

Sorption kinetics of Zn (II) ion by thermally treated rice husk

ABSTRACT

Agricultural wastes such as orange peels, tea leave waste, rice husk and corn cobs have been widely studied as sorbents for heavy metal ion removal from various wastewaters. In order to understand their sorption mechanism, the adsorption kinetics is studied. This report describes the kinetics study of a thermally treated rice husk to adsorb Zn (II) ion from an aqueous solution. The adsorbent was obtained by heating the rice husk in a furnace at 500°C for two hours. Increase the contact period improved percentage of the removal of Zn (II) ion until an equilibrium was reached. The data obtained showed that the adsorption of Zn (II) ion by thermally treated rice husk obeyed pseudo-second order kinetics model, which is in agreement with chemisorption as the rate limiting mechanism.

Keyword: Adsorption kinetics; Rice husk; Thermally treated; Zinc (II) ion