

**ADSORPTION KINETICS AND EQUILIBRIUM OF CADMIUM
AND LEAD ON SPONGE GOURD FIBRE**

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ABSTRACT

The adsorption of Cd and Pb by sponge gourd fibre (SGF) from aqueous solution was investigated according to batch technique. The final metal concentration in solution was determined by Atomic Absorption Spectrophotometer (AAS). The results showed that the adsorption of both metals by SGF was rapid during the first 10 minutes but equilibrium was only attained after 60 minutes. The adsorption of Cd ($R^2 = 0.999$) and Pb ($R^2 = 0.999$) conform to pseudo-second order kinetics. The adsorbed amount of Cd and Pb increased while the percentage decreased with increase in initial metal concentration. Cd adsorption fitted better to Langmuir isotherm ($R^2 = 0.994$) while Pb adsorption to Freundlich isotherm ($R^2 = 0.998$). The maximum adsorption capacity, Q_{max} , of SGF for Cd and Pb is 1.56 mg/g and 1.9 mg/g, respectively.

