

عنوان مقاله:

Synthesis of ZnO/Charcoal hybrid composite with enhanced photocatalytic removal of aqueous ammonia under UV light irradiation

محل انتشار:

دومین کنفرانس بین المللی پژوهش در علوم و مهندسی (سال: 1395)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

Ammonia is an essential feed stock for a wide range of downstream nitrogen based products such as urea. When ammonia is released into air and water, it causes some environmental problems. The present study involves the photocatalytic removal of aqueous ammonia by ZnO/Charcoal photocatalyst. The hybrid photocatalyst was synthesized by impregnation method and the morphology and microstructure properties of the prepared photocatalyst have been characterized by XRD, FESEM and EDX analyses. Charcoal Pieces were used as support due to their low weight, floatability and high porosity surface. The results of analyses showed the suitable dispersion of ZnO over the support surface. Also, the FESEM analysis confirmed the good features of the charcoal as either support or adsorbent. pH, catalyst dosage and initial ammonia concentration were the main parameters affecting the ammonia removal. The photocatalytic activity of this photocatalyst was investigated under UV irradiation.

کلمات کلیدی:

ZnO, Charcoal, Photocatalyst, Ammonia removal, UV irradiation

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