

عنوان مقاله:

Removal of Cadmium from Aqueous Solutions by a Synthesized Activated Carbon

محل انتشار:

فصلنامه بهداشت محیط و توسعه پایدار، دوره 3، شماره 3 (سال: 1397)

تعداد صفحات اصل مقاله: 13

نویسندگان:

Mohsen Ansari - *Student Research Committee, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

Amir Hosein Mahvi - *Solid Waste Research (CSWR) Center, Environmental Research Institute (ERI), Tehran University of Medical Sciences, Tehran, Iran*

Mohammad Hossein Salmani - *Environmental Science and Technology Research Center, Department of Environmental Health Engineering, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

Mohammad Hassan Ehrampoush - *Environmental Science and Technology Research Center, Department of Environmental Health Engineering, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

خلاصه مقاله:

Introduction: There are different methods for removal of cadmium from aqueous solutions. Adsorption based methods are among the bests. One of the most important aspects for adsorption techniques is the availability of an accessible and economical adsorbent. This study aims to investigate cadmium removal from aqueous solutions by walnuts shell waste. Materials and Methods: Walnut Shell (WS) was used as a carbon and was activated by a chemical agent. The surface characteristics of the synthesized Activated Carbon (AC), kinetic and isothermic variation were investigated under laboratory conditions. Results: The results showed that adsorption could be affected by the amount of adsorbent and pH. The adsorption of cadmium was in the maximum level when pH was 6. Between two investigated adsorption isotherms, Langmuir ($R^2=0.98$) and Freundlich ($R^2 = 0.97$) isotherms well described the cadmium adsorption on walnut shell produced activated carbon. Conclusion: Walnut shell as an agricultural waste can be synthesized into a suitable adsorbent to absorb cadmium from aquatic solutions.

کلمات کلیدی:

Adsorption, Activated Carbon, Solid Waste, Aqueous Solutions, Cadmium

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/992778>



