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The University of Oklahoma

DEPARTMENT OF BOTANY AND MICROBIOLOGY

Effect of Oxine Against a *Mucor* sp.

A strain of *Mucor* sp. from a field specimen was provided by BCI, Inc. The *Mucor* strain was cultured on malt extract agar at 30°C.

A suspension of *Mucor* was prepared in synthetic hard water (100 ppm).

Oxine for this assay was activated with material provided by BCI, Inc., which included phosphoric acid and a surfactant. 10 parts of Oxine was activated with 1 part of activator for 10 minutes, then added to the assay at 1 part Oxine to 200 parts *Mucor* suspension to yield a test condition containing 12-14 ppm free chlorine dioxide.

Samples were withdrawn at 30 and 60 seconds, and neutralized in a solution of sodium thiosulfate and Tween 80 (500 ppm each). Viable cell counts were determined in malt extract broth using the five-point most probable number method. The following results were obtained.

Untreated control	**2.4×10^4** cells per ml
30 seconds exposure	**1.1×10^1** cells per ml
60 seconds exposure	**1.7×10^0** cells per ml

Viable cell counts were reduced by more than 99.9% after 30 seconds of treatment and by more than 99.99% after 60 seconds of treatment with Oxine under these conditions. These are significant reductions, especially since the viable counts are primarily from fungal spores rather than vegetative cells.

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