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Review on Synthesis Methods on the Photocatalytic Performance of Zinc Oxide and Iron Oxide Nanoparticles

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Abstract: *Nanotechnology has gained significant attention in environmental remediation due to the exceptional photocatalytic properties of metal oxide nanoparticles. Among these, zinc oxide and iron oxide (Fe_2O_3/Fe_3O_4) nanoparticles have demonstrated remarkable potential in the degradation of organic pollutants under light irradiation. The photocatalytic efficiency of these nanoparticles is highly dependent on their synthesis method, which influences particle size, surface area, crystallinity, and morphology. This review summarizes recent developments in various synthesis techniques for ZnO and Fe oxide nanoparticles and their impact on photocatalytic activity.*

Keywords: Zinc oxide nanoparticles, Iron oxide nanoparticles, Photocatalysis