

## عنوان مقاله:

Adsorption of Zn (II) from aqueous solution by using chitin extraction from crustaceous shell

## محل انتشار:

مجله پیشرفت در تحقیقات بهداشت محیط, دوره 2, شماره 2 (سال: 1393)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

Removal of toxic heavy metals from wastewater is an important environmental challenge. In this Study, Zn (II) removal from aqueous solution by chitin extraction from crustaceous shells (shrimp and crab) was investigated. The biosorption studies were determined as a function of contact time, pH, initial metal concentration, and the amount of adsorbent. Adsorption of Zn (II) increased with decreasing concentration of the adsorbents and reached maximum uptake at 0.5 g. Effect of pH was studied in the range of 3-7 and the optimum conditions for both adsorbents were found in the range of 5-7. Zn (II) adsorption for both adsorbent was evaluated by Langmuir and Freundlich Isotherms. Results indicated that the Freundlich isotherm model was the most suitable one for the adsorption process using chitin extracted of shrimp and crab shells. The pseudo-first order and pseudo second order kinetic models were used to describe the kinetic data. The adsorption capacity ( $q_{max}$ ) calculated from Langmuir isotherm and the values of the correlation coefficient obtained showed that chitin extracted from shrimp shells has the largest capacity and affinity for the removal of Zn (II) compared with the chitin extraction from the crab shells.

## کلمات کلیدی:

(Adsorption, Chitin crab shells, Chitin shrimp shells, Kinetics, Zn (II))

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/753784>



