

عنوان مقاله:

Photo-Catalytic degradation of Methylene blue by ZnO/SnO₂ nanocomposite

محل انتشار:

مجله بین المللی فناوری نانو در آب و محیط زیست, دوره 1, شماره 1 (سال: 1395)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

In this study, considering the importance of protecting the environment and preventing the pollution caused by industrial plants, a nanocomposite each component thereof is capable of removing the desired combination to solve this problem has been produced. To achieve this goal, ZnO/SnO₂ nanocomposite was synthesized using the co-precipitation method. The characterization of this nanocomposite was conducted by DLS, XRD, FTIR and SEM. The nanocomposite size was about 15nm. Several parameters such as the initial concentration of the wastewater, as well as the amount of catalyst and time were investigated. The reduction of the particle size due to an increase in the surface area of the nanocomposite increased the amount of decolorization. For all the performed experiments, the dye removal rate was 100% and the difference was to do with the time of the complete removal of methylene blue. A decrease in the concentration of methylene blue in the range of the tested concentrations reduced the decolorization, and by increasing the amount of nanocomposite in the range of the tested values, a decline in decolorization was observed.

کلمات کلیدی:

Co-precipitation; Decolorization; Nanocomposite; Wastewater; ZnO/SnO₂

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