TADIRAN AIROW 3™

Scientific Data

TESTED AND PROVEN

At Field Controls, we understand the paramount importance of creating an environment that promotes health and well-being. The TADIRAN AIROW 3™ Hydrogen Air Purifier has undergone rigorous testing to validate its effectiveness in eradicating a diverse range of contaminants. Our comprehensive test data reveals the AIROW 3's exceptional capability to combat bacteria, viruses, mold, and more, setting a new standard for clean, breathable air.

TADIRAN AIROW 3™ TEST DATA

Test Subject	Tested Species /Methods	Test Facility	Results
Bacteria	Streptococcus pyogenes (Strep A)	Innovative Bioanalysis	100%
COVID-19 virus	SARS-CoV-2	Innovative Bioanalysis	99.93%
Virus	RNA Virus MS2 Bacteriophage	Aerosol Research and Engineering Laboratories	99.994%
Bacteria	Staphylococcus Epidermidis	Aerosol Research and Engineering Laboratories	99.994%
Mold	Penicillium Citrinum	Kitasato Research Center for Environmental Science	99.994%
Hydrogen Peroxide	OSHA 1019	LCS Laboratory	<1 ppm
Ozone	UL 2998	Intertek	<5 ppb

FIELDCONTROLS
AIR TREATMENT

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BACTERIA

TADIRAN AIROW 3™ REDUCED STREPTOCOCCUS PYOGENES (STREP A) BACTERIA CONCENTRATION LEVEL BY **100% WITHIN 120 MINUTES**

We tested TADIRAN AIROW 3™ against Streptococcus pyogenes bacteria, it was found to reduce the aerosol of Streptococcus pyogenes in 36 cubic meter test chamber, by 100% within 120 minutes. The test was conducted in US-based internationally recognized laboratory Innovative Bioanalysis, which is BSL3 accredited.

DID YOU KNOW?

The most common symptoms of group A strep infection include high fever with a sore throat, scarlet fever, headache, nausea, vomiting, and abdominal pain.

In some cases, post-infection autoimmune reactions can be developed. Invasive group A strep infection, most commonly characterized by bacteremia and cellulitis, is associated with a high mortality rate of 8-23%.

Since December 2022 there has been a sudden rise in group A strep infections in the UK and European countries, in some places even five times more. Similar observations were monitored in the US and in Israel.

With the removal of restrictions after the pandemic, susceptible people, including children, are suddenly experiencing exposure, thus developing infections faster. This could be a reason for the group A strep infection surge.

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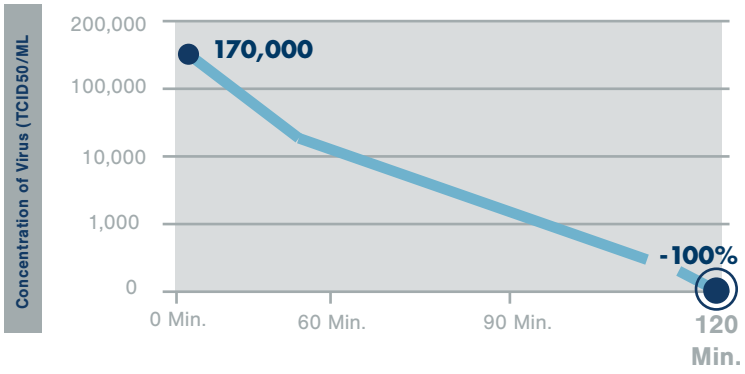
100% Reduction of Streptococcus pyogenes (Group A Strep) bacteria

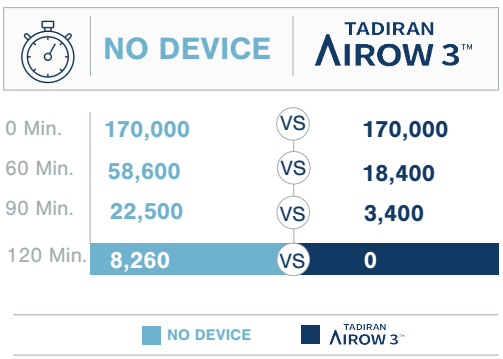
BIOSAFETY LEVEL 3 (BSL-3)

INNOVATIVE BIOANALYSIS

Tested Species: Streptococcus pyogenes
Chamber size: 36 cubic meter
Laboratory: Innovative Bioanalysis



Bacteria Concentration Reduction



TADIRAN AIROW 3™ device was tested in the US-based internationally recognized laboratory Innovative Bioanalysis, which is BSL3 accredited. TADIRAN AIROW 3™ reduced the amount of *Streptococcus pyogenes* in 36 cubic meter test chamber, by 100% within 120 minutes.

