

Accepted Manuscript

Title: Antibacterial effect and toxicity pathways of industrial and sunscreen ZnO nanoparticles on *Escherichia coli*

Authors: Soyoung Baek, Sung Hee Joo, Naresh Kumar, Michal Toborek



PII: S2213-3437(17)30259-2
DOI: <http://dx.doi.org/doi:10.1016/j.jece.2017.06.009>
Reference: JECE 1671

To appear in:

Received date: 7-4-2017
Revised date: 18-5-2017
Accepted date: 6-6-2017

Please cite this article as: Soyoung Baek, Sung Hee Joo, Naresh Kumar, Michal Toborek, Antibacterial effect and toxicity pathways of industrial and sunscreen ZnO nanoparticles on *Escherichia coli*, Journal of Environmental Chemical Engineering <http://dx.doi.org/10.1016/j.jece.2017.06.009>

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.

Antibacterial effect and toxicity pathways of industrial and sunscreen ZnO nanoparticles on *Escherichia coli*

Submitted to

Journal of Environmental Chemical Engineering

Submitted: April 2017

Revised: May 2017

Soyoung Baek¹, Sung Hee Joo^{1*}, Naresh Kumar², Michal Toborek³

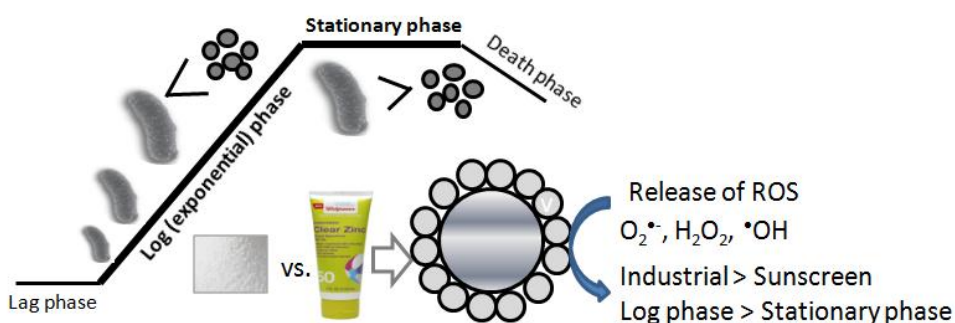
¹Department of Civil, Architectural, and Environmental Engineering
University of Miami, 1251 Memorial Dr. McArthur Engineering Building
Coral Gables, FL 33146-0630, USA

²Department of Public Health Sciences, University of Miami,
1120 NW 14 St, Miami, FL 33136, USA

³Department of Biochemistry and Molecular Biology, School of Medicine,
University of Miami, 1011 NW 15th Street, Miami, FL, 33136, USA

*Corresponding author: telephone +1-305-284-3489; fax +1-305-284-3492; e-mail: s.joo1@miami.edu

Graphical Abstract



Download English Version:

<https://daneshyari.com/en/article/4908449>

Download Persian Version:

<https://daneshyari.com/article/4908449>

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