TOMI™ ENVIRONMENTAL SOLUTIONS | STERAMIST™ POWERED BY BINARY IONIZATION TECHNOLOGY®

# EFFICACY AGAINST MICROBIAL PATHOGENS

| Organism | Classification | Log Reduction |
|---|---|---|
| Bacillus atrophaeus[1] | Bacterial Spore | >8.3 |
| Geobacillus stearothermophilus | Bacterial Spore | >6.3 |
| Bacillus subtilis | Bacterial Spore | >6.0 |
| Clostridium difficile spores[3] | Bacterial Spore | >6.0 |
| Escherichia coli | Gram Negative | >7.4 |
| Pseudomonas aeruginosa[3] | Gram Negative | >6.0 |
| Serratia marcescens | Gram Negative | >6.0 |
| Salmonella entercia[3] | Gram Negative | >5.5 |
| Staphylococcus aureus[3] | Gram Positive | >7.4 |
| Methicillin-resistant Staphylococcus aureus (MRSA)[3] | Gram Positive | >5.9 |
| Bacillus atrophaeus vegetative cells | Gram Positive | >9.0 |
| Aspergillus Niger | Mold | >8.0 |
| Aspergillus species | Mold | >7.0 |
| Cladosporium species | Mold | >7.0 |
| Penicillium Species | Mold | >7.0 |
| Stachybotrys chartarum | Mold | >7.0 |
| Trichophyton mentagrophytes | Mold | >6.0 |
| Human rhinovirus 16[2] | Virus | >6.8 |
| Influenza A (H1N1)[3] | Virus | >10 |
| Norovirus[3] | Virus | >6.4 |
| Adenovirus | Virus | >5.8 |

All Testing Done By Independent 3rd Party, GLP Standards

**Notes**

[1]Bacillus astrophaues is a surrogate for Bacillus anthracic (Anthrax)
[2]Human Influenza Virus (Flu) surrogate
[3]EPA Registered

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# EFFICACY AGAINST 42 MOLDS AND FUNGI COMMONLY FOUND IN INFECTED BUILDINGS

The purpose of the testing was to determine if BIT™ would be an applicable technology for the remediation of mold infested homes and buildings. The results of the tests are summarized in the following table.

In the following table spore loads for the referenced fungi were reduced from 107 spores/ cm2 to undetectable levels in 15 seconds.

| | | |
|---|---|---|
| Aspergillus expansum | Geotrichum candidum | Penicillium roquefortii |
| Aspergillus parasiticus | Memnoniella echinata | Penicillium verrucosum |
| Aspergillus restrictus | Mucor racemosus | Penicillium brevicompactum |
| Aspergillus sydowii | Mycothecium verrucaria | Rhizopus stolonifer |
| Aspergillus tamarii | Paecilomyces lilacinus | Scopulariopsis asperula |
| Aspergillus terrusi | Paecilomyces varioti | Scopulariopsis brevicaulis |
| Aspergillus ustus | Penicillium atramentosu | Scopulariopsis brumptii |
| Aspergillus versicolor | Penicillium cluysogenum | Scopulariopsis chartarum |
| Aspergillus wentii | Penicillium citrinum | Stachybotrys chartarum |
| Cladosporium cladoporiodes Type 1 | Penicillium corylophilum | Trichoderma hamatum |
| Cladosporium cladosporiodes | Penicillium crustosum | Trichoderma harzianum |
| Cladosporium herbarum | Penicillium glandicola | Trichoderma longibranchiatum |
| Cladosporium sphaerospermen | Penicillium griseofulvum | Ulocladium chartarum |
| Eurotium arnstelodami | Penicillium olsonii | Wallemia sebi |

For International Use

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# Innovative Solutions for Biodefense Contamination

## EFFICACY DATA

**B. anthracis, VX, and HD**

Summary of Test Results | One Application of SteraMist™ BIT™

**Anthrax (Bacillus anthracis)** – a spore-forming organism and biological agent effectively used as an inhalation weapon. Disease is not contagious and the incubation period is 1 to 7 days. If untreated, inhalational anthrax has a 90 to 95% fatality rate.

Summary of Test Results - Anthrax Simulants

| Simulant Organism | Simulant Type | Average Reduction of Agent ($log_{10}$) |
|---|---|---|
| B. atrophaeus | Bacterial Spore | >8.3 |
| B. stearothermophilus | Bacterial Spore | >6.3 |
| B. subtilis | Bacterial Spore | >6.0 |

**VX** – an odorless, oily liquid, amber in color and very slow to evaporate. VX is a nerve agent; exposure by inhalation, ingestion, or skin contact with liquid or vapor VX can cause death within minutes.

Summary of Test Results - VX

| Solution Concentration | Cycle Time | Average Reduction of Agent |
|---|---|---|
| 6% | 30 sec | 99.89% |
| 6% | 1 min | 99.999% |
| 6% | 2 min | 100.00% |
| 6% | 4 min | 100.00% |

**Sulfur Mustard (HD)** – a blister agent (vesicant) that causes severe, delayed burns to the eyes, skin, and respiratory tract. It can be a vapor or persistent on surfaces and has an odor of garlic, onion, horseradish, or mustard.

Summary of Test Results - HD

Note: Due to the oily nature of HD, multiple cleaning cycles may be required.

| Simulant Organism | Simulant Type | Average Reduction of Agent |
|---|---|---|
| 6% | 90 sec | 83.5% |
| 6% | 90 sec | 84.7% |
| 6% | 120 sec | 98.1% |