

Abstract

ZnO is the semiconductor with the band energy of 3.2eV. It is one of the novel semiconductor that has the tendency to transfer an e- even at room temperature. Industrialization is the main contributor of environmental pollution. Smoke and effluent from industries is adding significant amount of organic & inorganic pollutants. Although many industries have introduced treatment plants for the remediation of effluent so that toxic pollutants especially dyes & heavy metals could separate from it. Industrial effluent is rich with hazardous contaminants. Many treatments are using for the remediation of contaminated water like filtration Flocculation Membranes with multiple technologies are using for the waste water treatment.

But all these treatments are much complicated and demands complex operating procedures with controlled conditions of temperature & pressure. Nanotechnology is gaining popularity, thousands of research papers present its need & importance. Biggest advantage of nanotechnology is the size of nanosubstances that ranges b/t 1-100nm. That study focused on the synthesis of PVA-ZnO nanofilms and then study their catalytic activity in the degradation studies. Nanoparticles prepared by co-precipitation & films synthesized by Solution Casting method. Nanocomposites analyzed through UV/Visible spectroscopy, FTIR, PL, Raman & XRD. Results from these techniques confirmed the synthesis of nanocomposite films. Application in dye degradation studied by comparing the absorbance peaks of both dyes and then also compared the results of composites with nanoparticles.

Keywords: Nanosubstances, contaminated, Co-precipitation, hazardous, Industrialization