

Accepted Manuscript

Comparison of sulphide and nitrate removal from synthetic wastewater by pure and mixed cultures of nitrate-reducing, sulphide-oxidizing bacteria

Wannapawn Watsuntorn, Chalermchai Ruangchainikom, Eldon R. Rene, Piet N. L. Lens, Warawut Chulalaksananukul

PII: S0960-8524(18)31378-6
DOI: <https://doi.org/10.1016/j.biortech.2018.09.125>
Reference: BITE 20541

To appear in: *Bioresource Technology*

Received Date: 10 August 2018
Revised Date: 23 September 2018
Accepted Date: 25 September 2018

Please cite this article as: Watsuntorn, W., Ruangchainikom, C., Rene, E.R., N. L. Lens, P., Chulalaksananukul, W., Comparison of sulphide and nitrate removal from synthetic wastewater by pure and mixed cultures of nitrate-reducing, sulphide-oxidizing bacteria, *Bioresource Technology* (2018), doi: <https://doi.org/10.1016/j.biortech.2018.09.125>

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.



Comparison of sulphide and nitrate removal from synthetic wastewater by pure and mixed cultures of nitrate-reducing, sulphide-oxidizing bacteria

Wannapawn Watsuntorn^a, Chalermchai Ruangchainikom^b, Eldon R. Rene^c, Piet N. L. Lens^c and Warawut Chulalaksananukul^{d,e*}

^a Program in Biotechnology, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand

^b PTT Research & Technology Institute, Ayutthaya, Thailand

^c UNESCO-IHE Institute for Water Education, P. O. Box 3015, 2601 DA Delft, The Netherlands

^d Biofuels by Biocatalysts Research Unit, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand

^e Department of Botany, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand

***Corresponding author:**

Assoc. Prof. Warawut Chulalaksananukul,
Department of Botany, Faculty of Science,
Chulalongkorn University,
Bangkok 10330, Thailand.

E-mail: warawut.c@chula.ac.th

Abstract

In this study, the activities of hydrogen sulphide (H₂S) oxidation and nitrate (N-NO₃⁻) reduction by three pure and mixed strains of nitrate-reducing, sulphide oxidizing bacteria (NR-SOB) were determined. Batch experiments were performed at 35 °C and pH 7.0-8.0 with initial H₂S concentrations of 650-900 ppm_v, and N-NO₃⁻ concentrations

Download English Version:

<https://daneshyari.com/en/article/11012229>

Download Persian Version:

<https://daneshyari.com/article/11012229>

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