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Adsorption of Rhodamine-B Dye from Waste Water by using Kamugu Nut Shell Carbon

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Abstract : An activated carbon produced from low cost agricultural waste is utilized for the removal of Rhodamine-B dye from waste water. Batch studies are carried out for the adsorption of dye molecules onto Kamugu Nut Shell Carbon (KNSC). The structural and morphological studies of activated carbon are characterized by SEM with EDAX. The factors influencing the rate processes involved in the removal of dye for particle size, adsorbent dosage, initial dye concentration, contact time and pH. To evaluate the irreversibility of the adsorption process, three consecutive runs of desorption are conducted by contacting the dye loaded activated carbon with acid. The results of the present study substantiate that agricultural waste KNSC are promising a better adsorbent for the removal of the Rhodamine-B from waste water.

Keywords : Kamugu Nut Shell Carbon, Rhodamine-B, Adsorption.

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