

Efficacy Bulletin

Super HDQL 10

EPA Reg. No. 1839-167-5741

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 | 1 | 10 minutes | 1/2 oz./gal |
| | B | 60 | 1 | | |
| | C | 60 | 1 | | |
| <i>Salmonella enterica</i> (ATCC 10708) | A | 60 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 60 | 0 | | |
| | C | 60 | 1 | | |
| Ampicillin Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| Bactrim Resistant <i>Acinetobacter baumannii</i> | 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 | | |
| Cefazolin Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| Ceftazdime Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| Ceftriaxone Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| Ciprofloxacin Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Corynebacterium ammoniagenes</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 cloacae</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Enterobacter cloacae</i> (Clinical Isolate) | 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> (Clinical Isolate) | 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 | | |

Disinfection (continued)

| Organism | Sample | Carriers Tested | Carriers Showing Growth | Contact Time | Dilution |
|--|--------|-----------------|-------------------------|--------------|-------------|
| <i>Escherichia coli</i> (Clinical Isolate) | 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 | | |
| Gentamicin Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Klebsiella pneumonia</i> subsp. <i>pneumoniae</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Lactobacillus casei</i> subsp. <i>rhamnosus</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| Levofloxacin Resistant <i>Acinetobacter baumannii</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>Pasteurella multocida</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Proteus mirabilis</i> (ATCC 9921) | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Proteus mirabilis</i> (ATCC 25933) | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Proteus vulgaris</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Salmonella enterica</i> subsp. <i>Enterica</i> serotype <i>paratyphi B</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Salmonella enterica</i> subsp. <i>Enterica</i> serotype <i>pullorum</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Salmonella enterica</i> subsp. <i>Enterica</i> serotype <i>typhi</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Salmonella enterica</i> subsp. <i>Enterica</i> serotype <i>typhimurium</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Salmonella enterica</i> subsp. <i>Enterica</i> serotype <i>enteritidis</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Serratia marcescens</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Shigella dysenteriae</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Shigella flexneri</i> Type 2b | 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 sonnei</i> | 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) (NRS384) | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Staphylococcus aureus</i> Community Associated Methicillin Resistant (CA-MRSA) (NRS123) | 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 aureus</i> subsp. <i>aureus</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Staphylococcus aureus</i> (Clinical Isolate) | 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> (Clinical Isolate) | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Streptococcus pyogenes</i> Group A | 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 | | |
| Tobramycin Resistant <i>Acinetobacter baumannii</i> | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| Vancomycin Intermediate Resistant <i>Enterococcus faecalis</i> (VRE) | A | 10 | 0 | 10 minutes | 1/2 oz./gal |
| | B | 10 | 0 | | |
| <i>Xanthomonas maltophilia</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 Influenza A (H3N2) virus (Avian Reassortant) | A | $\geq 4.25 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 4.25 \text{ Log}_{10}$ | | |
| Avian Influenza A (H9N2) | A | $\geq 4.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 4.0 \text{ Log}_{10}$ | | |

Virucidal (continued)

| Organism | Sample | Log Reduction | Contact Time | Dilution |
|---|--------|------------------------------|--------------|-------------|
| Bovine Rhinotracheitis, Strain LA | A | $\geq 5.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 5.0 \text{ Log}_{10}$ | | |
| Bovine Viral Diarrhea Virus (BVDV) | A | 5.9 Log_{10} | 10 minutes | 1/2 oz./gal |
| | B | 5.9 Log_{10} | | |
| Canine Distemper Virus, Strain Lederle | A | $\geq 6.25 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 6.25 \text{ Log}_{10}$ | | |
| Feline Picornavirus, Strain FRV | A | $\geq 4.25 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 4.25 \text{ Log}_{10}$ | | |
| Hepatitis B Virus | A | 4.5 Log_{10} | 10 minutes | 1/2 oz./gal |
| | B | 4.7 Log_{10} | | |
| Hepatitis C Virus | A | 5.9 Log_{10} | 10 minutes | 1/2 oz./gal |
| | B | 5.9 Log_{10} | | |
| Herpes Simplex Type 1 | A | $\geq 5.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 5.0 \text{ Log}_{10}$ | | |
| Herpes Simplex Type 2 | A | $\geq 6.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 6.0 \text{ Log}_{10}$ | | |
| Human Coronavirus | A | $\geq 3.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 3.0 \text{ Log}_{10}$ | | |
| Human Immunodeficiency Virus Type 1 (HIV-1) | A | $\geq 3.5 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 3.5 \text{ Log}_{10}$ | | |
| Human Immunodeficiency Virus Type 2 (HIV-2) | A | $\geq 3.25 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 3.25 \text{ Log}_{10}$ | | |
| Influenza A2, Strain Hong Kong | A | $\geq 4.25 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 4.25 \text{ Log}_{10}$ | | |
| Paramyovirus Virus | A | $\geq 3.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 3.0 \text{ Log}_{10}$ | | |
| Porcine Respiratory & Reproductive Syndrome Virus | A | $\geq 5.0 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 5.0 \text{ Log}_{10}$ | | |
| Pseudorabies, Strain Aujeszky | A | $\geq 5.25 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 5.25 \text{ Log}_{10}$ | | |
| Rabies Virus | A | 3.0 Log_{10} | 10 minutes | 1/2 oz./gal |
| | B | 3.0 Log_{10} | | |
| Rotavirus | A | 4.5 Log_{10} | 10 minutes | 1/2 oz./gal |
| | B | 4.5 Log_{10} | | |
| SARS Associated Coronavirus | A | $\geq 3.03 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 3.03 \text{ Log}_{10}$ | | |
| Vaccinia, Strain WR | A | $\geq 5.5 \text{ Log}_{10}$ | 10 minutes | 1/2 oz./gal |
| | B | $\geq 5.5 \text{ Log}_{10}$ | | |

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 Showing Growth | Contact Time | Dilution |
|------------------------------------|--------|-------------------------|--------------|-------------|
| <i>Trichophyton mentagrophytes</i> | A | 0 | 10 minutes | 1/2 oz./gal |
| | B | 0 | | |
| <i>Candida albicans</i> | A | 0 | 10 minutes | 1/2 oz./gal |
| | B | 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 | Sample | Exposed Tiles | Tiles Showing Growth | Dilution |
|--------------------------|---------|---------------|----------------------|-------------|
| <i>Aspergillus niger</i> | A | 10 | 0 | 1/2 oz./gal |
| | B | 10 | 0 | |
| | Control | 10 | 10 | |