GRANULATED ACTIVATED CARBON AS AN EFFICIENT ADSORBENT FOR REMOVAL OF ORGANIC MATTER FROM WATER

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Abstract

This study examined the characteristics of granulated activated carbon (GAC) as an adsorbent for the removal of organic matter from the surface water of the Jala River. The adsorbent was characterized by XRD, FTIR, Raman spectroscopy, BET and SEM/EDS methods, while a detailed physicochemical characterization was performed for the water sample. The adsorption process was carried out under the following laboratory conditions: T(water) = 25 °C, individual doses of GAC of 1, 2 and 4 g/L, stirring speed 200 rpm and time 60 minutes. The research results showed that GAC has good structural, textural and morphological characteristics and that it can be successfully applied to remove organic matter from water (70.53%) using the lowest dose.

Keywords: *granulated activated carbon, adsorption, organic matter, water treatment*