

عنوان مقاله:

Comparison of Regression Model and Modified Monod Kinetic Model to Predict the Removal of Ethanol in Trickling Biofilter

محل انتشار:

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خلاصه مقاله:

Ethanol is a toxic compound and a member of volatile organic compounds (VOCs). Ethanol is emitted to the atmosphere by several industries worldwide. Biotrickling filter technology is a well-known technology for removal of VOCs from air. The aim of this study is to compare two regression and modified monod models to predict the removal of ethanol using abiotrickling filter reactor (BTFR). The data of the previous study on ethanol vapor removal by biotrickling filter were used for determination of r_{max} and K_m . Also by these data, a simple regression model was developed. Eventually, ethanol removal efficiency was predicted by both regression and kinetic models. All results were compared with actual data. Our results show that regression model could only predict the average of ethanol removal efficiency. However, kinetic model could additionally predict all changes in ethanol removal efficiency: it has had some good alignment with actual data.

کلمات کلیدی:

Ethanol, Kinetic coefficient, Modeling, Biotrickling filter, Biodegradation

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