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عنوان مقاله:

INVESTIGATION OF REACTIVE NAVY BLUE SP-BR DYE REMOVAL BY IMMOBLIZED ZnO NANOPARTICALS IN THE PRESENCE OF ELECTRICAL FEILD

محل انتشار:

همایش منطقه ای شیمی (سال: 1389)

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خلاصه مقاله:

In the present work, the effect of electrical field on the removal of Reactive Navy Blue SP-BR dye by the immobilized ZnO nano particles was investigated. It is known that recombination between photo generated electrons and holes is the main factor in decreasing the efficiency of photocatalitic activity. An electrical field can promote the separation of photo generated electron-holes [1,2]. Herein, ZnO nano particles were immobilized on stainless steel electrode by electrophoresis method. Then the ability of prepared electrode was investigated on the removal of Navy Blue SP-BR from aqueous solution using electro assisted photocatalitic recator. Finally the effects of electrical field (4V) and UV irradiation in photocatalitic degradation of dye were investigated. According to the obtained result, in the presence of UV irradiation, electrical field and combination of them, decolorization efficiency of dye with the initial concentration of 15ppm was 39%, 54%, and 81%, respectively. With decreasing the dye concentration, decolorization efficiency was increased.

کلمات کلیدی:

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