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An overview of microplastic pollution as a risk to human health and the ecosystem

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Abstract: Environmental pollution is advancing alongside societal development. Among the various types of pollution, microplastic (MP) pollution has emerged as a recent and pressing threat to both ecosystems and the broader environment. The daily use of plastic continues to rise, and once discarded, it interacts with environmental elements like sunlight, heat, air, water, and microorganisms. Over time, these conditions cause plastics to degrade into microplastics, which then make their way into ecosystems. These microplastics can infiltrate the food chain, posing risks to aquatic life and human health. The increasing reliance on plastics in agriculture, packaging, and transportation is worsening this issue. One potential solution to MP pollution is transitioning from conventional plastics to bioplastics derived from non-edible sources such as algae.

Keywords: Microplastics, Plastics, Pollution, Health, Ecosystem, Hazard, Food cycle.

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1. Introduction

Plastics are essential to human civilization. It becomes an integral part of our routine life. The benefit of the use of plastic can't be denied. As the society is developing the needs of plastic is increasing enormously.[i,ii] The larger part of the municipal waste contains various types of plastics, which were dumped outside of the city and used for land filling as well as land leveling.[iii]

When exposed to sunlight, air, and water, the discarded plastics began to break down into microplastics.[iv]