TADIRAN AIROW 3™

SARS-COV-2

TADIRAN AIROW 3™ REDUCED DETECTED SARS-COV-2 AEROSOL LEVELS BY **99.93% IN 1 HOUR**

TADIRAN AIROW 3™ device was tested in the US-based internationally recognized laboratory Innovative Bioanalysis, which is BSL3 accredited. AIROW 3 reduced the amount of aerosolized SARS-CoV-2 in 16 cubic meter test chamber, after 60 minutes only 0.07% of the virus was detected.

DID YOU KNOW?

TRAINED SCENT DOGS ARE ABLE TO DETECT INFECTED PEOPLE

"Sniffer dogs" may be able to use their highly developed sense of smell to single out people infected, regardless of whether they have symptoms, according to a triple-blind randomized validation trial and real-life observations. The experiment was conducted at the Helsinki-Vantaa International Airport: the dogs sniffed skin swabs from 303 incoming passengers also tested for SARS-CoV-2 using polymerase chain reaction (PCR) from September 2020 to April 2021 and the obtained results demonstrated an accuracy greater than 90%.

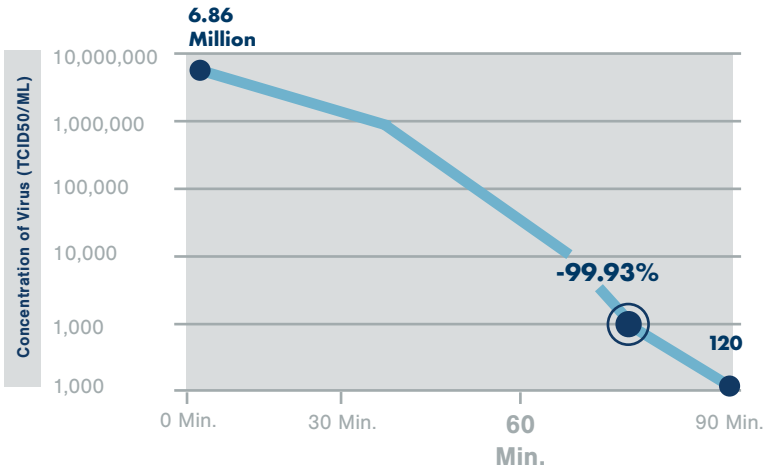
Read Article →

99.93% Reduction of COVID-19 virus

BIOSAFETY LEVEL 3 (BSL-3)

INNOVATIVE BIOANALYSIS

Tested Species: SARS-CoV-2 virus
Chamber size: 16 cubic meter
Laboratory: Innovative Bioanalysis, USA



Virus Concentration Reduction

	NO DEVICE		TADIRAN AIROW 3™
0 Min.	6,860,000	VS	6,860,000
30 Min.	4,270,000	VS	1,000,000
60 Min.	2,260,000	VS	1,530
90 Min.	1,000,000	VS	120

NO DEVICE TADIRAN AIROW 3™

TADIRAN AIROW 3™ device was tested in the US-based internationally recognized laboratory Innovative Bioanalysis, which is BSL3 accredited. TADIRAN AIROW 3™ reduced the amount of *SARS-CoV-2* in 16 cubic meter test chamber, by 99.93% within 60 minutes.

TADIRAN AIROW 3™

VIRUSES

TADIRAN AIROW 3™ REDUCED DETECTED MS2 LEVELS BY **99.994% IN 1 HOUR**

TADIRAN AIROW 3™ reduced MS2 levels in one cubic meter chamber. After 60 minutes, only 0.006% of the virus was detected inside. The test was conducted in the FDA-cleared Aerosol Research and Engineering laboratories located in the US.

