

## ES24 & ES25 MICROBIAL EFFICACY

### 1) DISINFECTION DATA:

Test Method - AOAC Use Dilution  
 Test Conditions - 5% blood serum  
 10 minute contact time  
 stainless steel carrier substrates  
 20°C exposure temperature

#### RESULTS:

Test Organism	Dilution	Sample	No. of Carriers		PHENOL RESISTANCE			
			Exposes	Positive	Dilution	Exposure Time (min.) vs Growth		
						5	10	15
Staphylococcus aureus (ATCC 6538)	4.5	A	60	0	1:60	+	0	0
	oz/gal	B	60	0	1:70	+	+	+
		C	60	0				
Salmonella choleraesuis (ATCC 10708)	4.5	A	60	0	1:90	+	0	0
	oz/gal	B	60	0	1:100	+	+	+
		C	60	0				
Escherichia coli (ATCC 11229)	4.5	A	10	0	1:90	+	0	0
	oz/gal	B	10	0	1:100	+	+	+
Pseudomonas aeruginosa (ATCC 15442)	6	A	60	0	1:80	+	0	0
	oz/gal	B	60	0	1:90	+	+	+
		C	60	0				

"+" = growth "0" = no growth

#### CONCLUSION:

Under the conditions of these investigations, this product demonstrated disinfectant activity against *Staphylococcus aureus*, *Salmonella choleraesuis*, *Escherichia coli*, and *Pseudomonas aeruginosa* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide.

### 2) VIRUCIDAL DATA:

Test Methods - U.S. EPA Pesticide Assessment Guidelines, Subdivision G: Product Performance, 1982, Section 91-30 (d) (5), pp 72-76.  
 Test Conditions - 10 minute contact time, room temperature, glass, petri dish substrates

#### RESULTS:

Test Organism	Dilution	Sample	Serum ID (%)	Titer Reduction
Canine Parvovirus ATCC VR-2017 (Strain Cornell)	18 oz/gal	A	Fetal bovine calf	$\geq 4.0 \log_{10}$
		B	5%	$\geq 4.0 \log_{10}$

#### CONCLUSION:

Under the conditions of this investigation, this product was virucidal for canine parvovirus according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

### 3) MILDEW FUNGISTATIC DATA:

Test Method - Hard Surface Mildew Fungistatic Test  
 Test Organism - *Aspergillus niger* (ATCC 6275)  
 Test Conditions - tile substrates

#### RESULTS:

Sample	Dilution	No. of Exposed Tiles	No. of Tiles Showing Growth
A	4.5 oz/gal	10	0
B	4.5 oz/gal	10	0
Control	-	10	10

#### CONCLUSION:

Under the conditions of this investigation, this product was fungistatic for *Aspergillus niger* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungistat.

**4) FUNGICIDAL DATA:**

Test Method - AOAC Fungicidal Test  
Test Organism - Trichophyton Mentagrophytes (ATCC 9533)  
Test Conditions - 5% blood serum  
20°C exposure Temperature

**RESULTS:**

Sample	Dilution	Exposure Time (min.) vs Growth			Phenol Resistance			
		5	10	15	Dilution	Exposure Time (min.) vs Growth		
						5	10	15
A	4.5 oz/gal	+	0	0	1:60	+	0	0
					1:70	+	+	+
B	4.5 oz/gal	+	0	0	1:60	+	0	0
					1:70	+	+	+

"+" = growth "0" = no growth

**CONCLUSION:**

Under the conditions of this investigation, this product was fungicidal for Trichophyton mentagrophytes according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungicide.