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Environmental distribution, sources, fate, effects and importance of microplastics in the marine environment

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The distribution of microplastics in the marine environment is an emerging concern worldwide and has received much attention lately as their presence has greatly impacted the aquatic ecosystem. Microplastics are found in most commonly utilized products or may originate from the fragmentation of macroplastic debris. Microplastics enter the marine environment through terrestrial and land-based activities and are known to have great impact on marine organisms. Studies have shown that large numbers of marine organisms have been affected by microplastics. Microplastic particles have been found to be distributed in high concentrations in oceans globally. This study describes the sources and global distribution of microplastics in the marine environment, the fate and impact on marine biota. The study discusses the measures mapped out by both national and international environment and creating awareness through education will go a long way in reducing the entry of microplastics into the environment. However, a more promising and environmentally safe approach could be provided by harnessing the potentials of microbes, especially those of marine origin that can degrade microplastics.

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