



# OLIVIER BIODEFENSE®

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Olivier Biodefense® was founded by Mr. André Olivier in partnership with Synexis® Biodefense Systems upon learning about a relatively new all-green technology that mimics one's natural immune system. Mr. Olivier realized that his employees and fellow colleagues in the oil and gas industry could benefit from this technology as it would aid in mitigating outbreaks of flu and staph on lay barges and offshore facilities. This is an issue that they battled year after year as they inhabit tight living quarters.



SYNEXIS® OMNIA SENTRY  
(STANDALONE)

However, after performing numerous baseline assessments of offshore facilities, an interesting observation began to surface. Mold revealed itself as more of a constant threat to the welfare of occupants rather than bacteria or viruses. Unlike influenza, for example, which has a seasonality factor, mold is found in high concentrations throughout the year. Furthermore, the constant presence of mold weakens the immune system, making it more difficult to fight off bacteria and viruses.

Today, the technology speaks for itself as the results have been astounding. One client who owns and operates a deepwater offshore facility faced issues of mold infestation and high microbial count. After swab testing all habitable rooms to determine a baseline microbial load, the Synexis® Standalone Units were installed. In 60 days, there was a total microbial load reduction of 95% throughout the facility and an isolated reduction of 99.99% in the areas with high mold. The proven results of the Synexis® Biodefense System have lead the client to install units on their remaining 34 manned facilities. Feedback from the occupants on various facilities has been positive as well, and many have reported feeling a physical difference in their health after the units were installed.



SYNEXIS® OMNIA BLADE  
(INLINE HVAC)



# Background On Synexis®

Synexis® is the first company to both create and patent a completely safe, natural, and effective state of hydrogen peroxide gas to affect microbial reduction. Compared to other solutions on the market, Synexis® Dry Hydrogen Peroxide (DHP) is a green, maintenance-free, labor-free, non-intrusive, highly scalable solution that is safe for all occupants. The Synexis® System essentially provides an immune system for facilities via a biomimetically-engineered solution that replicates natural systems utilizing ambient humidity and oxygen in the environment to create a molecule that induces microbial attraction, resulting in a high level of environmental decontamination. In April 2018, in partnership with Black & Veatch, Synexis® won an Edison Award for 'Collective Disruption'.

The Edison Awards recognizes and honors some of the world's most innovative new products, services, and business leaders, propelling the drive for creativity and ingenuity. Dry Hydrogen Peroxide was created by Army Ranger Veteran James Lee to combat the spore form of anthrax post the September 11th terrorist attacks.

What started as a government facing solution quickly became viable for commercial use. Today, Synexis® technology is deployed across several industries, including healthcare, food processing, professional sports, restaurants, oil and gas, and animal health operations.

## What is Dry Hydrogen Peroxide?

The Synexis® System uses ambient humidity and oxygen naturally present in the environment to instantaneously create gas phase hydrogen peroxide at completely safe levels for occupied spaces. At 5-25 parts per billion, DHP is extremely effective at low concentrations because it does not rely on dilution by water like aqueous hydrogen peroxide does. DHP impacts and reduces contaminants such as viruses, bacteria, and mold through its method of action. By attaching itself to the same receptor site used by a microbe for water, DHP creates an organic reaction, unraveling a cell's membrane and killing it. Complimentary benefits to DHP include the mitigation of insects as well as odor-causing volatile organic compounds.

## How It Works

The elegance of Synexis® DHP is that it operates completely in the background of a facility. This means there is no required training of staff to operate the system. Synexis® DHP devices are strategically placed throughout a building's HVAC system (or via standalone units) and rely on the normal airflow to distribute the product. There is absolutely no maintenance or oversight required by personnel to continue the operation of the Synexis® System. A Synexis® DHP System offers a paradigm-shifting capability for microbial reduction because it is continuous, comprehensive, and automated. Synexis® DHP allows facilities to achieve the ongoing mitigation of microbial threats by addressing the bioburden present in air and on surfaces continuously - during and after routine cleaning.

Further, it can be safely used in occupied spaces, therefore not disrupting normal operations. This continuous treatment is critical as microbes are constantly being introduced into the environment despite even the most robust manual cleaning efforts. As a continuously released gas, Synexis® provides a 24-hours-a-day, 7-days-a-week treatment system that, by reaching even the most remote and difficult-to-reach areas, comprehensively treats a space.



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