

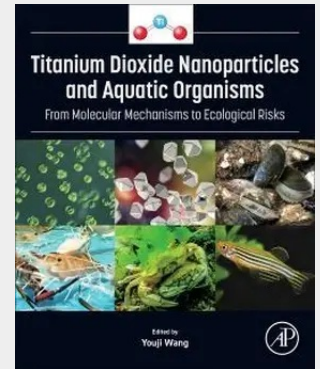
Titanium Dioxide Nanoparticles and Aquatic Organisms

From Molecular Mechanisms to Ecological Risks

Titanium Dioxide Nanoparticles and Aquatic Organisms: From Molecular Mechanisms to Ecological Risks provides a comprehensive examination of titanium dioxide nanoparticles in the aquatic environment. Despite the ubiquitous application of these nanoparticles in cosmetics, food, and industrial products, little is known about their potential long-term ecological impacts. Bioaccumulation of titanium dioxide has been widely observed, including the mechanisms and risks of biological uptake and dispersal through aquatic food webs. Written by a team of experts, this book systematically explores the industrial sources of titanium dioxide nanoparticles, their introduction into the aquatic environment, and the physiological impacts to aquatic taxa spanning multiple trophic levels. Individual physiological impacts to algae, aquatic mollusks, crustaceans, and fish are explored before chapters turn to the compounding effects of climate change and natural organic matter. The book ends with an assessment of knowledge gaps and prospects for future studies.

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