



TO: All SecureAire® Representatives

March 18, 2020

RE: SecureAire's Effectiveness on Airborne Pathogens Including COVID-19

As you can imagine, we have been inundated with questions about SecureAire's effectiveness on airborne pathogens, with specific mention of COVID-19, otherwise known as the Coronavirus.

This letter will summarize our research and experience with SecureAire technology and its effectiveness at capturing and destroying airborne pathogens in any occupied space.

What the Center for Disease Control says about how the Coronavirus is spread.

The virus is thought to spread mainly from person-to-person.

- Between people who are in close contact with one another (within about 6 feet).
- Through respiratory droplets produced when an infected person coughs or sneezes.

These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

It may be possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes, but the principle mode of transmission is via aerosolized droplets.

How easily a virus spreads from person-to-person can vary. Some viruses are highly contagious (spread easily), like measles, while other viruses do not spread as easily. Another factor is whether the spread is sustained, spreading continually without stopping.

The virus that causes COVID-19 seems to be spreading easily and sustainably in the community ("community spread") in some affected [geographic areas](#).

<https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html>

What is the difference between a virus and bacterium?

Viruses are not **living things**. **Viruses** are complicated assemblies of molecules, including proteins, nucleic acids, lipids, and carbohydrates, but on their own they can do nothing until they enter a **living** cell. Without cells, such as human cells, **viruses** would not be able to multiply.

Bacteria are a major group of **living organisms**. Most are microscopic and unicellular, with a relatively simple cell structure lacking a cell nucleus, and organelles such as mitochondria and chloroplasts. **Bacteria** are the most abundant of all **living organisms**.

Viruses are smaller than **bacteria** and can't survive without a living host. A **virus** attaches itself to cells and usually reprograms the cells to reproduce itself. Also, unlike **bacteria**, most **viruses** do cause disease. Common examples of **virus**-caused diseases include the common cold, AIDS, herpes, and chickenpox.

Why normal mechanical filters won't remove and destroy pathogens like viruses and bacteria:

There are two reasons why normal mechanical filters are not effective at removing and/or destroying airborne viruses or bacteria:



1. Viruses, bacteria and the smallest, health-threatening airborne particulates are so tiny, with so little mass, that they essentially remain permanently suspended in the air unless something makes them larger and heavier enough to be caught up in the airstream and brought back to a filtration device.
2. Normal air filtration devices can't trap small particles like viruses and bacteria, neither do they have a mechanism for destroying living organisms like bacteria.

How SecureAire's technology removes and destroys airborne pathogens.

First, SecureAire® uses ACTIVE™ Particle Control to cause **all** airborne particles, including viruses and bacteria, to attract and bind to each other, making them larger and heavier so they get caught up in the normal household airstream and are then returned to our air purification cartridges.

Second, once captured in the air purification cartridges, all particles are collected on millions of individual fibers and held there with strong ionic bonds, where they will remain until the cartridge is removed and thrown away.

Those pathogens that are captured are subjected to a high-intensity energy field that will cause cellular stress and destroy any living organisms, including the toughest bacteria that are found in hospitals and critical care facilities.

Viruses, including the coronavirus, are relatively easy to capture and are retained on the air purification cartridge, removing them from the air and eliminating them as a health threat.

Along with airborne particulates and pathogens, airborne chemical compounds are caught up and absorbed in the air purification cartridge, also eliminating them as a health threat.

What proof does SecureAire have to support their claims?

Our website, www.secureaire.com, includes many case studies that demonstrate SecureAire's effectiveness in a variety of challenging applications. The most relevant study, where we proved our capabilities against the hardest of all bacteria to remove and destroy, *Bacillus subtilis* (anthrax surrogate), showed removal and destruction of 99+% of that pathogen in a 3rd party certified biological test laboratory in just 3 hours!

Compared to that particular pathogen, the Coronavirus is much easier to capture and destroy.

SecureAire's effectiveness is further support by the recently released *Article in Press* soon to be published in the "American Journal of Infection Control".

[https://www.ajicjournal.org/article/S0196-6553\(19\)30983-6/fulltext](https://www.ajicjournal.org/article/S0196-6553(19)30983-6/fulltext)

What can you tell a customer who wants to know if a SecureAire Air Purification system will remove the coronavirus from their building?

We cannot stop someone from bringing the coronavirus into your building or spreading it by close contact with others.

What we can say, with confidence, is that SecureAire's technology is proven in hospitals, operating rooms and certified test laboratories to remove and destroy airborne pathogens, including bacteria and viruses, from the air that you breathe!