

Efficacy Bulletin

Super HDQ Neutral

EPA Reg. No. 10324-141-5741

Disinfection

This product is bactericidal according to the EPA Test Guideline 810.2200: AOAC Use Dilution Test method on hard inanimate surfaces modified in the presence of 5% organic serum. All tests are completed under Good Laboratory Practice (GLP) conditions.

Organism	Sample	Carriers Tested	Carriers Showing Growth	Contact Time	Dilution
<i>Pseudomonas aeruginosa</i>	A	60	0	10 minutes	1/2 oz./gal
	B	60	0		
	C	60	1		
<i>Staphylococcus aureus</i> (ATCC 6538)	A	60	0	10 minutes	1/2 oz./gal
	B	60	0		
	C	60	0		
<i>Salmonella enterica</i> (ATCC 10708)	A	60	1	10 minutes	1/2 oz./gal
	B	60	1		
	C	60	0		
<i>Acinetobacter baumannii</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Acinetobacter iwoffii</i> (ATCC 15309)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Acinetobacter iwoffii</i> (ATCC 9957)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Bordetella bronchiseptica</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Citrobacter freundii</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Enterobacter aerogenes</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Enterobacter agglomerans</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Enterobacter cloacae</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Enterococcus faecalis</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Enterococcus faecalis</i> Vancomycin Resistant (VRE)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Enterococcus hirae</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Escherichia coli</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Escherichia coli</i> Spectrum B-Lacatmase (ESBL)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Escherichia coli</i> O111:H8	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		

Disinfection (continued)

Organism	Sample	Carriers Tested	Carriers Showing Growth	Contact Time	Dilution
<i>Escherichia coli</i> Tetracycline Resistant	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Fusobacterium necrophorum</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Klebsiella oxytoca</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Klebsiella pneumoniae</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Listeria monocytogenes</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Micrococcus luteus</i> (ATCC 14452)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Micrococcus luteus</i> (ATCC 4698)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Pasturella multocida</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Proteus vulgaris</i> (ATCC 13315)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Proteus vulgaris</i> (ATCC 9920)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Pseudomonas aeruginosa</i> Tetracycline Resistant	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Pseudomonas cepacia</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Salmonella enterica</i> (ATCC 23564)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Salmonella enterica</i> (ATCC 4931)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Salmonella enterica</i> serotype pullorum	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Salmonella typhi</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Salmonella typhimurium</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Serratia marcescens</i> (ATCC 14756)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Serratia marcescens</i> (ATCC 9103)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		

Disinfection (continued)

Organism	Sample	Carriers Tested	Carriers Showing Growth	Contact Time	Dilution
<i>Shigella flexneri</i> (ATCC 12022)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Shigella flexneri</i> (ATCC 9380)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Shigella sonnei</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> (ATCC 14154)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> (ATCC 25923)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> sub species aureus	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> Methicillin Resistant (MRSA)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> Community Associated Methicillin Resistant (CA-MRSA)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> Community Associated Methicillin Resistant (CA-MRSA) (NRS384)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus aureus</i> Vancomycin Intermediate Resistant (VISA)	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus epidermidis</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus epidermidis</i> Antibiotic Resistant	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Staphylococcus haemolyticus</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Streptococcus agalatae</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Streptococcus mutans</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Streptococcus pneumonia</i> Penicillin Resistant	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Streptococcus pyogenes</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Vibrio cholera</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Yersinia enterocolitica</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		

Virucidal

This product is virucidal according to the EPA Test Guideline 810.2200: Virucidal Hard Surface Efficacy Test, in the presence of 5% organic serum. All tests are completed under Good Laboratory Practice (GLP) conditions.

