



ADVANCED Cd^{2+} REMOVAL ON DISPERSED TiO_2 -FLY ASH

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Abstract

The paper proposes a suitable solution for a one step treatment process of the wastewaters resulted from the textile industry, using a mixture of anatase and modified fly ash. The dyes photo-degradation on TiO_2 anatase is well known. The use of fly ash in advanced wastewater treatment, for heavy metal adsorption, represents an environmental friendly process, efficient if the fly ash surface charge is controlled by solubilisation/precipitation. The first step in implementing the single step process is the study of the anatase effect on the heavy metal adsorption. We report here on the cadmium adsorption on mixtures of TiO_2 and two different types of FA with alkali modified surface. The process efficiency and kinetic are correlated with the substrates characteristics. A synergic effect is reported, based on the natural pH induced by the fly ash substrate.

Key words: fly ash, cadmium advanced removal, wastewater treatment, adsorption

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