



World Class Cleaning Solutions®

Pine-Quat Disinfectant / Detergent

Efficacy

Hospital Disinfection

This product is bactericidal according to the AOAC Use Dilution Test method on hard inanimate surfaces modified in the presence of 5% organic serum at 5 ounces of this product per gallon of water (Treated surfaces must remain wet for 10 minutes)

(Testing is performed per the AOAC UDT/GST method (DIS/TSS-1). Sixty carriers are required on 3 separate lots, one of which must be > 60 days old against *Pseudomonas aeruginosa*, *Salmonella enterica* and *Staphylococcus aureus*. Killing of 59 out of 60 carriers is required (total carriers = 540).)

Organism	Carrier Population	Sample	# Carriers	# Positive
<i>Pseudomonas aeruginosa</i> ATCC #15442	1.58 X 10 ⁵ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60
<i>Salmonella enterica</i> ATCC #10708	1.55 X 10 ⁶ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60
<i>Staphylococcus aureus</i> ATCC #6538	3.6 X 10 ⁵ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60

Supplemental Organisms

(Testing is performed per the AOAC UDT/GST method. Ten carriers are required on 2 separate lots against each supplemental organism. Killing of 10 out of 10 carriers is required (total carriers = 20).)

Organism	Carrier Population	Sample	# Carriers	# Positive
<i>Enterobacter aerogenes</i> ATCC 13048	1.31 X 10 ⁶ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Enterococcus faecalis</i> ATCC 29212	7.7 X 10 ⁵ CFU/Carrier	A	10	0/10
	6.6 X 10 ⁵ CFU/Carrier	B	10	0/10
<i>Escherichia coli</i> ATCC 11229	7.6 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Salmonella typhi</i> ATCC 6539	1.33 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Serratia marcescens</i> ATCC 14756	1.64 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Shigella dysenteriae</i> ATCC 11835	3.4 X 10 ⁶ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Streptococcus pyogenes</i> ATCC 12344	2.5 X 10 ⁴ CFU/Carrier	A	10	0/10
		B	10	0/10



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General Disinfection

This product is bactericidal according to the AOAC Use Dilution Test method on hard inanimate surfaces modified in the presence of 5% organic serum at 2.5 ounces of this product per gallon of water (Treated surfaces must remain wet for 10 minutes)

(Testing is performed per the AOAC UDT/GST method (DIS/TSS-1). Sixty carriers are required on 3 separate lots, one of which must be > 60 days old against, *Salmonella enterica* and *Staphylococcus aureus*. Killing of 59 out of 60 carriers is required (total carriers = 540).)

Organism	Carrier Population	Sample	# Carriers	# Positive
Salmonella enterica ATCC #10708	1.55 X 10 ⁶ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60
Staphylococcus aureus ATCC #6538	3.6 X 10 ⁵ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60

Supplemental Organisms

(Testing is performed per the AOAC UDT/GST method. Ten carriers are required on 2 separate lots against each supplemental organism. Killing of 10 out of 10 carriers is required (total carriers = 20).)

Organism	Carrier Population	Sample	# Carriers	# Positive
<i>Enterobacter aerogenes</i> ATCC 13048	1.31 X 10 ⁶ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Enterococcus faecalis</i> ATCC 29212	7.7 X 10 ⁵ CFU/Carrier	A	10	0/10
	6.6 X 10 ⁵ CFU/Carrier	B	10	0/10
<i>Escherichia coli</i> ATCC 11229	7.6 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Salmonella typhi</i> ATCC 6539	1.33 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Serratia marcescens</i> ATCC 14756	1.64 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Shigella dysenteriae</i> ATCC 11835	3.4 X 10 ⁶ CFU/Carrier	A	10	0/10
		B	10	0/10
<i>Streptococcus pyogenes</i> ATCC 12344	2.5 X 10 ⁴ CFU/Carrier	A	10	0/10
		B	10	0/10



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Hard Water General Disinfection

This product is bactericidal according to the AOAC Use Dilution Test method on hard inanimate surfaces modified in the presence of 5% organic serum and 400 ppm hard water at 5 ounces of this product per gallon of water (Treated surfaces must remain wet for 10 minutes)

(Testing is performed per the AOAC UDT/GST method (DIS/TSS-1). Sixty carriers are required on 3 separate lots, one of which must be > 60 days old against, *Salmonella enterica* and *Staphylococcus aureus*. Killing of 59 out of 60 carriers is required (total carriers = 540).)

