

## عنوان مقاله:

Removal of Nickel and Cobalt Heavy Metals from Aqueous Solution Using Chitosan-Magnetic (Fe<sub>3</sub>O<sub>4</sub>) Nanocomposite

## محل انتشار:

پنجمین کنفرانس بین المللی پژوهش کاربردی در شیمی و مهندسی شیمی با تاکید بر فناوری های بومی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 15

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## خلاصه مقاله:

Chitosan-magnetic nanocomposite (CMNC) is synthesized through a co-precipitation method to be used for nickel or cobalt removal from wastewater. The nanocomposite is characterized by FESEM, FTIR, XRD and VSM analysis to examine its morphology, surface species, size of crystallites, and magnetic properties, respectively. The adsorption data show that the optimal values for equilibrium time, pH and adsorbent content are 120 min, 6, and 2 g L<sup>-1</sup>, respectively. The Langmuir model well describes the equilibrium data with the maximum adsorption capacity of 30.03 mg g<sup>-1</sup> and 53.19 mg g<sup>-1</sup> for nickel and cobalt, correspondingly. Thermodynamic and kinetic studies show that the nickel and cobalt adsorption is a spontaneous and exothermic process and the pseudo-second order kinetic model provides the best description for nickel and cobalt adsorption on CMNC

## کلمات کلیدی:

Adsorption, Chitosan, Heavy metals, Magnetic, Nanocomposite

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/836935>

