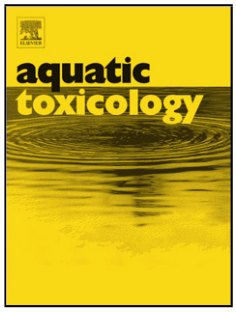

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Antioxidant responses and oxidative stress in sheepshead minnow larvae exposed to Corexit 9500® or its component surfactant, DOSS

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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