DID YOU KNOW?

In 1976, the MS2-genome was the first genome to be completely sequenced. This was accomplished by Walter Fiers and his team, building upon their earlier milestone in 1972 of the first gene to be completely sequenced, the MS2 coat protein. The MS2 genome is one of the smallest known, consisting of 3,569 nucleotides of single-stranded RNA, and it encodes just four proteins.

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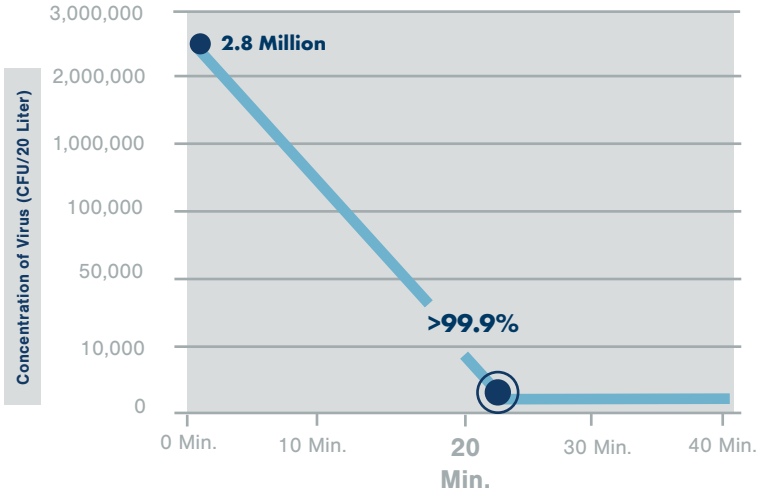
Read Article →

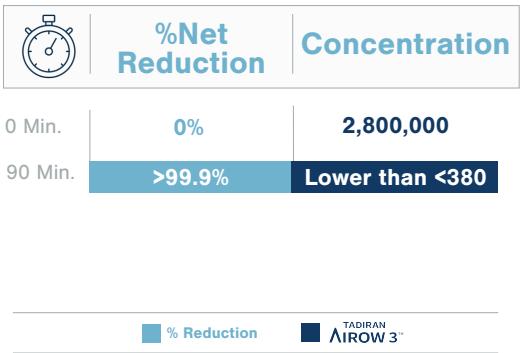
>99.9% Reduction of Influenza virus

KRCES

Tested Species: Influenza virus
Chamber size: 0.2 cubic meter
Laboratory: Kitasato Research Center for Environmental Science, Japan



Influenza Virus Concentration Reduction with TADIRAN AIROW 3™



In one of the most trusted labs in Japan, Kitasato Research Center for Environmental Science (KRCES), TADIRAN AIROW 3™ was tested and found to reduce levels of *Influenza* virus in more than 99.9% within 20 minutes in a 0.2 cubic meter chamber.

TADIRAN AIROW 3™

BACTERIA

TADIRAN AIROW 3™ REDUCED METHICILLIN RESISTANT STAPHYLOCOCCUS EPIDERMIDIS BY **99.994% IN 1 HOUR**

In FDA-cleared Aerosol Research and Engineering Laboratory, TADIRAN AIROW 3™ was tested against Staphylococcus Epidermidis bacteria. After 60 minutes, only 0.006% of the bacteria was detected in one cubic meter chamber.

DID YOU KNOW?

Staphylococcus Epidermidis bacteria is used as a simulator for the much more dangerous, disease-causing bacteria called Staphylococcus S. aureus can cause a range of illnesses, from minor skin infections, such as cellulitis, folliculitis, carbuncles, and abscesses, to life-threatening disease such as pneumonia, meningitis, osteolyelitis, endocarditis, toxic shock syndrome, bacteremia, and sepsis. It is still one of the five most common causes of hospital-acquired infections and is often the cause of wound infections following surgery. Each year, around 500,000 patients in hospitals in the United States contract a staphylococcal infection, chiefly by S. aureus. Up to 50,000 deaths, each year in the United States are linked to S. aureus infections.

