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Authors: Dong-Zhi Chen, Xiang-Yu Zhao, Xiao-Ping Miao, Jing Chen, Jie-Xu Ye, Zhuo-Wei Cheng, Shi-Han Zhang, Jian-Meng Chen



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A solid composite microbial inoculant for the simultaneous removal of volatile organic sulfide compounds: preparation, characterization, and its bioaugmentation of a biotrickling filter

Dong-Zhi Chen ^{a,*}, Xiang-Yu Zhao ^a, Xiao-Ping Miao ^a, Jing Chen ^b,

Jie-Xu Ye ^a, Zhuo-Wei Cheng ^a, Shi-Han Zhang ^a, Jian-Meng Chen ^a

^a *College of Environment, Zhejiang University of Technology, Hangzhou 310032, China*

^b *College of Food and Pharmacy, Zhejiang Ocean University, Zhoushan 316004, China*

HIGHLIGHTS

- A solid composite microbial inoculant (SCMI) for removing dimethyl sulfide and propanethiol was prepared.
- Different cultivation strategies were adopted to obtain high activity and biomass.
- SCMI had a better storage stability compared with the microbial suspension.
- SCMI effectively shortened the start-up period and enhanced the performance of biotrickling filters (BTF).
- The special strains originated from SCMI were dominant in BTF after long-term operation.

* Corresponding author. Tel: 86-571-88320881; Fax: 86-571-88320881.

E-mail: cdz@zjut.edu.cn (DZ Chen)

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