

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 than 5×10^{-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.