Breezy Med

Protocols for Breezy HaloSpray™

Breezy Blue™ Smart Disinfection

Breezy Med's Breezy Blue aerosolized hydrogen peroxide (aHP) system, in combination with Breezy HaloSpray disinfectant, provides rapid, safe, and effective hospital room disinfection. The aHP application of Breezy HaloSpray was tested within third-party GLP Labs and is registered as a disinfectant with the EPA for MRSA, Pseudomonas, Norovirus, COVID-19, various Flu viruses, HIV, ringworm and more.

In addition to the GLP lab testing, Breezy Med performs rigorous in-house testing using established scientific methods to develop protocols for disinfection of bacterial spores, which are some of the most challenging pathogens to treat. The testing results define protocols for aHP fogging and re-entry times for 4-log, 5-log, and 6-log reductions of *Bacillus atrophaeus* spores.

Efficacy Validation

Efficacy was validated using *Bacillus atrophaeus* as a surrogate for *Clostridioides difficile* spores, a common and difficult-to-treat pathogen. This organism is commonly used for testing hydrogen peroxide-based disinfectants like Breezy HaloSpray.

Testing used Liofilchem's STRIP CONTROL BAT E4, E5, E6, which are paper strips inoculated with a predefined concentration of *B. atrophaeus*. After a disinfection event, the strips were placed in a culture medium and incubated for seven days at 86-95°F. A successful disinfection was indicated by the medium remaining purple, while a failed test resulted in a color change to yellow, signifying growth of any remaining bacterial spores.

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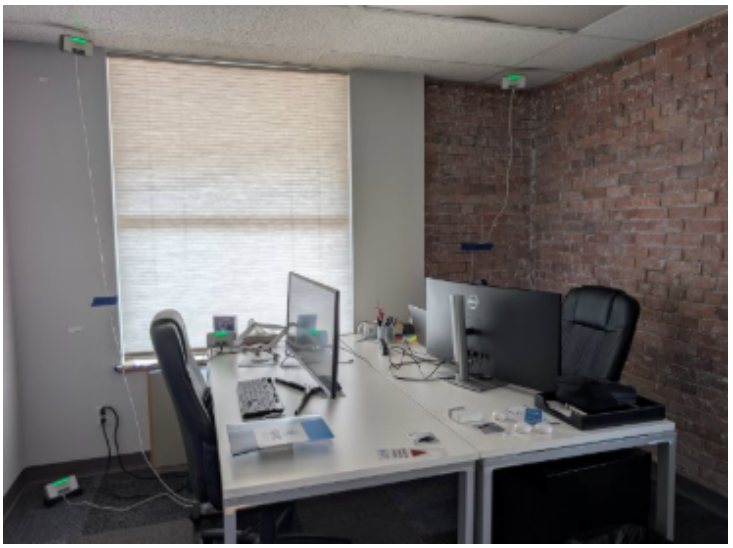
Test Environment & Methodology



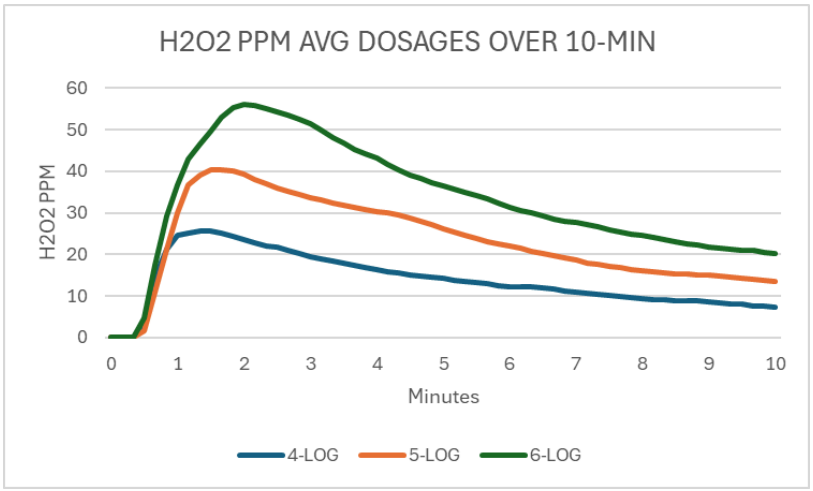
The testing was conducted in an 1,150 ft^3 office, simulating a small operating or exam room. The Breezy Blue unit was placed in a corner and directed toward the center of the room. To ensure thorough coverage, *B. atrophaeus* biological indicator strips and hydrogen peroxide/particulate sensors were placed at three different heights (floor, desk, ceiling) in each of the four corners—the most challenging areas for air circulation. This setup allowed for a comprehensive assessment of chemical distribution.

Dosage Protocols

Multiple fogging events were conducted to correlate specific hydrogen peroxide dosages with the desired log-kill efficacy. The required parts per million (PPM) of hydrogen peroxide for each log reduction was determined using sensor data from successful disinfection tests.

- **4-log: Peak H_2O_2: 25 PPM**
- **5-log: Peak H_2O_2: 40 PPM**
- **6-log: Peak H_2O_2: 55 PPM**

All protocols were based upon a minimum 10-minute contact time after aHP fogging.



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Safe Re-Entry

Safe re-entry times were determined by analyzing sensor data against OSHA standards for hydrogen peroxide (H_2O_2) and silver nitrate exposure.

- **Hydrogen peroxide: All aHP protocols stay well below the 75 PPM maximum exposure limit. The 8-hour time-weighted average (TWA) limit is <1 PPM.**

- **4-log: Immediate re-entry after 10-minute contact.**
- **5-log: Immediate re-entry after 10-minute contact.**
- **6-log: 3-minutes after 10-minute contact.**

- **Silver Nitrate: Third-party testing confirmed that airborne silver concentrations never exceeded the detection limit (2.5 µg/sample), remaining well below the OSHA 8-hour TWA of 10 µg/m³. Therefore, airborne silver exposure is not a re-entry concern.**