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Removal of Reactive Red 24 Dye by Clean Electrocoagulation Process Using Iron And Aluminum Electrodes

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ABSTRACT

In this research, the efficiency of electrocoagulation treatment process using iron and aluminum electrodes to treat synthetic wastewater containing Reactive Red 24 (RR 24) was studied. The effects of parameters such as current density, pH, type of electrolyte, initial dye concentration, electrolyte concentration, temperature, and inter electrode distance on dye removal efficiency were investigated. The results showed that dye and chemical oxygen demand removals were 99.6% and 91.5% by using iron and were 97.9% and 83.8%, by using aluminum electrodes. Dye removal kinetic followed first order kinetics. It can be concluded that electrocoagulation process by aluminum electrode is very efficient and clean process for reactive dye removal from colored wastewater.

Keywords: Electrocoagulation, Iron, Aluminum, Electrode, Textile wastewater.