Organism	Sample	Log Reduction	Contact Time	Dilution
Avian Infectious Bronchitis virus Beaudette IB42	A	$\geq 5.92 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.92 \text{ Log}_{10}$		
	C	$\geq 6.0 \text{ Log}_{10}$		
Avian Influenza A (H3N2) virus (Avian Reassortant)	A	$\geq 4.25 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.25 \text{ Log}_{10}$		
	C	$\geq 4.25 \text{ Log}_{10}$		
Avian Influenza A (H5N1)	A	$\geq 6.25 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 6.25 \text{ Log}_{10}$		
Canine Coronavirus	A	$\geq 4.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.0 \text{ Log}_{10}$		
	C	$\geq 4.25 \text{ Log}_{10}$		
Canine Distemper virus	A	$\geq 5.75 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.75 \text{ Log}_{10}$		
	C	$\geq 6.25 \text{ Log}_{10}$		
<i>Chlamydia psittaci</i>	A	$\geq 6.75 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 6.75 \text{ Log}_{10}$		
	C	$\geq 4.25 \text{ Log}_{10}$		
Cytomegalovirus	A	$\geq 4.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.0 \text{ Log}_{10}$		
	C	$\geq 4.0 \text{ Log}_{10}$		
Feline Picornavirus	A	$\geq 4.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.0 \text{ Log}_{10}$		
	C	$\geq 5.25 \text{ Log}_{10}$		
Hantavirus (PHV)	A	$\geq 4.73 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.73 \text{ Log}_{10}$		
Hepatitis B Virus	A	4.79 Log_{10}	10 minutes	1/2 oz./gal
	B	4.79 Log_{10}		
	Confrimatory B	4.79 Log_{10}		
Hepatitis C Virus	A	5.97 Log_{10}	10 minutes	1/2 oz./gal
	B	5.79 Log_{10}		
	Confrimatory B	5.93 Log_{10}		
Herpes Simplex Virus Type 1	A	$\geq 5.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.0 \text{ Log}_{10}$		
	C	$\geq 5.5 \text{ Log}_{10}$		
Herpes Simplex Virus Type 2	A	$\geq 5.5 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.5 \text{ Log}_{10}$		
	C	$\geq 5.25 \text{ Log}_{10}$		

Virucidal (continued)

Organism	Sample	Log Reduction	Contact Time	Dilution
Human Coronavirus	A	$\geq 4.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.0 \text{ Log}_{10}$		
	C	$\geq 4.0 \text{ Log}_{10}$		
Human Immunodeficiency Virus Type 1 (HIV-1)	A	$\geq 4.25 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.25 \text{ Log}_{10}$		
	C	$\geq 4.25 \text{ Log}_{10}$		
Infectious Bovine Rhinotracheitis Virus	A	$\geq 4.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.0 \text{ Log}_{10}$		
	C	$\geq 4.25 \text{ Log}_{10}$		
Influenza A Virus	A	$\geq 6.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 6.0 \text{ Log}_{10}$		
	C	$\geq 5.5 \text{ Log}_{10}$		
Influenza A (H1N1) Virus	A	$\geq 5.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.0 \text{ Log}_{10}$		
Pseudorabies Virus	A	$\geq 5.75 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.75 \text{ Log}_{10}$		
	C	$\geq 5.0 \text{ Log}_{10}$		
Respiratory Syncytial Virus	A	$\geq 4.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.0 \text{ Log}_{10}$		
	C	$\geq 4.5 \text{ Log}_{10}$		
SARS Associated Coronavirus		$\geq 3.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
		$\geq 3.0 \text{ Log}_{10}$		
Swine Influenza A (H1N1) Virus	A	$\geq 5.0 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 5.0 \text{ Log}_{10}$		
Transmissible Gastroenteritis Virus	A	$\geq 4.25 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 4.25 \text{ Log}_{10}$		
	C	$\geq 5.75 \text{ Log}_{10}$		
Vaccinia Virus	A	$\geq 6.25 \text{ Log}_{10}$	10 minutes	1/2 oz./gal
	B	$\geq 6.25 \text{ Log}_{10}$		
	C	$\geq 6.0 \text{ Log}_{10}$		

Fungicidal

This product is fungicidal according to the EPA Test Guideline 810.2200: AOAC Use-Dilution method modified for fungicidal activity on hard inanimate surfaces modified in the presence of 5% organic serum. All tests are completed under Good Laboratory Practice (GLP) conditions.

Organism	Sample	Carriers Tested	Carriers Showing Growth	Contact Time	Dilution
<i>Candida albicans</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		
<i>Trichophyton mentagrophytes</i>	A	10	0	10 minutes	1/2 oz./gal
	B	10	0		

Mildewcidal

This product is mildewcidal according to the EPA Hard Surface Mildew Fungistatic Test. All tests are completed under Good Laboratory Practice (GLP) conditions.

Organism	Tile Number	Sample	Growth after 7 days	Dilution
<i>Aspergillus niger</i>	1	A	0	1/2 oz./gal
		B	0	
	2	A	0	1/2 oz./gal
		B	0	
	3	A	0	1/2 oz./gal
		B	0	
	4	A	0	1/2 oz./gal
		B	0	
	5	A	0	1/2 oz./gal
		B	0	
	6	A	0	1/2 oz./gal
		B	0	
	7	A	0	1/2 oz./gal
		B	0	
	8	A	0	1/2 oz./gal
		B	0	
	9	A	0	1/2 oz./gal
		B	0	
	10	A	0	1/2 oz./gal
		B	0	