

**TREATMENT OF WATER CONTAMINATED WITH DI-N-BUTYL PHTHALATE BY
PHOTO-FENTON PROCESS**

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ABSTRACT

This study was conducted to assess the removal efficiency of Di-n-butyl phthalate (DnBP) from aqueous medium using the photo-Fenton process. The Fenton's reagent that consists of a mixture of hydrogen peroxide (H_2O_2) and ferrous ions (Fe^{2+}) was used to generate the hydroxyl radical (OH^\bullet) that attacks the target contaminant and degrade it. An ultraviolet (UV) source was used to provide the radiation needed in the photo-Fenton method (i.e. UV/ H_2O_2 / Fe^{2+}). The results demonstrated that photo-Fenton process was more effective and faster than Fenton's reagent in removing DnBP and that photolysis by UV irradiation was the dominant mechanism in degrading the compound. The results also showed that enhancing the removal via UV irradiation was achieved by increasing either the temperature or the H_2O_2 concentration.