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ADSORPTION OF Cr(VI) ON Fe-Ni MODIFIED BENTONITES

Shao Hong*, Cao Ning

*Institute of Environmental and Biological Engineering, Shenyang University of Chemical and Technology,
Shenyang, 110142 PR China*

Abstract

A series of sodium bentonites as raw material were prepared to the modified inorganic iron-nickel montmorillonites and organic composite montmorillonites. The structural characterization and morphology of the iron-nickel crosslinked modified bentonites were observed by means of IR spectroscopy, X-ray diffraction, scanning electron microscopy. The effects of the amount of bentonites, adsorption time and pH change on the adsorption of Cr(VI) have also been studied. The results indicated that the adsorption of Cr(VI) on the modified bentonite was better than the adsorption onto original bentonite. Under the optimum conditions, the removal rate of the modified inorganic iron-nickel bentonites and organic iron-nickel bentonites, respectively reached 95% and 97% for 30 mg/L Cr(VI).

Key words: adsorption, bentonite, Cr(VI) removal, iron-nickel modified bentonite

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* Author to whom all correspondence should be addressed: e-mail: hj8983@163.com, flytoskybird@163.com; Phone: +86 13840413188, +86 18202471995; Fax: +86 02489383905