

عنوان مقاله:

Removal of Reactive Blue ۱۹ Dye Using Fenton From Aqueous Solution

محل انتشار:

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خلاصه مقاله:

The discharge of wastewater containing reactive dyes into water sources leads to health hazards. Colors can adversely affect the natural environment due largely to some qualities like carcinogenicity, being mutagenic, toxicity, and coloration of water. Environmental degradation can be attributed to the destruction of living organisms and the increased biological oxygen demand (BOD). The aim of this study was to evaluate the removal of Reactive Blue ۱۹ dye using the Fenton process from aqueous solution. This research was an experimental study, in which the effectiveness of Fenton in color removal was investigated. The factors influencing this process were: pH, color concentration, the ratio of Fenton reagent (H_2O_2/Fe^{2+}), and contact time. Finally, after determining the optimum concentration of color, pH, the ratio of Fenton reagent, and contact time, the residual adsorption rates in the samples were measured using direct photometry by spectrophotometer in a wavelength of ۵۹۴ nm. The results showed that the highest removal efficiency was obtained under the conditions of pH = ۳, the color concentration of ۲ mg/L, the ratio of Fenton reagent = ۱:۵, and the contact time equal to ۱۰ minutes. The Fenton process is able to remove the Reactive Blue ۱۹ under different concentrations. This process achieved the best removal efficiency in acidic pH.

کلمات کلیدی:

Reactive Blue ۱۹, Color, Oxidation process, Fenton

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