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Résumé :

The degradation of two polluted textile wastewaters from SOITEX (silk and textile) industry using the plasma-catalytic process, has been studied by non-thermal Gliding arc technique coupled to Degussa P25 titanium dioxide (TiO₂) as photo-catalyst. Experiments were carried out to optimise the amount of photo-catalyst. The results showed that maximum degradation was attained for 3 g L⁻¹ TiO₂ concentration. For wastewater (1) degradation was 95% at the end of 60 min of treatment time. The same wastewater was completely decolourised after only 30 min of plasma-catalytic treatment time. In parallel, the biodegradability was significantly enhanced through 20 min of exposure to the plasmagenous source for both wastewater samples. Turbidity of wastewater (1) and wastewater (2) decreased with rate constants of 0.015 and 0.017 min⁻¹, respectively. The TiO₂-mediated Gliding Arc discharge () showed ...