Photocatalytic Degradation of Sumifix Supra Blue BRF

Abstract

Oxidative degradation of textile azo dye, Sumifix Supra Blue BRF (SSBBRF) in aqueous solution of suspended TiO2 with the presence of UV irradiation and H2O2 has been studied. The addition of H2O2 in the photocatalytic system can enhance the degradation degree of SSBBRF solution. However, H2O2 concentration that more that 5 x 10-4 mol/L would detriment the degradation process. Study on the kinetics of oxidative degradation of SSBBRF solution in the TiO2/UV or TiO2/H2O2/UV systems showed that the system were following the pseudo-first order reaction with the rate constant, k of the optimal system as 0.0434 min-1.