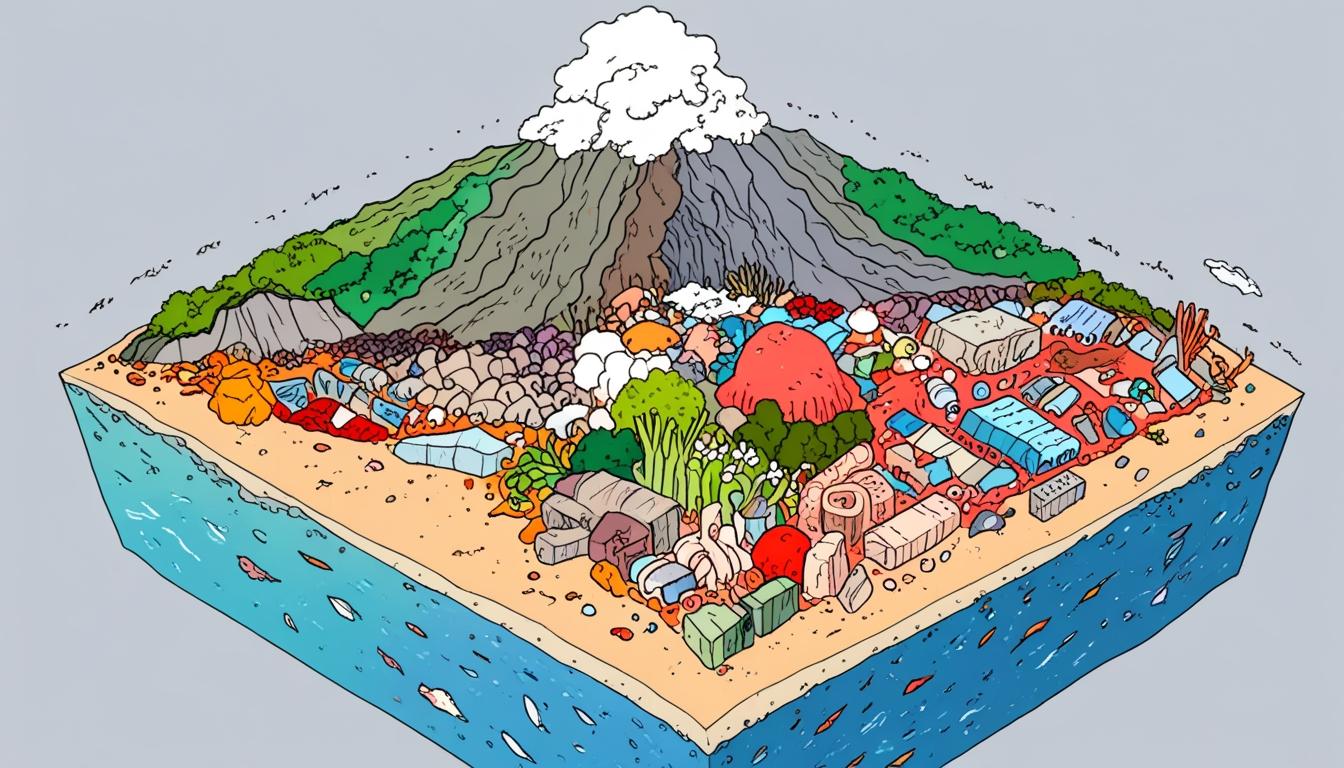
# Microplastics found in human organs spark urgent calls for reduced plastic production



Microplastics are minuscule particles of plastic less than 5mm in size, roughly the diameter of a grain of rice, which have become pervasive in the environment and human bodies. These tiny plastics originate from two primary sources: they are either intentionally manufactured at this size for use in consumer products like exfoliants and cosmetics (primary microplastics), or they result from the degradation of larger plastic items such as disposable bottles, packaging, car tyres, and toys (secondary microplastics).

The presence of microplastics is widespread, having been detected in diverse environments including oceans, remote mountain summits like Mount Everest, polar ice, and even in the air and dust. Human exposure occurs through multiple routes including the consumption of food and water, inhalation, and contact with various consumer goods. Microplastics have been found in human blood, semen, lungs, breast milk, bone marrow, placenta, testicles, and the brain, raising questions and concern among researchers regarding their potential health impact.

Studies have linked microplastics with a range of adverse effects in animals, such as fertility issues, cancers, disruption of endocrine and immune systems, and impairments in learning and memory. However, the impact on human health remains unclear due to a lack of substantial epidemiological data. Stephanie Wright, an environmental toxicologist at Imperial College London, commented to The Guardian that “despite a lack of epidemiological and in-human data, reducing particle exposure in general (including microplastic) is likely to be beneficial.”

Microplastics vary from other harmful chemical compounds like per- and polyfluoroalkyl substances (PFAS), which are long-lasting chemicals known for their non-stick and indestructible properties, but differ in composition and applications. Both microplastics and PFAS pose environmental and health concerns, but they are distinct substances.

The removal of microplastics from water sources presents significant challenges due to their tiny size. Although wastewater filtering systems capture some particles, microplastics persist widely, and innovative approaches, including bioengineered bacterial films and novel sponge materials, remain in preliminary stages. Studies estimate the average person ingests around 4,000 microplastic particles annually through drinking water alone.

Microplastics are prominent in the fashion industry, primarily because synthetic fibres such as polyester and nylon comprise nearly 70% of clothing materials. These fibres shed microplastics during laundering and wearing. To avoid microplastics in clothing, consumers are advised to select garments made from natural fibres, scrutinise clothing labels for plastics, and favour simpler designs without plastic trims like sequins or zips.

In kitchen environments, plastics are a significant source of microplastic exposure, especially through hot liquids and food packaging. Heating plastic materials releases microplastics, a phenomenon notably observed when hot drinks are poured into single-use coffee cups lined with plastic. Alternatives such as wooden, glass, stainless steel, or silicone utensils and containers can reduce exposure.

Globally, the issue of plastic pollution continues to escalate. Only about 9% of virgin plastic is recycled, with the majority ending up in landfills or incinerated, contributing to environmental contamination. The World Economic Forum has identified pollution as one of the top global risks. Experts like Dr Philip Landrigan have called for capping plastic production, especially targeting single-use plastics, which constitute 40% of the over 400 million tonnes of plastic produced annually. Despite these challenges, plastic production is anticipated to rise, potentially tripling by 2060 according to the Organisation for Economic Co-operation and Development (OECD).

The Guardian is reporting this comprehensive overview of the sources, impact, and mitigation efforts related to microplastics, reflecting ongoing scientific research and environmental concerns surrounding this pervasive pollutant.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

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