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Adsorption Application for Removal of Hazardous Chloroform from Aqueous Solution by Nanocomposites Rectorite/Chitosan Adsorbent

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ABSTRACT

A novel nanocomposite bioadsorbent rectorite/chitosan was prepared by controlling different mass ratios of chitosan to rectorite using the water phase intercalation technique. The structure of the bioadsorbent was characterized by Fourier transform infrared (FT-IR) spectroscopy, X-ray diffraction (XRD) and scanning electron microscopy (SEM), Transmission electron microscopy (TEM), respectively. The results showed that the chitosan had been inserted into the rectorite layer successfully. The adsorption properties of the nanocomposite adsorbent toward CHCl₃ from aqueous solution were investigated. Adsorption results showed that both nanocomposite adsorbents with weight ratio of rectorite to chitosan of 3:1 and 5:1 exhibited higher adsorption capacities.

KEYWORDS

Nanocomposite Bioadsorbent; CHCl₃ from Aqueous Solution; Adsorption.

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