

AimSizer/LNO.0006

Preparation, Characterization of ZnFe₂O₄ Nano-particles and Synergic Effect to Decompose Phenol

Abstract: The roller vibration mill was used to manufacture zinc of 40nm in diameter in dry mode and at room temperature and used co-precipitated method to prepare Fe₃O₄ of 10nm in diameter. Consequently, the hydrolyzing system of Zn nano-particles and Fe₃O₄ nano-particles was used to prepare ZnFe₂O₄ were obviously appearance in XRD pattern. Both of the samples were all around 15nm in diameter according to TEM, and ED pattern. HRTEM were also used to detected the two samples. The photodegradation experiment of phenol showed significantly variations that decreased in the order: ZnFe₂O₄-ZnO-Fe₂O₃>ZnO-Fe₂O₃>ZnFe₂O₄>ZnO>Fe₂O₃ when the distance between the solutions and the UV-light (30W) was 6cm..

Key words: nanometer particles; dehydralyzing reaction; photodegradation; laser particle size analyzer; particle size analyzer; aimsizer; as-2011 micron laser particle size analyzer; as-2012 submicron laser particle size analyzer

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