

## Adsorption Studies of Lead from Aqueous Solutions on Coconut Shell Activated Carbon

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**Abstract :** Activated carbon was prepared from coconut shell (ACS); a discarded agricultural waste was used to produce bioadsorbent through easy and environmental friendly processes. This activated carbon based biosorbent was evaluated for adsorptive removal of lead from water. The characterisation results showed this biosorbent had very high specific surface area and functional groups. The adsorption equilibrium data was well described by Langmuir, whilst kinetics data by pseudo-first order, pseudo-second order and Intraparticle diffusion models. The adsorption process could be described by the pseudo-second order kinetic.

**Keywords :** coconut shell, activated carbon, adsorption isotherm and kinetics, lead removal

**Conference Title :** ICEWRE 2016 : International Conference on Environmental and Water Resources Engineering

**Conference Location :** Jeddah, Saudi Arabia

**Conference Dates :** January 26-27, 2016