عنوان مقاله:

Enhancement of the photocatalytic activity of TiO2 by doping onto Clinoptilolite towards degradation of Tetracycline

محل انتشار:

هشتمین همایش ملی و نمایشگاه تخصصی مهندسی محیط زیست (سال: 1395)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

The surface interaction between TiO2 (P25) and natural zeolite, Clinoptilolite, has been investigated by means of X-ray diffractometer (XRD), scanning electron microscopy (SEM) and surface area (BET) measurement. Photocatalytic degradation rate of tetracycline (TC), a model of recalcitrant pollution, in aqueous system has been measured to compare the photocatalytic activities of unmodified TiO2 and composite TiO2/CP under UV irradiation. The degradation extent was determined via UV–Vis absorption spectroscopy. A higher TC removal efficiency was attained with UV-TiO2-CP when compared with UV-TiO2. In addition, immobilization of TiO2 onto zeolite permitted easier separation of the adsorbent from the treated water. It was concluded that a TiO2/Clinoptilolite composite is a highly efficient and good photocatalyst/adsorbent hybrid material that can be utilized in the remediation of environmental .pollution

کلمات کلیدی:

Photocatalyst, Tetracycline, Water purification, Clinoptilolite