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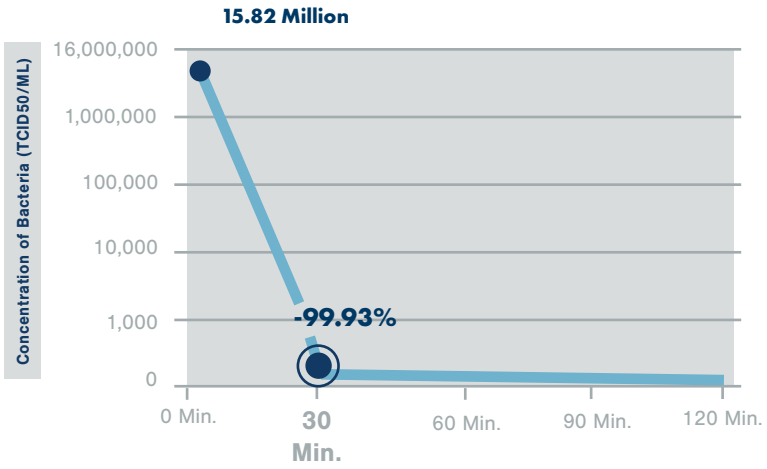
Read Article →

99.93% Reduction of Bacteria
Staphylococcus Epidermidis

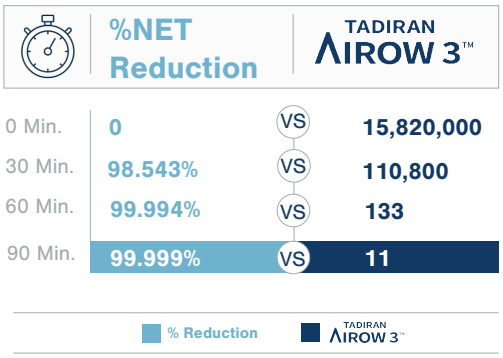
FDA CLEARED (510k)

AEROSOL Research and Engineering Laboratories

Tested Species: Bacteria Staphylococcus Epidermidis
Chamber size: 1 cubic meter
Laboratory: Aerosol Research and Engineering Laboratories, USA | FDA certified lab



Bacteria Staphylococcus Epidermidis Concentration Reduction With TADIRAN AIROW 3™



TADIRAN AIROW 3™ was tested in ARE Labs, an FDA-cleared Aerosol Research and Engineering laboratories located in the USA. After 60 minutes TADIRAN AIROW 3™ reduced bacteria aerosol levels by **99.994**% in the tested one cubic meter chamber.

TADIRAN AIROW 3™

MOLD

TADIRAN AIROW 3™ PASSED THE TEST AFTER **180 MINUTES ONLY 0.6%** OF THE FUNGUS WAS DETECTED IN 25 CUBIC METER CHAMBER

In one of the most trusted labs in Japan, TADIRAN AIROW 3™ was tested and found to reduce levels of Penicillium Citrinum by 99.4% in hours in 25 cubic meter chamber.

DID YOU KNOW?

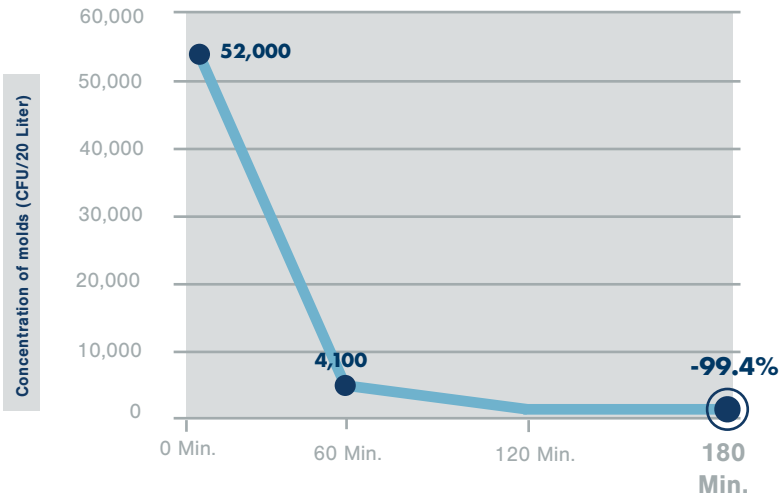
Blue mold is the most common indoor fungi. When present in large quantities, blue mold releases high levels of spores into the air (from 1,000-10,000 spores). Exposure to blue mold spores is associated with a range of respiratory diseases.

