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水体污染控制与治理 专刊

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沸石和麦饭石组合滤料对城市降雨径流氮磷去除效率的研究

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Efficiencies of different zeolite and medical stone combinations removing the nitrogen and phosphorus in urban rainfall runoff

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摘要 以7 d为1个周期, 分别研究了沸石与麦饭石以3种不同体积比例(5 : 5, 7 : 3, 3 : 7)组成的填充柱在2个周期的时间里对人工配制的模拟城市降雨径流中氮、磷的去除效率. 结果表明, 3 : 7配比的填充柱前后两个阶段对总氮的去除效率分别为78.61%和85.28%, 而对磷的去除效率分别可以达到96.73%和94.59%; 5 : 5配比的填充柱前后两个阶段脱氮除磷效率分别为83.18%, 80.24%, 97.02%和86.16%; 7 : 3配比的脱氮除磷效率分别为92.39%, 80.01%, 51.79%和 57.28%. 在兼顾整个填充柱脱氮除磷效率、再生能力以及再生速度等因素的情况下, 3 : 7 配比为最优选择.

关键词: 沸石 麦饭石 氮磷 去除效率 沸石 麦饭石 氮磷 去除效率

Abstract: One kind of packed columns, which were filled up with three different volume ratios of zeolite and medical stone (5 : 5, 7 : 3, 3 : 7; V : V), were used to investigate the efficiency of zeolite and medical stone to removal the nitrogen and phosphorus in synthetic urban rainfall runoff during a 7 days period. The experiments were taken twice, and the results showed that 3 : 7 ratio of packed column could removal 78.61% and 85.28% nitrogen in the first and second phase experiment respectively, and the phosphorus removal rates reached 96.73% and 94.59%; the removal efficiency of nitrogen and phosphorus of 5 : 5 ratio packed column were 83.18% and 97.02% in the first phase, and 80.24% and 86.16% in the second phase; while in 7 : 3 ratio packed column, about 92.39% and 80.01% nitrogen and 51.79% and 57.28% phosphorus was removed respectively. It was concluded that in considering the whole removal efficiency and regeneration capability of zeolite and medical stone, the combination of 3 : 7 ratio was the best choice.

Key words: medical stone nitrogen and phosphorus removal efficiency zeolite medical stone nitrogen and phosphorus removal efficiency

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- [1] 康敏明;张奇平;杜 璟;沈沉沉;达良俊. 浙江天童受损常绿阔叶林实验生态学(Ⅵ): 不同干扰下植被恢复初期主要优势种叶性状及其生态适应[J]. 华东师范大学学报(自然科学版), 2010, 2010(3): 26-38.
- [2] 章君果;达良俊;张彩仙;年耀萍;夏体渊. 氮磷水平对于油麦菜产量及其硝酸盐积累的影响[J]. 华东师范大学学报(自然科学版), 2010, 2010(2): 43-49.

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