ASIET Announces Independent Laboratory Results Demonstrating High Reduction of Airborne Viral Surrogate Under ASHRAE 241 Testing

GLP-compliant testing shows 4.40 log reduction (99.996%) of MS2 bacteriophage in controlled chamber study

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Air Scrubbers International Environmental Technologies, Inc. (ASIET) today announced results from independent laboratory testing demonstrating significant reduction of airborne MS2 bacteriophage, a commonly used surrogate for non-enveloped RNA viruses, under controlled environmental conditions. Testing conducted by Aerosol Research and Engineering Labs, Inc. (ARE Labs) measured a 4.40$\pm$0.1 log reduction, corresponding to a 99.996%$\pm$0.0009% reduction, after 60 minutes of device operation.

The study was performed at ARE Labs in Overland Park, Kansas, under the direction of Richard Ludwick and conducted in accordance with ASHRAE Standard 241-2023 and AHAM AC-5 protocols. Testing followed Good Laboratory Practices (GLP) with no deviations reported. The evaluation utilized a 30 m^3 sealed environmental chamber in which MS2 bacteriophage (ssRNA virus) was aerosolized using a Collison nebulizer. Air samples were collected using AGI-30 impingers and analyzed in triplicate. The system achieved a Clean Air Delivery Rate (CADR) of 184$\pm$1.3 CFM under these conditions.

MS2 bacteriophage is widely used in scientific literature as a surrogate for non-enveloped RNA viruses and is often selected due to its structural stability and resistance to environmental stressors. Published research supports the use of MS2 as a conservative model for evaluating disinfection technologies, particularly in relation to more resilient viral structures. Scientific literature also identifies MS2 as a representative surrogate for certain non-enveloped viruses, including members of the Picornaviridae family such as poliovirus. While surrogate testing does not constitute direct evidence of effectiveness against specific human pathogens, results obtained using MS2 are commonly interpreted as indicative of performance against similarly structured or less resistant viruses.

ASIET systems utilize a combination of ultraviolet-C (UVC) energy and photocatalytic oxidation (PCO). UVC light interacts with a titanium dioxide-based catalytic surface, generating reactive species that can break down airborne contaminants at a molecular level. This dual-action

approach is designed to reduce airborne biological and chemical pollutants within treated environments.

ASIET emphasizes that all performance data should be interpreted within the context of standardized testing conditions and established scientific methodologies. The company continues to support independent validation and adherence to recognized industry standards.

References:

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