

Remediation of Lead from Lead Electroplating Industrial Effluent Using Sago Waste

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Heavy metals are known toxicants, which inflict acute disorders to the living beings. Electroplating industries pose great threat to the environment through heavy load of metals in the wastewater discharged on land and water sources. In the present study, sago processing waste, which is both a waste and a pollutant, was used to adsorb lead ions from lead electroplating industrial effluent. Two types of sago wastes, namely, coarse sago waste and fine sago waste were used to study their adsorption capacity with the batch adsorption and Freundlich adsorption isotherm. The parameters that were considered for batch adsorption were pH (4, 5 and 6), time of contact (1, 2 and 3 hrs), temperature (30, 37 and 45 °C) and dosage of the adsorbent (2,4 and 6 g/L). The optimal condition for the effective removal of lead was found to be pH 5, time of contact 3hrs, temperature 30 °C and dosage 4 g/L with coarse sago waste than fine sago waste.