COLOUR REMOVAL OF DIRECT RED DYE EFFLUENT BY ADSORPTION PROCESS USING RICE HUSK

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ABSTRACT

To show that rice husk could be employed as low-cost and effective adsorbent for the removal of Direct Red 23 from dye effluent and also to study the effect of concentration of dye solution and the effect of amount of adsorbent on the percentage removal of dye. Azo dyes and their degradation products such as aromatic amines are highly carcinogenic. Adsorption of dyes is a new technology for treatment of waste water containing different types of dyes.Adsorption process is adopted for removal of direct red 23 dye from the dye effluent using rice husk as the adsorbent in treated and untreated form. The process involves: washing and drying of rice husk at 105° c,followed by soaking in 0.6 M Citric acid for 2 hours and heated to 120 °C.Further it is dried and washed repeatedly to obtain treated rice husk.This treated and untreated rice husk are used for removal of Direct Red 23 dye. Dye solutions of different concentrations were prepared and a known amount of adsorbent were added to study the Effect of concentration of dye solution and effect of amount of adsorbent on the percentage of removal of Direct Red 23.

KEYWORDS: Rice Husk, Azo Dyes, Hydrophobicity.