



TRIO Plus – Biological Test Report

Purifying Particles, Germs, and Gases

Purifying the three aspects of poor air requires multiple technologies. The TRIO Plus purifies beyond HEPA filtration, utilizing three state-of-the-art technologies to protect any space from particles, germs, and gases. The certified H-13 HEPA filter captures particulates, powerful UVC lamps neutralize virus, bacteria, and fungi, and our exclusive PRO-Cell technology reduces toxic gases.

Field Controls is dedicated to conducting independent studies to test and validate the efficacy of its products to ensure they are safe, provide true purification, and make indoor spaces safer.

COVID-19 brought the risk of airborne transmission to the forefront. Germs can pass through filters due to their size; viruses are as small as 0.004 - 0.3microns. UV-C is the most well established and effective method for reducing the risk of human infection and transmission and "has been shown to destroy the outer protein coating of the SARS-Coronavirus." FDA

To validate the effectiveness of the TRIO Plus, the product was independently tested by two bio-safety labs for viral, bacteria, and fungi reduction. The following is the result of the testing conducted.

Making indoor spaces safer and cleaner is core to our mission since 1927.

TRIO Plus Successfully Removes 99.99% of Virus, Bacteria, and Fungi in the Air in Scientific Testing Environment

PURPOSE:

This research tested the efficiency of the TRIO Plus portable air purifier in eliminating microbial viral strain, SARS-CoV-2 pathogen, bacteria strain *Staphylococcus aureus*, and fungi strain *Aspergillus niger*.

SETUP:

The TRIO Plus was tested against each microbial separately. For each test, the unit was placed inside a bio safety chamber and turned on. The chamber was sealed and the microbial was aerosolized into the airstream of the chamber. Air samples were taken at different intervals depending on the microbial to determine the TRIO Plus reduction effectiveness over time. The test and control groups were sampled at the same intervals.

Virus - The virus species chosen was SARS-CoV-2 USA-CA1/2020 pathogen, responsible for COVID-19, and sampled 30 and 60 minutes, in a 640 Cu. Ft. chamber at a BSL3 level lab.

Bacteria - The bacteria strain chosen was *Staphylococcus aureus* ATCC, commonly known as staph, and sampled at 60 minutes in a 322 Cu. Ft. chamber.

Fungi - The fungi strain chosen was *Aspergillus niger* ATCC 16404, which causes pneumonia and black mold, and sampled at 60 minutes in a 322 Cu. Ft. chamber.

RESULT:

The test results confirmed that the TRIO Plus demonstrated its ability to reduce the microbials in the air, resulting in a reduction of virus, bacteria, and fungi contaminants of greater than 99.99%.

	Virus SARS-CoV-2	Bacteria Staphylococcus Aureus Strain	Fungi Aspergillus Niger Strain
Original Microbial Count	4.5x10 ⁶ TCID ₅₀ /mL	1.22x10 ⁵ cfu/m ³	1.03x10 ⁵ cfu/m ³
Sample Time (min)	30	60	60
Microbial Count After Treatment	120 TCID ₅₀ /mL	< 7 cfu/m ³	< 7 cfu/m ³
Eliminating Microbial Rate	99.99%	>99.99%	>99.99%