



## **NEW RESEARCH DEMONSTRATES SYNEXIS® DHP™ TECHNOLOGY ELIMINATES >99.99% SARS-COV-2 DELTA VARIANT IN AIR**

*In a room-sized environment treated with continuous Dry Hydrogen Peroxide (DHP™), airborne SARS-CoV-2 Delta variant was reduced by >99.99% in 90 minutes*

**LENEXA, KS** [December 9, 2021] – Public health concerns related to the SARS-CoV-2 virus continue with the Delta variant largely responsible for a rise in cases over the last several months. Synexis® LLC, a pioneer in microbial reduction and sole developer of patented technology that creates Dry Hydrogen Peroxide (DHP™) for occupied spaces, today announced results from new research showing that DHP™ significantly reduces the Delta variant viral load in the air in a sealed test room (total volume 1280 ft<sup>3</sup>) in 90 minutes. Specifically, aerosolized viral concentrations were reduced below detectable levels, greater than 99.99%, after 90 minutes of DHP™ operation.<sup>1</sup> This research reinforces previous Synexis studies demonstrating effectiveness in reducing SARS-CoV-2 and other microbes in various settings.

“The Delta variant of the SARS-CoV-2 virus has been a significant public health concern and a major driver of continued new COVID-19 cases seen over the last several months.” said Charles E. Edmiston, Jr., Ph.D., CIC, FIDSA, FSHEA, FAPIC, Emeritus Professor of Surgery, Medical College of Wisconsin. “These new findings suggest that Dry Hydrogen Peroxide (DHP™) in occupied spaces can significantly reduce the concentration of SARS-CoV-2 Delta and other variants in the air providing another strategy for minimizing the risk of aerosol transmission.”

Synexis patented technology deploys DHP™ to proactively clean the air and surfaces.<sup>2</sup> DHP™ molecules travel throughout an enclosed space to reduce viruses, bacteria, mold, odors and many insects.<sup>3</sup> Generated from ambient humidity and oxygen naturally present in the environment, DHP™ is effectively delivered in occupied spaces at levels well below occupational airborne safety standards established by OSHA, which allows for continuous microbial reduction without disturbing normal operations and workflow.<sup>4</sup> DHP™ is able to mitigate contaminants in the air and on surfaces, especially in hard-to-reach places.

To determine if DHP™ Technology was efficacious against SARS-CoV-2 Delta variant viral contamination, scientists at Innovative Bioanalysis BSL3 laboratory conducted tests in a 20' x 8' x 8' chamber (approximate total volume of 1280 ft<sup>3</sup>). Aerosolized virus particles were nebulized into the real room sized chamber where DHP™ was present. Air samples were pulled from the room, analyzed and compared to controls (in a similar room not exposed to DHP™) to determine whether DHP™ Technology inactivates the SARS-CoV-2 Delta variant. Reductions in aerosolized Delta variant were dramatic. Operating for 90 minutes, DHP™ reduced concentrations of SARS-CoV-2 Delta variant in the air from an initial concentration of  $7.02 \times 10^6$

TCID50/mL to below assay quantitation limits achieving a 99.997% reduction (vs the corresponding control).<sup>1</sup>

“Demonstrating DHP™ is effective on the Delta variant provides more proof of its value in healthcare organizations, businesses and schools as they search for options to help provide cleaner environments,” said Eric Schlote, CEO of Synexis®. “These results show DHP™ significantly cleans the air of the Delta variant virus in a controlled third-party real world size chamber. This industry-leading research builds on the growing body of evidence showing DHP™ is effective at reducing bacteria, mold and viruses, including the SARS-CoV-2 Delta variant that continues to cause COVID-19.”

## **ABOUT SYNEXIS**

Synexis develops cutting-edge BioDefense Systems designed to make air and surfaces cleaner. The Synexis BioDefense Systems are regulated by the US Environmental Protection Agency (EPA) and state governments as antimicrobial devices. Accordingly, Synexis devices are produced in an EPA-registered facility and packaged and labeled in accordance with EPA regulations appearing at 40 CFR 152.500. The Synexis Systems are Underwriters Laboratories (UL) Certified (UL2998) to produce no ozone and work continuously without disruptions in normal operations or workflow. Synexis currently holds 16 U.S. patents with 17 pending.<sup>2</sup> In addition, Synexis DHP™ Technology is supported by data from six peer-reviewed studies.<sup>3,5,6,7,8,9</sup>

Founded in 2008, Synexis LLC is a leader in microbial reduction and the sole developer of patented technology that creates and continuously disperses Dry Hydrogen Peroxide (DHP™) to help reduce the presence of microbes in indoor spaces around the clock, without the need for occupants to evacuate the space.

For more information, visit [Synexis.com](http://Synexis.com).

## **MEDIA CONTACT**

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<sup>1</sup> Efficacy of the Synexis Sphere against SARS-CoV-2 Delta. Innovative Bioanalysis Project #1150

<sup>2</sup> Synexis.com Patents <https://synexis.com/patents/>. Accessed December 6, 2021.

<sup>3</sup> Herman CK, et al. Dilute Hydrogen Peroxide Technology for Reduction of Microbial Colonization in the Hospital Setting. *AJIC*. 2015;43(6S):S25-S26. doi: 10.1016/j.ajic.2015.04.064.

<sup>4</sup> Centers for Disease Control and Prevention. (2019, October 30). *CDC - NIOSH Pocket Guide to Chemical Hazards - hydrogen peroxide*. Retrieved November 11, 2021 from <https://www.cdc.gov/niosh/npg/npgd0335.html>.

<sup>5</sup> Melgar M, et al. Effectiveness of dry hydrogen peroxide on reducing environmental microbial bioburden risk in a pediatric oncology intensive care unit. *American Journal of Infection Control (AJIC)* (2020). <https://doi.org/10.1016/j.ajic.2020.08.026>.

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- <sup>6</sup> Melo EF, et al. Effects of a dry hydrogen peroxide disinfection system used in an egg cooler on hatchability and chick quality. *Poultry Science*. Vol. 99, Nov. 2020. <https://doi.org/10.1016/j.psj.2020.05.050>.
- <sup>7</sup> Sanguinet J, Edmiston C. Evaluation of dry hydrogen peroxide in reducing microbial bioburden in a healthcare facility. *AJIC* (2021). <https://doi.org/10.1016/j.ajic.2021.03.004>.
- <sup>8</sup> Huang Y, et al. Treatment with Dry Hydrogen Peroxide Accelerates the Decay of Severe Acute Syndrome Coronavirus-2 on Non-porous Hard Surfaces. *AJIC* (2021). <https://doi.org/10.1016/j.ajic.2021.07.006>.
- <sup>9</sup> Sanguinet J, Lee C. An effective and automated approach for reducing infection risk from contaminated privacy curtains. *AJIC* (2021). <https://doi.org/10.1016/j.ajic.2021.06.004>.