

Removal of Nickel Ion from Aqueous Solution Using Rambai Stem (*Baccaurea motleyana*) Adsorbent

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The presence of heavy metals in the environment results in a number of environmental problems. In this study, the potential of Rambai stem (*Baccaurea motleyana*) of Malaysia in removing nickel ion from aqueous solution has been evaluated. The raw material used in this study was obtained from local orchard. The collected material passed through physical preparation and treatment process. The adsorbent was thoroughly characterized by SEM, EDX and FTIR studies. The effect of initial nickel concentration, dosage of adsorbent and pH on the adsorption process were investigated. The highest adsorption capacity obtained at weak acidic conditions (pH 4-5) when dosage and initial concentrations are 0.1 and 30 ppm respectively. The percentage of removal of nickel from the solution was found to be 51%. The experimental data fitted well in Freundlich isotherms indicating the adsorption of nickel on Rambai stem (*Baccaurea motleyana*) followed heterogenous surface phenomena.

Key words : *Adsorption, adsorbent characterization, adsorption isotherm, Rambai stem (Baccaurea motleyana)*