

عنوان مقاله:

Bioregeneration of GAC particles loaded with volatile aromatic compound in anaerobic bioreactor

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:

In this approach, toluene remediation from contaminated water in two steps containing solute adsorption onto granular activated charcoal (GAC) and solids waste regeneration in anaerobic bioreactor was investigated. Data showed that solute adsorption by GAC in closed system is highly successful in removing of toluene compound till standard water levels. This approach investigated that GAC particle as hazardous wastes, after loading with toluene hydrocarbon, can be regenerated by *Thauera aromatica* K172 in closed anaerobic bioreactor with nitrate respiration. Data highlighted the fact that 90% of contaminant onto GAC (100 mg toluene/ g GAC) can be biodegraded in batch unit, after 2 days. Also, the overall stoichiometry of toluene utilization onto GAC by biomass to nitrate reduction was 1: 6.2

کلمات کلیدی:

Monoaromatic Hydrocarbon, Toluene, Bioregeneration, Anaerobic Bioreactor, Biphasic System

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