumulate in dust. Additional sources can include food and beverages (drinking water, seafood, sea salt, airborne deposition onto foods, etc.)
3. Between 30 and 70 um– these are the largest particles in our reported range. They are less likely to penetrate deeply into tissues and more likely to be excreted through digestion.
    1. Sources can include cutting on plastic cutting boards, degradation from food containers, and wear from non–stick cookware

ACTIONS YOU CAN TAKE TODAY TO REDUCE EXPOSURE

These simple, evidence-informed actions may help lower microplastic intake and accumulation:

1. **Avoid plastic water bottles:** Opt for glass or stainless steel instead.
2. **Water filtration:** Install a reverse osmosis water filter in your home with remineralization to remove microplastics and improve water quality. See Bryan's clean water protocol.
3. **Storage:** Use non-plastic food storage containers like glass, stainless steel, or ceramic.
4. **Reheating:** Avoid reheating food in plastic containers, as it can lead to leaching
5. **Takeaway containers:** Bring your own reusable stainless steel mug/container for takeaway beverages/food.
6. **Avoid canned soup:** A randomized cross-over controlled trial found that BPA concentration in urine went up by 20 folds to 20.8ug/L after a week of consuming canned soup as opposed to 1.1ug/mL for fresh soup. Opt for fresh foods instead.
7. **Cutting boards:** Use wooden cutting boards over plastic cutting boards to avoid microplastic shedding.
8. **Cookware:** Use cast iron or stainless steel cookware instead of non-stick pans like teflon.
9. **Utensils:** Use wooden, metal, or silicone cooking tools, straws, and utensils instead of plastic.
10. **Clothing:** Choose natural fiber clothing and home textiles like cotton, bamboo, linen, hemp, wool, or silk, instead of polyester, to avoid microfibers.
11. **Detergents:** Use plastic-free laundry and dishwashing detergents to prevent microplastic contamination.
12. **Cleaning:** Vacuum with a HEPA filter to trap microplastics in dust; use sealed windows and air purifiers in polluted areas.

EMERGING SOLUTIONS

While reducing exposure is key, some experimental approaches may help remove microplastics in the body.

1. Total Plasma Exchange (TPE), commonly used for autoimmune disorders, removes and replaces blood plasma. This process may help remove microplastics circulating in the bloodstream. Bryan is currently testing Total Plasma Exchange (TPE) as a potential method to lower microplastics levels and will share his results soon.
2. Blood and Plasma Donation is another promising strategy to reduce microplastic accumulation in the body. Since microplastics have been detected in human blood, donating blood could theoretically help remove contaminated plasma and red blood cells. This mechanism is similar to how blood and plasma donation has been shown to reduce harmful substances like PFAS. While this study focused on PFAS, the mechanism might apply to other contaminants like microplastics, as both bind to proteins in the blood.
    1. You can always donate your blood or plasma to the American Red Cross, where your contribution can make a significant difference in the lives of patients in need. To schedule your donation, visit RedCross.org.
3. Dietary Interventions can play a significant role in mitigating the impact of microplastics on human health. While there are no proven methods to completely remove microplastics from the body, certain dietary strategies may help reduce exposure and potentially minimize their effects.
    1. Increasing dietary fiber consumption may be beneficial in protecting against microplastics. Dietary fibers can potentially bind to microplastics in the GI tract, reducing their absorption and facilitating their excretion. With this, higher fiber foods like fruits, vegetables, whole grains, and legumes may help in this process.
    2. Seafood, particularly shellfish, has been identified as a significant source of microplastic exposure. Diversifying protein sources and moderating seafood consumption may help reduce microplastic uptake.

It's important to note that while these strategies can help, it's not a complete solution. A comprehensive approach including dietary changes, reducing plastic use, and supporting the body's natural detoxification processes is recommended for addressing microplastic exposure.

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TRACKING PROGRESS AND NEXT STEPS

Microplastics research is still in its early stages, and there's much we don't know. However, ongoing studies suggest that reducing exposure can make a difference over time. These steps are a great starting point. To measure your progress, we recommend re-testing in 3 months. This will help you assess the impact of your exposure-reduction strategies.

We'll continue to share the latest research and emerging strategies to help you take control of your exposure. Remember, progress is measured one step at a time.

DISCLAIMER

This microplastics test is conducted solely for research purposes. The results and methodologies used are experimental and have not been validated for clinical or medical use. This test is not intended to diagnose, treat, cure, or prevent any disease or medical condition. The presence or absence of microplastics in test results should not be interpreted as medical advice or used to make medical decisions. Healthcare decisions should always be made in consultation with qualified medical professionals based on clinically validated tests and established medical practices. Neither the test results nor their interpretation constitute medical advice or professional healthcare recommendations.