

Adsorption Equilibrium, Kinetic and Thermodynamic Parameter Studies of Reactive Red 120 Using Activated Carbon

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Adsorption characteristics of Reactive Red 120 dyes using activated carbon were investigated by using adsorbent amount, pH, initial concentration, contact time and temperature adsorption parameters. Adsorption equilibrium data were analyzed using Langmuir, Freundlich isotherm, Langmuir isotherm showed the best agreement. From the Langmuir separation factor (= 0.340 ~ 0.436) obtained from the experiment, it was confirmed that the adsorption operation of Reactive Red 120 by activated carbon is a suitable removal method. As a result of applying the adsorption rate experimental data to the pseudo first - order kinetics and the second - order kinetics equation, kinetic experiments have been well described by the pseudo first - order kinetics equation.