

عنوان مقاله:

Synthesis of ZnS nanocrystal and investigation of its photocatalytic activity in photodecolorization of dye solution containing C.I. acid blue 9

محل انتشار:

اولین کنفرانس بین المللی تصفیه فاضلاب و بازیافت آب، فناوری ها و یافته های نو (سال: 1388)

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خلاصه مقاله:

Zinc sulfide (ZnS) nanocrystals in the wurtzite structure with the mean diameter size 6 nm were prepared by precipitation method in the presence of Ethylene Diamine Tetraacetic Acid (EDTA) as a chelating agent, and examined as a photocatalyst for the UV-induced decolorization of dye solution containing C.I. Acid Blue 9 (AB9) as a deputy of organic pollutant in aqueous solution. The effects of various parameters, such as illumination time, the amount of photocatalyst, initial pH values and initial concentration of dye solution on the photocatalytic decolorization of Acid Blue 9 were investigated to find desired conditions. Photocatalytic activity of the prepared ZnS nanocrystals was compared with TiO₂. The results indicated that UV/ZnS process offers better removal efficiency than UV/TiO₂ process.

کلمات کلیدی:

Advanced Oxidation Processes (Aops), Nanoparticle, Photocatalysis, Photodegradation, Wastewater, Zinc Sulfide

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