

عنوان مقاله:

Optimization of hexavalent Chromium adsorption on treated-MWCNTs using response surface methodology

محل انتشار:

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خلاصه مقاله:

In recent years, Carbon nanotubes (CNTs) as a new adsorbent to adsorption of ions have been studied. Also, we used the functionalized form of carbon nanotube. In order to functionalization of multiwalled carbon nanotube was used the EDTA and sulfuric acid. This study were design in based the f-MWCNTs adsorption potential to removal chromium from electroplating wastewater. Thus, the optimum conditions such as; initial concentration, contact time, adsorbent dosage and pH that were affected on adsorption were measured. In this paper, a systematic model on Cr (VI) adsorption is presented based experimental design. RSM as mathematical methods was used for modeling and optimized the considerable parameters. Based on ANOVA analysis is given R^2 (0.998), Adjusted R^2 (0.996), prediction R^2 (0.906), Coefficient of variation (1.38%) and the Mean removal efficiency (54.76%). At end of the analysis the optimum conditions are given out by RS methodology that shown the efficiency of 61.75% was predicted by the model, under optimum conditions.

کلمات کلیدی:

Chromium adsorption, RSM, MWCNTs

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