

材料工程专栏

## Heterogeneous Photooxidation of Phenol by Catalytic Membranes

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**摘要** In this work the heterogenization in polymeric membranes of decatungstate, a photocatalyst for oxidation reactions, was reported. Solid state characterization techniques confirmed that the catalyst structure was preserved within the polymeric membranes. The catalytic membranes were successfully applied in the aerobic photo-oxidation of phenol, one of the main organic pollutants in wastewater, providing stable and recyclable photocatalytic systems. The dependence of the phenol degradation rate by the catalyst loading and transmembrane pressure was shown. By comparison with homogeneous reaction, the catalyst heterogenised in membrane appears to be more efficient concerning the rate of phenol photodegradation and mineralization.

**关键词** [photo-oxidation, decatungstate, catalytic membrane, phenol, wastewater](#)

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