

Biosorption of Lead (II) from Aqueous Solution Using Marine Algae *Chlorella pyrenoidosa*

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Abstract : Biosorption is one of the effective methods for the removal of heavy metal ions from aqueous solutions. Results are presented showing the sorption of Pb(II) from solutions by biomass of commonly available marine algae *Chlorella* sp. The ability of marine algae *Chlorella pyrenoidosa* to remove heavy metal ion (Pb(II)) from aqueous solutions has been studied in this work. The biosorption properties of the biosorbent like equilibrium agitation time, optimum pH, temperature and initial solute concentration were investigated on metal uptake by showing respective profiles. The maximum metal uptake was found to be 10.27 mg/g. To achieve this metal uptake, the optimum conditions were found to be 30 min as equilibrium agitation time, 4.6 as optimum pH, 60 ppm of initial solute concentration. Lead concentration is determined by atomic absorption spectrometer. The process was found to be well fitted for pseudo-second order kinetics.

Keywords : biosorption, heavy metal ions, agitation time, metal uptake, aqueous solution

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