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Non-TiO₂ Based Photocatalysts for Remediation of Hazardous Organic Pollutants under Green Technology-Present Status: A Review

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ABSTRACT

Significant amounts of synthetic organic dyes are being used in leather, textile, paper, pharmaceutical, cosmetic and food industries. The remnant dyes disposed in to aquatic sources cause serious ecological concerns because of their less biodegradability and mutagenic/carcinogenic nature. Advanced oxidation process involving heterogeneous photocatalysis offers a cost effective green technology for remediation of several organic pollutants in industrial effluents. TiO₂ has been extensively studied for this purpose because of its ease of synthesis, chemical and biochemical inertness, and good quantum efficiency under UV irradiation. The present review is the first attempt to discuss non TiO₂ based photocatalysts projected for this purpose.

Keywords: AOP, Photocatalysis, TiO₂, Ternary metal oxides, Green Technology.