

عنوان مقاله:

Kinetics of organic removal in a Biological treatment of refinery wastewater by activated sludge

محل انتشار:

هشتمین همایش بیوتکنولوژی جمهوری اسلامی ایران و چهارمین همایش ملی امنیت زیستی (سال: 1392)

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خلاصه مقاله:

The process kinetics of a lab-scale aerobic biofilm reactor using simulated refinery manufacturing wastewater as feed was investigated. The experimental unit consisted of a 12 l biological reactor that filled with 40% high porosity LECA and 10 l UV reactor. The biological reactor was tested under different organic loads and different hydraulic retention times (HRT) also for UV reactor and the substrate loading removal efficiencies was compared with prediction of Stover-Kincannon model, second-order model and the first order substrate removal model. After obtaining steady-state conditions and acclimation of microorganisms, Nine different operational conditions were applied changing these two parameters in a certain program. As a result of the calculations, first order and Stover-Kincannon models were found to be the most appropriate models for these systems. Stover-Kincannon model gave high correlation coefficients, which was 99.11%, respectively. Therefore, this model could be used in predicting the behavior or design of these systems

کلمات کلیدی:

Biological treatment, refinery wastewater, Kinetics, Stover-Kincannon model

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