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REACTIVE DYES (R. BLUE 19 AND R. RED 120) REMOVAL BY A NATURAL COAGULANT: *MORINGA OLEIFERA*

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Abstract

In this study, *Moringa oleifera* seed extract was applied as coagulant under different pH values (2.5 - 9.5), coagulant dosages (200-600 mg/L), initial dye concentrations (50-300 mg/L) and different settling times (0- 60 minutes) for R. Blue 19 and R. Red 120 dyes removal. Results revealed that with increase in pH (from 2.5 to 9.5), removal efficiency decreased from 95% to 87.3% for R. Blue 19 and from 97.2% to 62% for R. Red 120. By increasing coagulant dosage to 400 mg/L, removal efficiencies increased up to 93% for both dyes. Higher dosages (more than 400 mg/L) could not achieve more than 93% removal of the dyes. No suspension of formed flocs nor desorption of the dyes was observed after long settling times up to 24 hours. *Moringa oleifera* did not change the pH of solution through experiments. This natural coagulant revealed a high capacity in reactive dyes removal.

Key words: coagulation, decolourization, *Moringa oleifera*, natural coagulant, reactive dye

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