

ABSTRACT

BIOFILTRATION KINETICS OF TOFU INDUSTRY WASTEWATER USING OF ZEOLITE MEDIUM

By

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This research was aimed to investigate the kinetics of tofu industry wastewater using zeolite medium. A static filter reactor using zeolite medium was constructed to carry out this research. Tofu wastewater was resirculated through the medium with various hydraulic retention times (HRT): 0, 3, 6, 12, 24, 36, 48 hours. First order reaction was then applied on this kinetics. The results showed that pH increased from 4.1 to 8.02. Total P in the wastewater decreased from 12,1 mg/L to 6,91 mg/L (42% reduction), while in the media total P increased from 3,04 mg/L to 5,97 mg/L within 48 hours of filtration. N-NH₄⁺ decreased 64.184 mg/L to 12.85 mg/L (79.9% reduction). Total Solids decreased from 10.404 mg/L to 4003 m (61.5% reduction).

Keywords : wastewater, biofilter, zeolite