

Zentek Announces Breakthrough Results in Viral Filtration Efficiency with Dust Loading

written by Raj Shah | September 6, 2023

September 06, 2023 ([Source](#)) – Zentek Ltd. (“Zentek” or the “Company”) (NASDAQ:ZTEK)(TSXV:ZEN), an intellectual property technology development and commercialization company is pleased to announce the results of a recent study comparing the Viral Filtration Efficiency (“VFE”) of its ZenGUARD™-enhanced MERV 9 filters with an uncoated MERV 9 filter. The testing was performed by the third-party lab LMS Technologies Inc. (“LMS”), which specializes in the testing and certification of filter manufacturers across the world, referring to the new American Society of Heating, Refrigerating and Air-Conditioning Engineers (“ASHRAE”) standards for aerosolized particles and determining the impact of dust loading on VFE and particle filtration efficiency (PFE) as per ASHRAE 52.2 testing standards.

Key Findings:

- **Increased Viral Filtration Efficiency with Dust Loading:** The VFE of ZenGUARD™-enhanced filters started with a significant advantage over equivalent non-coated filters, from 23.7% to 37.7%, a 59% enhancement or a 14% net gain overall. After the initial test, the VFE was remeasured after dust was added to the filters that was equivalent to 1, 2, 3 and 6 months of operation. At every dust loading, the VFE performance consistently increased faster for the ZenGUARD™-enhanced filters compared to the uncoated filters. At six months equivalent dust loading, the VFE of the ZenGUARD™-enhanced filter was 85.6%

compared to 55.2% for the uncoated filter, a 28.4% net gain. The viral particles were suspended in 0.1um aerosols or smaller, equivalent to the lower range of E1 particles (<1.0um). Testing using this size of aerosol is significantly more rigorous than the testing methodology accepted in the new ASHRAE standard for control of infectious aerosols. These parameters and rationale are consistent with the testing that was performed for the [Phase 2 Innovative Solutions Canada Challenge](#) conducted by the National Research Council of Canada in the simulated classroom environment.

- **Consistent Pressure Drop:** The pressure drop remained consistent between ZenGUARD™-enhanced and uncoated filters as dust loading increased, indicating that ZenGUARD™ does not adversely affect airflow or energy efficiency of the HVAC system.
- **Effective Particle Removal:** ZenGUARD™-enhanced filters operated similarly to regular MERV 9 filters when tested for PFE, effectively removing particles across all size ranges (E1, E2, E3) as per ASHRAE 52.2 standards.

“This testing confirms that ZenGUARD™ HVAC filters not only have an initial VFE advantage over uncoated filters, but ZenGUARD™ provides improved protection against infectious aerosols over time as dust accumulates on the filter,” commented Greg Fenton, CEO of Zentek. “The impact of dust on the effectiveness of our technology has been one of the main unknown variables requiring clarity for industry and user groups interested in potentially adopting our technology. We addressed this critical metric with a leading-edge testing program conducted by LMS. We believe our ability to increase VFE without additional equipment or an increase in energy consumption is unique in the industry. Significantly, now that we have proven that dust doesn’t inhibit protection from ZenGUARD™ over the lifetime of the filter, and

actually enhances it without additional pressure drop compared to uncoated filters, the ZenGUARD™ value proposition is that much more compelling for those looking for a simple solution to improve indoor air quality and people's health."

About Zentek Ltd.

Zentek is an ISO 13485:2016 certified graphene technology company focused on the research, development and commercialization of novel products seeking to give the Company's commercial partners a competitive advantage by making their products better, safer, and greener.

Zentek's patented technology platform ZenGUARD™, is shown to have 99-per-cent antimicrobial activity and to significantly increase the bacterial and viral filtration efficiency of both surgical masks and HVAC (heating, ventilation, and air conditioning) systems. Zentek's ZenGUARD™ production facility is located in Guelph, Ontario. Zentek's patent pending ZenARMOR™ technology platform is focused on corrosion protection applications.

Zentek has a global exclusive license to the Aptamer-based platform technology developed by McMaster University which is being jointly developed by Zentek and McMaster for both the diagnostic and therapeutic markets.

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To find out more about Zentek, please visit our website at www.Zentek.com. A copy of this news release and all material documents in respect of the Company may be obtained on Zentek's SEDAR profile at <http://www.sedar.com/>.

Forward-Looking Statements

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SOURCE: Zentek Ltd.