



A SCIENTIFIC
PERSPECTIVE ON
**MICRO-
PLASTICS**
IN NATURE AND SOCIETY



What does the evidence say about micro- and nanoplastics?

The best available evidence suggests that microplastics and nanoplastics do not pose a widespread risk to humans or the environment, except in small pockets. But that evidence is limited, and the situation could change if pollution continues at the current rate.

A lot is already known about microplastics, and more knowledge is being acquired. But the evidence is complex and some remains uncertain.

Currently, **ecological risks** from microplastics are rare, though there are some locations where they exist already. But if emissions to the environment remain constant or increase in the future, ecological risks may be widespread within a century.

Scientists agree that there is no confirmed widespread risk from microplastics to **human health** at present, though some people worry about this. Most studies so far have simulated conditions that don't reflect real-world exposure. We need a better understanding of the effects of different sizes, shapes and types of plastic on humans before we can draw robust conclusions about real risks.

Very little is known about **nanoplastics** (particles so small they cannot even be seen under a microscope). This needs to be addressed before any assessment can be made about their impacts and risks.

Human decisions and behaviours are the reason why plastics exist in our environment. **Changing these behaviours**, by influencing individuals and social norms, is an important way to reduce pollution. Motivations, values and media reports all influence behaviour change, and experts and society must come to a mutual agreement on risk levels and responses.

Experience indicates that it is important to **communicate clearly** about the uncertainties in the evidence, rather than assuming there is no risk, especially when it comes to food and human health.

About the report

SAPEA provides independent, interdisciplinary, and evidence-based scientific advice to the European Commission as part of the Scientific Advice Mechanism.

The Evidence Review Report on micro- and nanoplastic pollution comprehensively examines the best evidence from the natural sciences and computer modelling, as well as social, political and behavioural sciences.

The report is written by a group of world-leading experts nominated by academies across Europe. It informs the Scientific Opinion of the Group of Chief Scientific Advisors.

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microplastics](http://www.sapea.info/microplastics)



About SAPEA

SAPEA brings together outstanding expertise in engineering, humanities, medicine, natural and social sciences from over 100 academies, young academies and learned societies across Europe.

We are part of the European Commission's Scientific Advice Mechanism. Together with the Group of Chief Scientific Advisors, we provide independent advice to European Commissioners to support their decision-making.



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 737432. The information, facts and opinions in this document are those of the authors and do not necessarily reflect the opinion of the European Commission.

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