

广州市微生物研究所 GUANG ZHOU INSTITUTE OF MICROBIOLOGY

检测报告 TEST REPORT

Report Number KJ20190367

Name of Sample Air Purifier

Applicant Sino Vantage Industrial Ltd.







GUANG ZHOU INSTITUTE OF MICROBIOLOGY TEST REPORT

Date Received: Mar. 13, 2019

5	9	Date Anal	yzed: Mar. 19, 201	
Name of Sample	Air Purifier	Source of Sample	Delivery	
Applicant	Sino Vantage Industrial Ltd.	Client	Wilson Lam	
Manufacturer	Sino Vantage Industrial Ltd.	Brand	LightAir	
Type and Specification	CFPro900	Quantity of Sample	1PC	
Date of Production	- 2° -	State of Sample	Machine	
Batch Number		Packing of Sample	In box	
Sample Picture				
		Market Cons		
Standard and Methods	GB 21551.3-2010 Antibacterial and cle- electrical appliances-Particular requirement	aning function for hos of air cleaner	usehold and simila	
Standard and Methods	GB 21551.3-2010 Antibacterial and clear electrical appliances-Particular requirement Eliminating Bacterial Rate (Staphylococcus	s of air cleaner	usehold and simila	

To be continued







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Test Method for Air Purifier Disinfection Performance:

- 1. Test Equipment
 - 1) Strain: Staphylococcus aureus
 - 2) Microbial aerosol generator: TK-3
 - 3) Culture media: NA
 - 4) Sampling equipment: six-stage sieve sampler
- Test Conditions
 - 1) The volume of the test chamber: 30 m³
 - 2) Environment temperature: (20~25) ℃
 - 3) Environment humidity: (50~70) %RH
- 3. Operation Conditions of the Air Purifier

Set the switch to position "The highest wind speed".

- 4. Test Procedure
 - Get a bacteria slant culture (4~7 generation) which is incubated at 37 °C for 24 h, wash the culture from this slant with 10 mL NB, filter the liquid culture by aseptic cotton buds, and dilute this inoculums with NB as appropriate.
 - 2) The equipments are placed in the test chambers, close the door, and turn on the HEPA filter system. Simultaneously operate the environmental control devices until the temperature reaches 20 °C~25 °C, relative humidity reaches 50-70%. Turn off the chamber environmental control system.
 - 3) Release microbial aerosol: turn on the microbial aerosol generator, then turn on the ceiling fan, turn off the fan after 10 min, and let stand for 15 min.
 - Original bacteria aerosols collected by six-stage sieve sampler.
 - 5) The air purifier are adjusted to the highest air cleaning mode setting for test (test group). Bacteria aerosols (control group and test group) are collected at 60 min.
 - 6) Choose 2 NA plates (the same batch) as the negative control, and culture them on the same condition with the samples.
 - Run the test three times and take the mean as the final result.
- 5. Computational Formula

Natural decay rate $N_t(\%) = \frac{V_0 - V_t}{V_0} \times 100$

Where: V_0 = original bacteria count of control group; V_t = bacteria count after treatment of control group.

Killing Rate $K_i(\%) = \frac{V_1 \times (1 - N_i) - V_2}{V_1 \times (1 - N_i)} \times 100$

Where: V_1 = original bacteria count of test group; V_2 = bacteria count after treatment of test group. ***To be continued***







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Test Results

Number of Sample	Test Strain	Test Time (min)	Test Number	Control Group			Test Group		
				Original Bacteria Count V_0 (cfu/m 3)	Bacteria Count after Treatment V_t (cfu/m 3)	Natural Decay Rate N, (%)	Original Bacteria Count V ₁ (cfu/m ³)	Bacteria Count after Treatment V_2 (cfu/m ³)	Killing Rate K_i (%)
KJ20190367-1	Staphylococcus aureus	60	1	1.05×10 ⁵	8.23×10 ⁴	21.62	1.33×10 ⁵	85	99.92
			2	1.11×10 ⁵	8.58×10 ⁴	22.70	1.19×10 ⁵	28	99.97
			3	1.21×10 ⁵	9.44×10 ⁴	21.98	1.25×10 ⁵	49	99.95
			Mean			(A)			99.95

Note: The negative control group was sterile growth.

*** End of report***











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