

Kinetic and thermodynamic studies on adsorption of copper ions onto pomelo peel (*Citrus grandis*)

Abstract

The ability of pomelo peel (PP) as natural adsorbent to remove Cu (II) ions from aqueous solution was investigated. The influence of solution pH, contact time and temperature were evaluated. Cu (II) removal increased as the pH of the solution increased and the maximum value reached at pH 6. The adsorption was relatively fast (30 min). Adsorption kinetics followed the pseudo-second-order model. At low temperature the adsorption was not affected but at high temperature it was reduced. PP is considered as low cost material that shows potential to be applied in wastewater technology for remediation of heavy metal contamination.

Keywords

Adsorption; Copper; Kinetics; Pomelo peel; Thermodynamics