



Degradation of diethyl phthalate (DEP) in aqueous solution using TiO₂/UV process

Lobna Mansouri*, Latifa Bouselmi

Laboratoire de Traitement des Eaux Usées, Centre de Recherches et Technologies des Eaux, CERTÉ-Technopole Borj Cédria, BP 273, Soliman, 8020, Tunisie

Tel. +216 23 143 248, +216 79 325 122; Fax: +216 79 325 802; email: lobna.mansouri@certe.rnrt.tn

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ABSTRACT

Diethyl phthalate (DEP) has been classified as an endocrine disruptor pollutant. The degradation of DEP C₁₂H₁₄O₄ in aqueous solution by TiO₂-UV process was optimized using high pressure mercury lamp. Effects of TiO₂ dosage and type, and pH values on the degradation of DEP by TiO₂/UV process were investigated. The optimal TiO₂ dosage and pH value for the DEP degradation were 1 g l⁻¹ and 7.0, respectively using TiO₂ P25. The degradation rate of DEP by TiO₂/UV process under optimal conditions reach 78.6% and could be fitted first-order kinetics.

Keywords: Diethyl phthalate DEP; Photocatalytic degradation; TiO₂; Hydroxyl radical; Endocrine disruptor

*Corresponding author.