How fungi appears in our indoor air:
Mold fungi may be present in indoor air due to various factors, including the introduction of spores from outdoor air, fruits and vegetables, plants, and soil. The spores can travel through the air and settle in suitable locations, where they can grow and colonize if conditions such as adequate moisture and organic matter are present. As the colonies mature, they can release additional spores into the air, contributing to airborne spore concentrations. Inhalation of mold aerosols may pose health risks, including exacerbation of asthma, allergies, respiratory conditions, and chronic fatigue, particularly in instances where the concentration of mold is high.

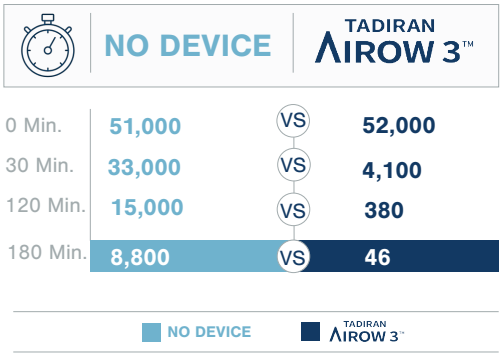
99.4% Reduction of Mold

KRCES

Tested Species: Blue Mold (Penicillium Citrinum)
Chamber size: 25 cubic meter
Laboratory: Kitasato Research Center for Environmental Science, Japan



Mold Concentration Reduction



TADIRAN AIROW 3™ was tested against Blue mold at Kitasato Research Center for Environmental Science (KRCES). Exposure to Blue Mold spores is associated with a range of respiratory problems - increases risk of asthma and respiratory disease. TADIRAN AIROW 3™ passed the test with flying colors. After 180 minutes there was a reduction of **99.4%** of the fungus in the 25 cubic meter chamber.

