

عنوان مقاله:

Effect of Silica on the Ultrasonic/Persulfate Process for Degradation of Acid Black 1 in Aqueous Solutions

محل انتشار:

مهندسی بهداشت محیط, دوره 3, شماره 2 (سال: 1395)

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خلاصه مقاله:

Azo dyes are the greatest classes of synthetic dyes, which are widely used in the textile industries. This study aimed at examining Acid Black 1 (AB1) removal from aqueous solution thermal activated persulfate using silica (SiO_2). The effects of operational parameters such as initial pH, initial concentration of AB1, SiO_2 dosage, and persulfate concentration were investigated and the chemical oxygen demand content was considered as a response. The results indicated that the removal efficiency had a direct relationship with concentration of SiO_2 and persulfate up to their optimum values, and was inversely correlated with the alkaline pH and elevated concentrations of AB1. Moreover, the removal efficiency was increased significantly by increasing the silica concentration from 25 mg/L to 100 mg/L. Ultimately, AB1 was completely removed after 45 minutes.

کلمات کلیدی:

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