



FACT SHEET: MICROPLASTICS

- Microplastics are plastic particles under 5mm and are abundant in the environment and have been detected in the ocean, wastewater, fresh water, food, air and drinking water (both bottled and tap water)
- Research shows that wastewater treatment plants remove the majority of microplastics (Research from the United Kingdom in September 2019 found that 99.9% of microplastic particles are removed through the wastewater treatment process)
- Reports by the World Health Organisation (WHO) in 2019 and 2022 concluded that microplastics in drinking water pose a low concern for human health.
- Water utilities are supporting research that will help them better understand the ability of their treatment processes to capture microplastics.

What are microplastics and microfibres?

There is no scientifically agreed definition of microplastics, although they are frequently defined as plastic particles under 5mm. Some plastic is manufactured as microplastics and washed down drains. For example, microbeads which can be found in body cleansing products. There is also larger plastic debris which degrades into micro-sized particles over time with exposure to sun, water and wear and tear.

Microfibres are a type of microplastics that mostly come from clothing (polyester) and are generally between 0.1–0.8 mm in size.

Can microplastics be removed during the wastewater treatment process?

Wastewater and drinking water treatment systems are considered highly effective in removing particles with characteristics similar to those of microplastics. Research shows that wastewater treatment plants remove the majority of microplastics, with most being captured in sludge. Obviously more advanced plants are more likely to remove more microplastics and microfibres.

Research is also underway into the use of different technologies to remove microplastics from wastewater. However, these technologies are yet to be successfully implemented to remove all microplastics from wastewater.

Are microplastics in drinking water?

Microplastics are abundant in the environment and have been detected in the ocean, wastewater, fresh water, food, air and drinking water (both bottled and tap water).

In Australia water utilities are not required to test for microplastics but it is possible that microplastics could be found in drinking water supplies depending on where water is sourced and how it is treated.

However, studies show that people are more likely to come in contact with microplastics through other means such as inhalation from clothing and textiles. Australia's drinking water quality remains among the best in the world and meets strict guidelines set by the National Health and Medical Research Council.

Are microplastics in drinking water a risk to human health?

Reports by the World Health Organisation (WHO) in 2019 and 2022 concluded that microplastics in drinking water pose a low concern for human health.

Research in the UK (September 2019) found that more than 99.9% of microplastic particles are removed through the drinking water treatment process.

What are water utilities doing about microplastics?

Water utilities are supporting research that will help them better understand the ability of their treatment processes to capture microplastics and how they pass through the wastewater system. This research will ensure the extent, nature and source of the issue is accurately understood before implementing any costly solutions that may not be effective.

Guidance from WHO recommends improving the management of plastics globally and reducing plastic pollution to protect the environment and human well-being. A WHO Report in 2022 stated that better management of plastics throughout their product life-cycle and reducing the use of plastics, when possible, to move towards a more sustainable plastics economy.

We support the National Plastics Plan and its goal to phase in microfibre filters for new domestic washing machines by 2030. However, the most effective way to deal with microplastics would be source control by reducing the use of microplastics in manufacturing.

The industry is always considering new research, like recent reports from WHO and the UK, and will continue to evaluate whether there are research gaps that need to be filled.

More information

Dietary and inhalation exposure to nano- and microplastic particles and potential implications for human health. Geneva: World Health Organization; 2022.

<https://www.who.int/publications/i/item/9789240054608>

Microplastics in drinking-water. Geneva: World Health Organization; 2019.

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https://www.who.int/water_sanitation_health/publications/microplastics-in-drinking-water/en/

Sink to river - river to tap: Review of potential risks from microplastics. UK Water Industry Research, September 2019

<https://ukwir.org/sink-to-rive-to-tap>

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