

Wastewater Treatment by Modified Bentonite

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Abstract : Water is such an important element of many manufacturing processes which that use a big amount of chemical substances, It is likely to cause it contamination of water returning to rivers by industrial discharged. These contaminants can be a high in suspended solid and chemical oxygen demand. In this study, urban wastewater of sidi bel abbes city (Algeria) was treated by adsorption using modified bentonite from Magnia (Algeria) by conducting batch experiments to investigate its equilibrium characteristics and kinetics. Purified bentonite is characterized by; CEC, XRF, BET, FITR, XRD, SEM and 27Al spectroscopy. The results showed the removal of suspended solids exceeds 98.47% and COD up to 99.52%, and regarding of sorption efficiencies (qm), the maximum COD sorption efficiencies (qm) calculated using the Langmuir model is 156.23, 64.47 and 17.19 mg/g respectively, for a pH range of 4 to 9.

Keywords : adsorption, bentonite, COD, wastewater

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