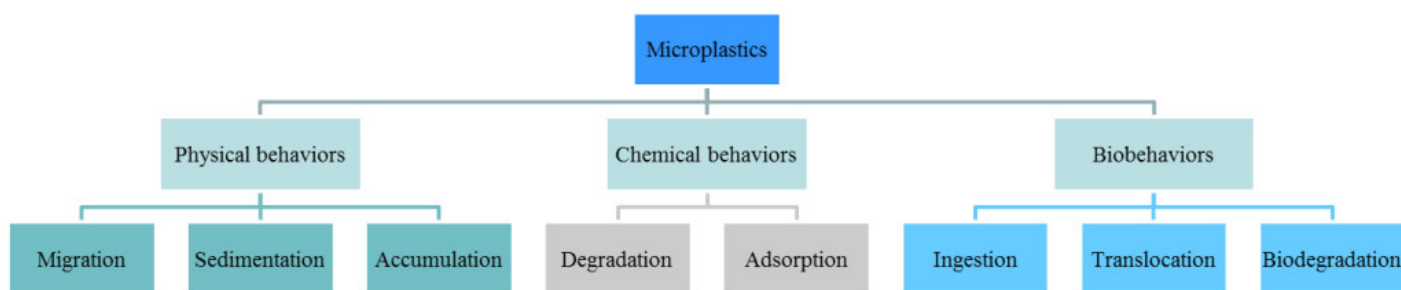


The behaviors of microplastics in the marine environment

Due to their inexpensive, lightweight and durable properties, plastics hold a highly prevalent place in contemporary society, with extensive commercial, industrial, medicinal and municipal applications. Most of plastics are used in single-use applications, or other short-lived products. As a consequence, waste plastics have been contaminating the environment. Especially, large amounts end up as marine debris as a result of insufficient treatment capacity, accidental inputs, littering, illegal dumping and coastal human activities. Microplastics are commonly defined as small plastic items that are less than 5mm. Source of microplastics include both plastic production of a microscopic size that are purposefully used in products such as facial cleansers and cosmetics, and fragmentation of large plastic items.



Occurrence and distribution of microplastics to the global marine environment have been of great concern due to their small size that is difficult to clean up and the potential to cause harm to marine ecosystem. Despite the pollution of microplastics being internationally recognized, the understanding of their behaviors in marine environment is still developing. Here, we would classify the behaviors of microplastics as physical behaviors (i.e. migration, sedimentation and accumulation), chemical behaviors (i.e. degradation and adsorption) and biobehaviors (i.e. ingestion, translocation and biodegradation), and a further discussion on their behavioral mechanisms were presented to better understand their impacts for the marine environment.

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