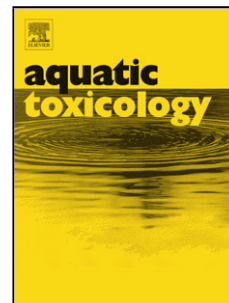


Accepted Manuscript

Title: Antioxidant responses and oxidative stress in sheepshead minnow larvae exposed to Corexit 9500® or its component surfactant, DOSS

Authors: Subham Dasgupta, Sarah Choyke, P. Lee Ferguson, Anne E. McElroy



PII: S0166-445X(17)30297-7
DOI: <https://doi.org/10.1016/j.aquatox.2017.10.010>
Reference: AQTOX 4772

To appear in: *Aquatic Toxicology*

Received date: 8-9-2017
Accepted date: 16-10-2017

Please cite this article as: Dasgupta, Subham, Choyke, Sarah, Ferguson, P.Lee, McElroy, Anne E., Antioxidant responses and oxidative stress in sheepshead minnow larvae exposed to Corexit 9500® or its component surfactant, DOSS. *Aquatic Toxicology* <https://doi.org/10.1016/j.aquatox.2017.10.010>

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.

Antioxidant responses and oxidative stress in sheepshead minnow larvae exposed to Corexit 9500® or its component surfactant, DOSS

Subham Dasgupta^{1, #}, Sarah Choyke², P. Lee Ferguson², and Anne E. McElroy^{1,*}

¹School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, New York 11794.

²Nicholas School of the Environment, Duke University, Durham, North Carolina 27708

*Corresponding author

#Current Address: Department of Environmental Sciences, University of California Riverside, Riverside, California 92521

Email: anne.mcelroy@stonybrook.edu

Highlights for submission

- **Exposure to DOSS at environmentally realistic concentrations elicited oxidative stress.**
- **DOSS alone was more potent than Corexit on a DOSS equivalent basis.**
- **Alteration in antioxidant enzymes, lipid peroxidation and reduced GSH were all observed.**

ABSTRACT

Large-scale use of dispersants to remediate oil spills has raised concerns about their toxicity to marine organisms. Of particular concern is oxidative stress and resulting membrane damage due to exposure to surfactants in dispersant mixtures. We investigated the potential of the dispersant Corexit 9500® and one of its major components, the anionic surfactant dioctyl sodium sulfosuccinate (DOSS), to induce oxidative stress in larval sheepshead minnows. Exposure was assessed after 24 and 96 hrs, at two sublethal concentrations, the lesser being environmentally realistic for each compound. Corexit exposures elicited only minimal antioxidant responses for most antioxidant components tested, with increased glutathione

Download English Version:

<https://daneshyari.com/en/article/8883877>

Download Persian Version:

<https://daneshyari.com/article/8883877>

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