عنوان مقاله:

A Comparative Study on Performance of Two Aerobic Sequencing Batch Reactors with Flocculated and Granulated Sludge Treating an Industrial Estate Wastewater: Process Analysis and Modeling

محل انتشار:

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خلاصه مقاله:

In this study, the performance of two aerobic sequencing batch reactors (SBR) in removing carbon and nutrient (N & P) from Faraman's industrial estate wastewater (FIW) with flocculated and granulatedsludge was compared. The comparison study was performed by varying two significant independentvariables (aeration time and mixed liquor volatile suspended solids (MLVSS)). The experiments were conducted based on a central composite design (CCD) and analyzed using response surface methodology (RSM). The region of exploration for the process was taken as the area enclosed byaeration time (6-24 h) and MLVSS (2000-7000 mg/L) boundaries. The results showed that the granulated sludge system was more efficient than the flocculated sludge system in removing the nonbiodegradable COD (nbCOD), total nitrogen (TN), total phosphorus (TP) and other sludge studied characteristics. The performance of both systems was almost the same for COD removal in FIW with a maximum removal of about 70 %.

کلمات کلیدی:

Simultaneous Carbon and Nutrients Removal,Granulated and Flocculated Sludge,Sequencing Batch Reactor,Faraman's Industrial Wastewater