Organism	Carrier Population	Sample	# Carriers	# Positive
Salmonella enterica ATCC #10708	4.7 X 10 ⁶ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60
Staphylococcus aureus ATCC #6538	2.06 X 10 ⁵ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60
<i>Escherichia coli</i> ATCC 11229	6.3 X 10 ⁵ CFU/Carrier	A	10	0/10
		B	10	0/10

Virucidal against

This product was evaluated at 2.5 ounces per gallon use level, in the presence of 5% serum with a 10 minute contact time and found to be effective against the following viruses on hard nonporous environmental surfaces.

(Testing is performed per EPA Guidance (DIS/TSS-7). Two separate lots are tested. Inactivation of virus must be demonstrated at all dilutions when no cytotoxicity is observed or at all dilutions above the cytotoxic level when it is observed. The data must demonstrate a 3-log reduction in viral titer for both lots (3 lots for Canada).

Organism	Dried Virus Control;	Sample	Result	Log Reduction
Avian Influenza A H3N2 virus (ATCC VR-2072)	4.5 Log ₁₀	A	≤0.5 Log ₁₀	≥4.5 Log ₁₀
		B	≤0.5 Log ₁₀	≥4.5 Log ₁₀
HIV-1 (AIDS Virus) in 400 ppm Hard Water	4.5 Log ₁₀	A	≤1.5 Log ₁₀	≥3.0 Log ₁₀
		B	≤1.5 Log ₁₀	≥3.0 Log ₁₀



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Non-Food Contact Surface Sanitizer

At 1 ounce per gallon use-level (or equivalent use dilution) and with a 1-minute contact time, this product is an effective one-step sanitizer against the following on hard non-porous environmental surfaces: At this dilution food contact surfaces must be rinsed.

Testing is performed per EPA Guidance (DIS/TSS-10). Three lots are required, one of which must be > 60 days old. Testing is performed against *Staphylococcus aureus* and *Klebsiella pneumoniae* containing 5% organic load. *Enterobacter aerogenes* may be substituted for *Klebsiella pneumoniae*. The results must show a reduction of at least 99.9% in the number of each test microorganism over the parallel control count within 5 minutes.

Organism	Carrier Population	Sample	1 minute survivors	Percent Kill
<i>Klebsiella pneumoniae</i> ATCC #4352	5.0 X 10 ⁸ CFU/Carrier	A (60 Days Old)	<1.79 Log ₁₀	>99.9
		B	<2.10 Log ₁₀	>99.9
	9.3 X 10 ⁸ CFU/Carrier	C	<1.40 Log ₁₀	>99.9
<i>Staphylococcus aureus</i> ATCC #6538	3.8 X 10 ⁸ CFU/Carrier	A (60 Days Old)	<3.38 Log ₁₀	>99.9
		B	<1.74 Log ₁₀	>99.9
		C	<1.67 Log ₁₀	>99.9

Fungicidal against

This product was evaluated at 2.5 ounce per gallon in the presence of 5% serum with a 10 minute contact time and found to be effective against the following fungi on hard nonporous environmental surfaces.

(Testing is performed per the AOAC fungicidal method (DIS/TSS-6). Two separate lots are tested against *Trichophyton mentagrophytes* in a suspension test. Killing of all fungal spores in 10 minutes is required.)

Organism	Carrier Population	Sample	# Carriers	# Positive
<i>Trichophyton mentagrophytes</i> ATCC #9533	4.3 X 10 ⁵ CFU/Carrier	A	10	0/10
	1.5 X 10 ⁶ CFU/Carrier	B	10	0/10

Mold and Mildew Control (at 2.5 ounces per gallon)

Use this product to control the growth of mold and mildew and their odors on hard, non-porous surfaces. Thoroughly wet all treated surfaces completely. Let air dry. Repeat application weekly or when growth or odor reappears.

Organism	Tile Number	Untreated after 7 days	Sample A after 7 days	Sample B after 7 days
<i>Aspergillus niger</i> ATCC #6275	1	Growth 50%	No Growth 0%	No Growth 0%
	2	Growth 60%	No Growth 0%	No Growth 0%
	3	Growth 70%	No Growth 0%	No Growth 0%
	4	Growth 55%	No Growth 0%	No Growth 0%
	5	Growth 60%	No Growth 0%	No Growth 0%
	6	Growth 60%	No Growth 0%	No Growth 0%
	7	Growth 50%	No Growth 0%	No Growth 0%
	8	Growth 50%	No Growth 0%	No Growth 0%
	9	Growth 75%	No Growth 0%	No Growth 0%
	10	Growth 70%	No Growth 0%	No Growth 0%