

# Extraction of plastic nanoparticles utilizing surface built kapok tubes from water

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## Description

Micro plastic pollution in water has gained significant attention due to its potential environmental impact. However, the implications for human health are equally alarming. Micro plastics, tiny particles of plastic less than 5 millimeters in size, have infiltrated water bodies worldwide, including drinking water sources. This article delves into the human health concerns associated with micro plastic contamination in water, highlighting the potential risks, routes of exposure, and the need for urgent action to mitigate this invisible threat. The ingestion of micro plastics-contaminated water and food is a major concern for human health. Micro plastics can enter the food chain through aquatic organisms, such as fish and shellfish, which ingest these particles directly or indirectly. When humans consume contaminated seafood or water, micro plastics may accumulate in the gastrointestinal tract, potentially leading to physical and chemical interactions with human tissues. The impacts of long-term exposure and accumulation of micro plastics on human health are still being studied but raise concerns regarding digestive disorders, inflammation, and potential toxicological effects. Micro plastics can also become airborne and be inhaled, primarily through indoor dust and ambient air. Micro plastic particles can be released from various sources, including synthetic textiles, plastic packaging, and tire wear, and become suspended in the air. These particles can enter the respiratory system, potentially causing respiratory issues, lung inflammation, and other respiratory-related health problems. Moreover, micro plastics may carry adsorbed toxic chemicals, further exacerbating the risks associated with inhalation exposure. Micro plastics can act as carriers and release harmful chemicals into the surrounding environment, including water. Plastic additives, such as plasticizers, flame retardants, and UV stabilizers, can leach out from micro plastics, potentially contaminating water sources. These chemicals are known to have adverse health effects, including endocrine disruption, developmental

abnormalities, and carcinogenicity. The prolonged exposure to micro plastics and associated chemical additives raises concerns about chronic health impacts, particularly for vulnerable populations such as children and pregnant women. Micro plastics have the potential to accumulate and magnify within the human body. Studies suggest that micro plastics can cross the intestinal barrier and enter the bloodstream, allowing their distribution to various organs and tissues. The accumulation of micro plastics in organs could lead to long-term health effects, although the exact mechanisms and consequences are still being investigated. Additionally, the adsorption of Persistent Organic Pollutants (POPs) onto micro plastics may further amplify the potential toxicological effects, as these pollutants can accumulate in human tissues and pose a range of health risks. Exposure to micro plastics may trigger immune responses and chronic inflammation in the body. Research indicates that micro plastics can induce immune cell activation and release of inflammatory markers. Prolonged exposure to micro plastics and associated inflammation may contribute to the development or exacerbation of various health conditions, including allergies, asthma, autoimmune disorders, and cardiovascular diseases.

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## Conflict of Interest

The author declares there is no conflict of interest in publishing this article.

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