OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Nanotek and Expo

December 3-5, 2012 DoubleTree by Hilton Philadelphia Center City, USA

Studies on biosorption of lead (Pb^{+2}) using *Limonia acidissima* shell powder, *Adenthara pvoinna* plant stem powder and *Wrightia tinctoria* leaf powder

Ch.V. Naga Sowjanya
Department of Chemical Engineering, Andhra University, India

Biosorption process has been proposed as an efficient, potential, cost effective way of removing toxic metals from industrial effluents at low concentrations. In the present study a new biosorbent material, *Limonia acidissima* Shell Powder, *Adenthara pvoinna* Plant Stem Powder and *Wrightia tinctoria* Leaf Powder was used as a biosorbent. Studies on the removal of Lead (Pb^{+2}) from aqueous solutions using *Limonia acidissima* shell powder, *Adenthara pvoinna* plant stem powder and *Wrightia tinctoria* leaf powder were undertaken. The effect of dosage of biomass, metal concentration, pH of aqueous metal solution, temperature and kinetics were studied.

The results indicate that the amount of Lead adsorbed increased with increase in metal concentration, dosage of biomass and pH of the aqueous phase up to certain level and then decreases giving raise to optimum concentration, pH, and dosage. Finally, an empirical equation was developed to estimate the equilibrium distribution of Lead between *Limonia acidissima* shell powder, *Adenthara pvoinna* plant stem powder and *Wrightia tinctoria* leaf powder and aqueous metal solution incorporating various parameters studied. We compared all the three biomass in which the maximum % of removal of metal is done using the same metal Lead (II) with same parameters. In this investigation we found that removal of lead (Pb^{+2}) is maximum for *Wrightia tinctoria* leaf powder with 98.51% of removal under same parameters.

kool.sowji143@gmail.com