

Photocatalytic Activity of TiO₂ Thin Film on glass beads

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Heterogenous photocatalysis in the presence of semiconductors is a promising technology in new wastewater treatment and water purification. This technique over the wastewater treatment include complete mineralization and high degradation efficiency in treating nearly any organic compounds at low concentrations. TiO₂ is a semiconductor that is frequently used in organic degradation experiments; it is non toxic, insoluble in water and durabililty. Many organic compounds are decompose in aqueous solution in the presence of TiO₂ illuminated with UV light. However, TiO₂ powdered form are cumbersome to recover and reuse. To overcome these problems, TiO₂ nanoparticles are immobilized on variety of substrates. In this study, we prepared TiO₂ coated glass bead and all samples were applied to photocatalytic decomposition of phenol. TiO₂ coated glass beads were characterized using XRD, SEM, and UV-Vis spectroscopy.