

PERFORMANCE DATA

iWave and NuShield products are designed to work with air handling systems to deliver the benefits of ionization. These tests measure the reduction of certain viruses and bacteria through a combination of in-air testing and surface testing. Measurements of the specimen are taken at regular intervals and compared to a control without the introduction of ionization. All tests were run using proprietary NPBI technology and conducted in third party laboratories.

AIRBORNE ORGANISMS: These ionization tests measure the reduction of certain airborne viruses and bacteria by aerosolizing a test specimen into a large biosafety test chamber (BSL2 or BSL3) and suspending it in the air using mixing fans. Measurements of the specimen are taken at regular intervals and are compared to a control without the introduction of ionization.

SPECIMEN	AVG. ION DENSITY (NEGATIVE IONS/CC)	% NET REDUCTION	
		30 MIN.	60 MIN.
SARS-CoV-2	-10,000	40.78%	90.87%
	-18,000	65.38%	98.33%
SARS-CoV-2 Delta	-22,000	54.04%	98.70%
Influenza A	-22,000	43.13%	84.53%
Influenza B	-22,000	32.71%	83.93%
RSV	-22,000	49.52%	94.71%

SURFACE ORGANISMS: These ionization tests measure the reduction of certain airborne viruses and bacteria on surfaces by applying a specimen to glass slides, petri dishes or coupons and placing them within a large biosafety test chamber (BSL2 or BSL3). Measurements of the specimen are taken at regular intervals and are compared to a control without the introduction of ionization.

SPECIMEN	AVG. ION DENSITY (NEGATIVE IONS/CC)	% NET REDUCTION	
		30 MIN.	60 MIN.
SARS-CoV-2	-9,700	55.50%	62.85%
	-10,250	55.94%	70.71%
	-20,600	97.90%	99.97%
	-23,600	98.49%	99.98%
Staphylococcus aureus	-14,000	36.61%	91.55%
E.coli	-14,000	31.46%	86.36%
MRSA	-14,000	44.91%	87.87%

AIRBORNE PARTICLES: Test results demonstrate the additional reduction of particles in the air when NPBI is combined with mechanical filtration versus filtration alone. Particles from calibrated cigarettes were infused into a 10ft. x 10ft. x 10ft. chamber to simulate wildfire smoke. Testing occurred at six air changes per hour (ACH), consistent with ASHRAE guidelines.

CHANGE IN REMOVAL RATE OF PM2.5 AT 6 ACH (NPBI + MERV 8 VS. MERV 8 ALONE)		CHANGE IN REMOVAL RATE OF PM2.5 AT 6 ACH (NPBI + MERV 10 VS. MERV 10 ALONE)	
Test Duration in Hours	Average (12,060 ions/cc)	Test Duration in Hours	Average (10,640 ions/cc)
1	2.26x	0.5	1.51x
2	2.11x	1	1.56x
NPBI + MERV 8 removed PM2.5 twice as fast as MERV 8 alone.		NPBI + MERV 10 removed PM2.5 over 1.5 times faster than MERV 10 alone.	

NuShield has earned UL's stringent Zero Ozone Emissions Certification.

UL Certification	Standards	NuShield Model	
UL 2998	Certified to not introduce more than five parts per billion of ozone.	NuShield-R	4900-60
		NuShield-CI	4900-50
		NuShield-CX	4900-55

Visit www.nushieldair.com for full performance data, including testing parameters, reduction rates and data related content. Locations will vary, and clients should evaluate their individual application and environmental conditions when making an assessment regarding the technology's potential benefits. NuShield products are not marketed as, nor cleared, by the FDA as medical devices.