TADIRAN AIROW 3™

HYDROGEN PEROXCIDE

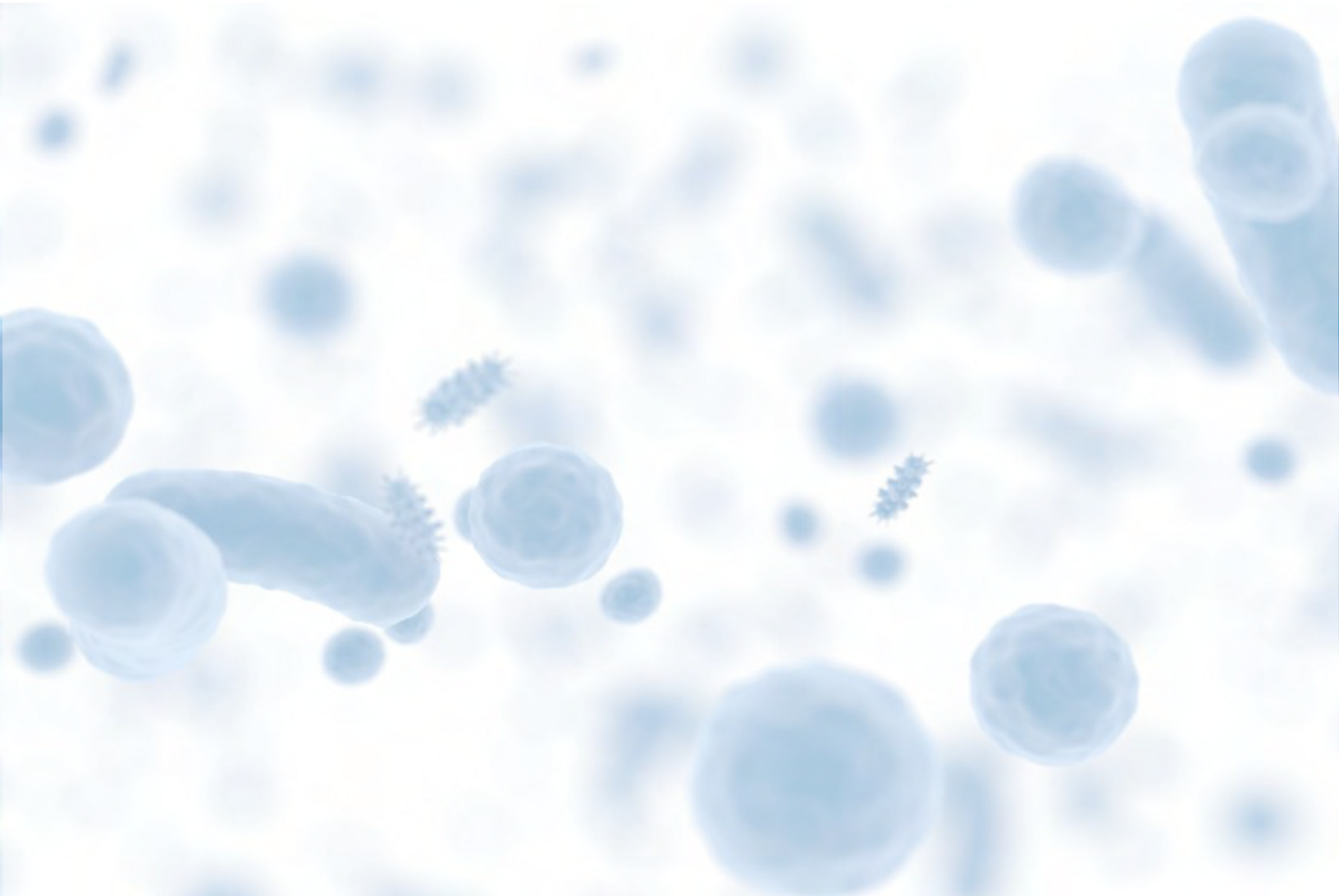
TADIRAN AIROW 3™ WAS FOUND TO MEET THE OCCUPATIONAL EXPOSURE LIMIT OF HYDROGEN PEROXIDE AS DEFINED BY **OSHA**

(LESS THAN 1PPM FOR 8 HOURS)

The test conducted in agreement with OSHA analytical method 1019, measured hydrogen peroxide in the air during the operation of the TADIRAN AIROW 3™ device for 8 hours. Detected concentrations of the Hydrogen peroxide were significantly less than the occupational (Industrial) exposure limit of 1 ppm as defined in Canada (2019, Occupational Exposure Limits for Ontario Workplaces, Regulation 833) as well as in the USA (2019, OSHA PEL, OSHA Annotated Table Z-1). TADIRAN AIROW 3™ was rigorously tested to meet the highest standards.

DID YOU KNOW?

