عنوان مقاله:

Removal the acid blue-15 dye from water by chitosan: kinetic and thermodynamic study

محل انتشار:

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خلاصه مقاله:

This study concerns the removal of acid blue-15 (AB-15) from water using chitosan through the batch sorption. To get the best percentage of removal, several experimental parameters have been used such as the initial concentration, temperature, and pH. The results show that the pH of the interaction medium does not indicate a significant influence in the adsorption process. In addition, the percentage of removal increased with the increase of dosage of chitosan and temperature of the reaction vessel. Furthermore, the percentage of removal decreases with the increase in the initial concentration of the AB-15 solution. The adsorption of AB-15 on the chitosan fits better with the Freundlich (R2= 0.998) than the Langmuir model. The adsorption kinetics follows the pseudo-first order (R2> 0.998) but not the pseudo-second-order model. The obtained results of this study show that chitosan has a potential application as a membrane to remove the AB-15 from industrial effluents.

کلمات کلیدی:

Acid blue-15 dyes, Chitosan, pseudo-first order model, Freundlich Isotherm