

Removal of heavy metal ions from industrial waste water by nano-ZnO in presence of electrogenerated Fenton's reagent

R. Anusa^{1*}, C. Ravichandran¹, E.K.T Sivakumar²

¹Department of Chemistry, Easwari Engineering College, Chennai, India

²Centre for Nano Science and Technology, Anna University, Chennai, India

Abstract:In recent years, there has been increasing interest in finding innovative solutions for the efficient removal of contaminants from water, soil and air. The polluted wastewater using the Fenton's reagent with nano metal oxide has been systematically studied using experimental design technique. Experiments were conducted to examine the effects of pH, amounts of ferrous sulfate (FeSO_4), hydrogen peroxide (H_2O_2), temperature and the concentration of nano metal oxide on the removal of heavy metal ions. A second order kinetic model was adopted to represent the Fenton oxidation of wastewater. The relation between the reaction rate coefficient and Fenton was experimentally established.

Keywords: Fenton oxidation, hydrogen peroxide, kinetics and wastewater treatment.

R. Anusa *et al*/International Journal of ChemTech Research, 2017,10(7): 501-508.
