KINETICS STUDY OF Pb(II) ADSORPTION ON XANTHATED *LEUCAENA LEUCOCEPHALA* LEAF POWDER

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ABSTRACT

KINETICS STUDY OF Pb(II) ADSORPTION ON XANTHATED *LEUCAENA LEUCOCEPHALA* LEAF POWDER

Leucaena leucocephala (LL) leaf powder was treated with xanthate and its performance in the removal of Pb(II) ion from aqueous solution was evaluated. The characteristics of xanthate treated Leucaena leucocephala leaf powder (XLL) was investigated by ATR-Fourier Transform Infrared (ATR-FTIR) and Thermogravimetric analysis (TGA). The effect of several parameters which can affect the adsorption of Pb(II) onto XLL such as pH, adsorbent dosage and kinetic were studied. The optimum pH range for Pb(II) adsorption was at range pH 4. Two kinetic model; pseudo-first order and pseudo-second order model were used to analyse the Pb(II) adsorption process and the results showed that the pseudo-second order was fitted well with correlation coefficient R^2 greater than 0.999. The maximum adsorption capacity of Pb(II) was 76.34 mg/g.