

عنوان مقاله:

Hexavalent Chromium Removal from Aqueous Solution by Adsorption on Multiwalled Carbon Nanotubes: Equilibrium and Thermodynamic Studies

محل انتشار:

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نویسندگان:

m gholipour - Kerman, Shahid Bahonar University, Chemical Engineering Faculty

h hashemipour

a soltani goharrizi

خلاصه مقاله:

The presence of hexavalent chromium and its derivatives in waters and wastewaters is a potential hazard to aquatic animals and humans. Therefore, It is essential to remove these components from wastewaters before disposal. In this paper, the batch removal of hexavalent chromium (Cr(VI)) from aqueous solution using multiwalled carbon nanotubes (MWCNTs) was studied. The batch experiments were conducted at 3 different temperatures (17, 27 and 37°C) and the influence of adsorbent dosage, initial solution pH, initial Cr concentration, contact time and temperature was investigated. The sorption data fitted well with BET isotherm model. Thermodynamic parameters such as Gibbs free energy (ΔG°), enthalpy (ΔH°) and entropy (ΔS°) for Cr(VI) adsorption were also estimated and Results suggest that the adsorption process is a spontaneous and endothermic

کلمات کلیدی:

Hexavalent Chromium, Adsorption, Multiwalled Carbon Nanotubes, Adsorption Isotherm, Thermodynamic Parameters

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