

The Adsorption of Zinc Metal in Waste Water Using ZnCl₂ Activated Pomegranate Peel

Authors : S. N. Turkmen, A. S. Kipcak, N. Tugrul, E. M. Derun, S. Piskin

Abstract : Activated carbon is an amorphous carbon chain which has extremely extended surface area. High surface area of activated carbon is due to the porous structure. Activated carbon, using a variety of materials such as coal and cellulosic materials; can be obtained by both physical and chemical methods. The prepared activated carbon can be used for decolorize, deodorize and also can be used for removal of organic and non-organic pollution. In this study, pomegranate peel was subjected to 800W microwave power for 1 to 4 minutes. Also fresh pomegranate peel was used for the reference material. Then ZnCl₂ was used for the chemical activation purpose. After the activation process, activated pomegranate peels were used for the adsorption of Zn metal (40 ppm) in the waste water. As a result of the adsorption experiments, removal of heavy metals ranged from 89% to 85%.

Keywords : activated carbon, adsorption, chemical activation, microwave, pomegranate peel

Conference Title : ICCME 2015 : International Conference on Chemical and Materials Engineering

Conference Location : Rome, Italy

Conference Dates : May 05-06, 2015