Removal of hazardous Ponceau S dye from industrial wastewater using nano-sized ZnO

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**ABSTRACT**

The present work deals with the removal of Ponceau S dye from industrial wastewater using nano-sized semi-conductor ZnO as photocatalyst. The ZnO nanoparticles were synthesized by sol–gel method from precursor zinc acetate dihydrate. Effect of different parameters like catalyst concentration, dye concentration, pH, contact time, UV radiations and catalyst on the rate of photocatalytic degradation has been studied. Fourier transform infrared spectroscopy and X-ray diffraction were used for characterization of powdered material. The size of ZnO nanoparticles calculated is 20.6 nm.

**Keywords:** Nano-sized ZnO; FTIR; XRD; Photocatalytic degradation

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