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Biosorption-an Alternative Method for Nuclear Waste Management: A Critical Review

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Abstract

Separation scientists and radiochemists aim to recover valuable long-lived radionuclides from high-level nuclear waste solution before its safe geological disposal. In last few years, researchers have exploited biosorption for nuclear waste management as an alternative to conventional liquid-liquid separation techniques. This review outlines various methods employed for the preparation of biosorbents. Importantly, nuclear waste treatment using biosorbents has been discussed in detail along with adsorption mechanisms. The main objective of this review is to provide vital information on the developments that have been made so far in the domain of biosorption, exclusively for nuclear waste management.

Keywords: Biosorbents, Biosorption, Isotherms, Kinetics, Radionuclides, Reusability

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