



**An AIHA accredited laboratory
EMLAP# 100194**

FINAL REPORT

Testing Disinfectants against *Stachybotrys chartarum*

PROTOCOL:

AOAC Official method 955.17
Modified to test against *Stachybotrys chartarum*

ORDER NO.

030702365

PREPARED FOR:

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Fiberlock technologies

SUBMITTED BY:

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Certificate of Analysis

Client: Fiberlock

Contact: Scott DeLeo

Project: Shockwave *Stachybotrys* Testing

Product : Shockwave Disinfectant

EMSL NO: 030702365

Sample received: 1/24/2007

Start date: 2/20/2007

Completion Date: 5/29/2007

Experimental Summary:

A spore suspension of *Stachybotrys chartarum* was prepared by removing mycelial mats from the surface of 5 agar plate cultures. The mats were then macerated, shook and vortexed thoroughly. The suspension was filtered through a sterile absorbent filter pad to remove hyphal elements. The estimated density of the conidial suspension was 6.5×10^5 conidia/mL. The suspension was stored at 2°C - 5°C refrigerator.

The direction for use of the Shockwave disinfectant was 2 oz per gallon. We converted this ratio to 1:63 dilution. The following dilutions were prepared for the disinfectant: 1:15, 1:30, 1:63, 1:120 and 1:240. This was done to help measure the highest dilution that kills the fungal spores. To determine the phenol coefficient, we prepared 1:90 and 1:100 dilution of phenol.

We placed 5mL aliquots of each dilutions of fungicide and phenol solution. We also included a control tube that contained Malt Extract Broth (MEB). We arranged the tubes in ascending dilution order and placed them in 20°C water

bath to reach the optimal temperature. The 0.5mL of spore suspension was placed in the first dilution (1:15) of the disinfectant, shaken and immediately placed in the water bath. 30 seconds later another 0.5mL of spore suspension was added to the second dilution tube (1:30). This process was repeated in 30 second intervals for each disinfectant dilution, phenol and MEB control tubes.

After 5, 10, 15 minutes exposure to the fungicide, we removed the spore suspension mixture with a 4mm loop and placed it in 10mL MEB tubes. The test was performed in duplicates and incubated at 25°C for 10 days.

Experimental Results:

The results are measured by growth in the tubes. The data are as follows:

		Dilution tubes							
		SH 1:15	SH 1:30	SH 1:63	SH 1:120	SH 1:240	Phenol 1:90	Phenol 1:100	MEB control
Exposure Time	5 minutes	0	0	0	+	+	+	+	+
	10 minutes	0	0	0	0	+	+	+	+
	15 minutes	0	0	0	0	+	+	+	+

Legend:

0 = No growth

+ = Growth

SH = Shock Wave disinfectant

MEB = Malt Extract Broth

Conclusions/Observations:

Results are expressed either by a phenol coefficient number or the highest dilution that kills the test organisms in 10 minutes. The Phenol coefficient cannot be calculated since there is growth in both dilutions in all three time points. The data shows that the Shockwave disinfectant kills *Stachybotrys chartarum* spore suspensions up to 1:120 dilution in 10 minutes.

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