



Abstract

# On the Efficacy of a Pre-Filtering Density Separation Method for Microplastic Analysis <sup>†</sup>

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**Abstract:** Microplastics (particles with a diameter between 1 and 5 mm) in the marine environment are a growing concern due to their involuntary ingestion by fish and other marine species. The small microplastic size makes them easily consumed in the water and hence readily introduced into the marine food chain, with yet unknown bioaccumulative and toxic consequences. The proximity to urban areas, industrial activities, and sewage disposal potentially increases the presence of microplastics in the marine environment. The gastrointestinal tract (GIT) of some species contains high quantities of debris, sediment, and non-digestible materials such as calcium carbonate resulting from their dietary or behavioral habits. This study aims to assess the efficacy of a pre-filtering density separation method using a hypersaline solution to facilitate the subsequent filtration procedure. This additional step is expected to accelerate the procedure as a whole, improving the filtering process and ensuring a more accurate detection of microplastics.

**Keywords:** filtration; hypersaline solution; non-digestible materials; gastrointestinal tract



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