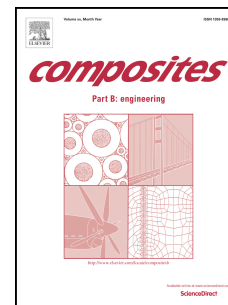


Accepted Manuscript

Composite beads for forming in situ microcosm of biodegrading microbial communities in groundwater

Jianfeng Liu, Hui Liu, Huaijun Xue, Shan Liu, Liang Feng, Lei Tong



PII: S1359-8368(16)30865-4

DOI: [10.1016/j.compositesb.2016.09.106](https://doi.org/10.1016/j.compositesb.2016.09.106)

Reference: JCOMB 4623

To appear in: *Composites Part B*

Received Date: 31 May 2016

Accepted Date: 29 September 2016

Please cite this article as: Liu J, Liu H, Xue H, Liu S, Feng L, Tong L, Composite beads for forming in situ microcosm of biodegrading microbial communities in groundwater, *Composites Part B* (2016), doi: 10.1016/j.compositesb.2016.09.106.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Composite Beads for Forming in situ Microcosm of Biodegrading Microbial Communities in Groundwater

Jianfeng Liu^{a,b}, Hui Liu^{a,*}, Huaijun Xue^a, Shan Liu^a, Liang Feng^a, Lei

^a State Key Laboratory of Biogeology and Environmental Geology and School of Environmental studies, China University of Geosciences, Wuhan 430074, PR China

^b Hubei Light Industry Technology Institute, Wuhan 430070, PR China

Abstract

For exploring a new tool, which could monitor in situ biodegradability of the organic pollutants in groundwater, AC-N composite beads for forming in situ microcosm of biodegrading microbial communities were prepared using activated carbon and nylon66. The characterization results showed that the AC-N beads had open and through porous structure which formed by the hydrogen bond interaction between activated carbon and nylon66. The bead could adsorb enough organic pollutants such as 40 mg/g naphthalene with desorption ratio less than 4.5%. The bacteria *Bacillus subtilis* could enter into and colonize in the AC-N beads.

Key words: A. Activated carbon, A. Nylon66, D. In situ microcosm, D. Groundwater

1. Introduction

* Corresponding author: Tel: +86 15927501778; fax: +86 27 87436235.
Email address: hliu2009@cug.edu.cn (H. Liu)

Download English Version:

<https://daneshyari.com/en/article/5021707>

Download Persian Version:

<https://daneshyari.com/article/5021707>

[Daneshyari.com](https://daneshyari.com)