

## Equilibrium and Kinetic Studies of Lead Adsorption on Activated Carbon Derived from Mangrove Propagule Waste by Phosphoric Acid Activation

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**Abstract :** The removal of lead ion ( $Pb^{2+}$ ) from aqueous solution by activated carbon with phosphoric acid activation employing mangrove propagule as precursor was investigated in a batch adsorption system. Batch studies were carried out to address various experimental parameters including pH and contact time. The Langmuir and Freundlich models were able to describe the adsorption equilibrium, while the pseudo first order and pseudo second order models were used to describe kinetic process of  $Pb^{2+}$  adsorption. The results show that the adsorption data are seen in accordance with Langmuir isotherm model and pseudo-second order kinetic model.

**Keywords :** activated carbon, adsorption, equilibrium, kinetic, lead, mangrove propagule

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