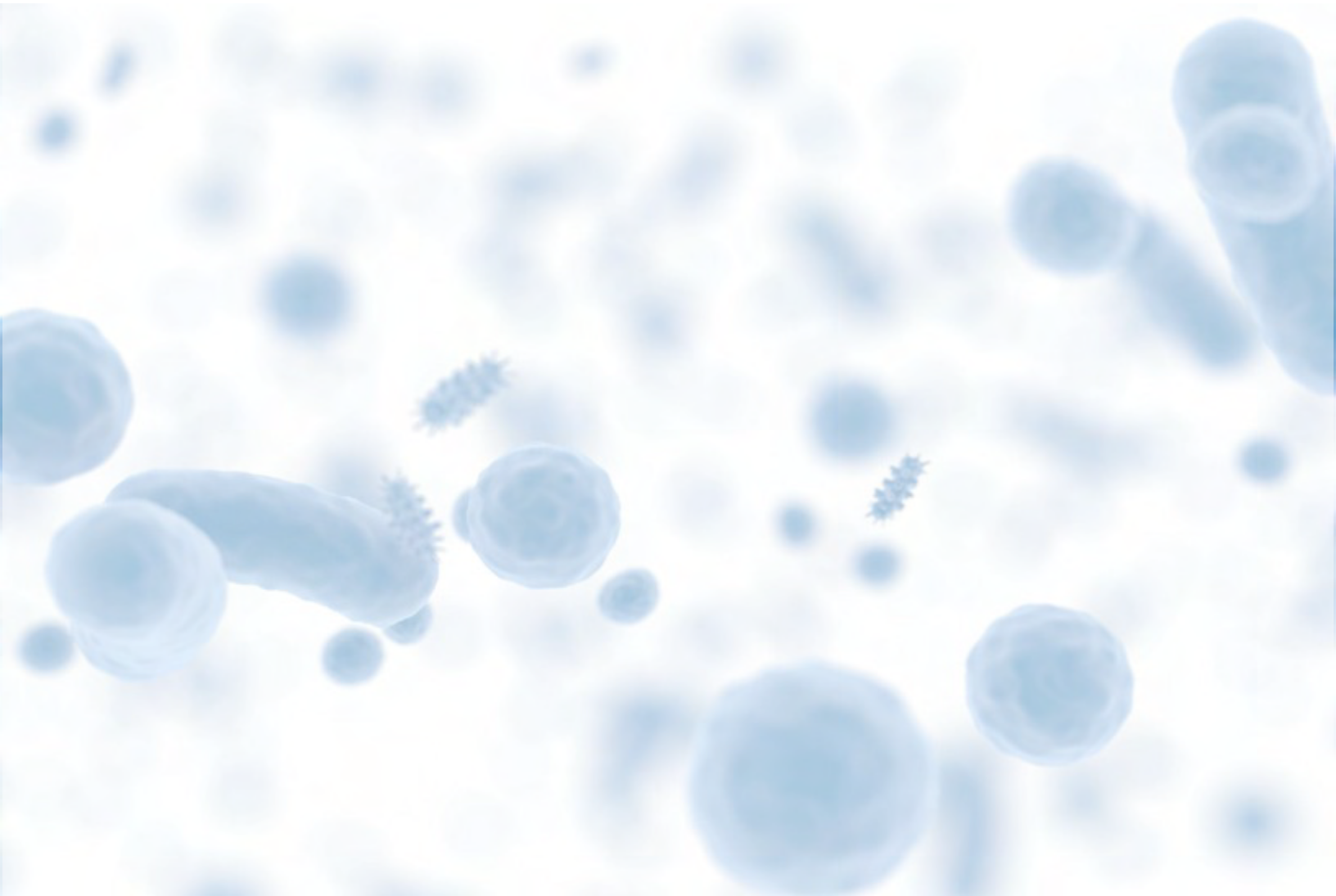
Hydrogen peroxide is one of the most powerful non-selective wide range biocides known to man. Hydrogen peroxide is created as part of many natural processes, for example, hydrogen peroxide is produced by immune cells in the human body to kill microorganisms and they use catalase also to reduce damage to the human cell making the hydrogen peroxide. In the human body, hydrogen peroxide is also produced primarily in three places: lung, gut, and thyroid gland.



OZONE

TADIRAN AIROW 3 IS OZONE VERIFIED, UL 2998 COMPLIANT, TESTED BY TUV AND INTERTEK, AND EMITS **LESS THAN 0.005 PPM OZONE**

DID YOU KNOW?

Over the last 30 years, building occupants have become increasingly aware of and interested in the indoor air quality of their homes, schools, offices, and other spaces. This mindset shift has generated a growing interest in air cleaning devices using various methods of operation, such as filtration, ionization, or ultraviolet light as part of standalone units or incorporated into the HVAC system. Demand for such products has increased dramatically with the onset of the SARS-CoV-2 pandemic.

However, some technologies used in air cleaning devices have the potential to create ozone. Ozone is a highly reactive gas that can be a powerful respiratory irritant on its own and can react with other compounds in the air to form harmful byproducts, according to the US EPA. Therefore, minimizing ozone concentrations in indoor spaces is crucial, especially during times of occupancy. Verify if your air purifier is ozone emission tested.