

Sorption characteristic of banana peel waste powder on a Reactive dye Reactive Orange 16

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In this study, banana peel was processed into powder and used as a sorbent for reactive dye removal. The pH edge, kinetic, and isotherm experiments were conducted to evaluate the sorption characteristic of banana peel powder on Reactive Orange 16 (RO16), a representative reactive dye. And the reusability of the RO16-loaded sorbents was evaluated. The pH edge experiments were performed in the pH range of 2 ~ 12 and the optimal pH was observed in the pH 2. The kinetic experiments were conducted under different concentrations conditions (50 ~ 300 mg/L). In addition, sorption isotherms were also studied at different temperatures conditions (25 ~ 45 °C). The desorption efficiency was over 90% at pH 12.