Desalination and Water Treatment
www.deswater.com

doi: 10.5004/dwt.2022.28849

272 (2022) 233–247
October

Microplastic in the environment: identification, occurrence, and mitigation measures

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Received 9 May 2022; Accepted 17 August 2022

ABSTRACT

Microplastic is an emerging pollutant causing trouble worldwide due to its extensive distribution and potential hazards to the ecological system. Some fundamental questions about microplastics, such as their presence, source, and possible hazards, remain unanswered. These issues develop because of a lack of systematic and comprehensive microplastic analysis. As a result, we thoroughly evaluated current knowledge on microplastics, including detection, characterization, occurrence, source, and potential harm. Microplastics are found in seawater, soil, wetlands, and air matrices worldwide based on findings. Visual classification, which can be enhanced by combining it with additional tools, is one of the most used methods for identifying microplastics. As soon as is practicable, microplastics analytical methods ought to be standardized. New techniques for analyzing nano-plastics are urgently needed in the meantime. Numerous studies have shown that microplastics' impacts on people and soil are significantly influenced by their size, shape, and surface physicochemical characteristics. Finally, this study suggests areas for future research based on the knowledge gaps in the area of microplastics.

Keywords: Microplastics; Identification methods; Occurrence; Potential risk; Mitigation measures

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