



中国认可  
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检测  
TESTING  
CNAS L0823



# 广州市微生物研究所

GUANG ZHOU INSTITUTE OF MICROBIOLOGY

## 检测报告

## TEST REPORT

Report Number

KJ20190486

Name of Sample

Air Purifier

Applicant

Sino Vantage Industrial Ltd.



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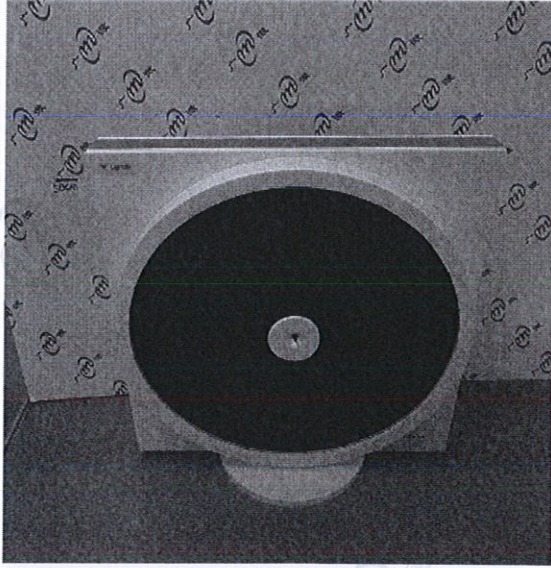


201719001121

Test No. KJ20190486

**GUANG ZHOU INSTITUTE OF MICROBIOLOGY**  
**TEST REPORT**

Date Received: Mar. 13, 2019  
Date Analyzed: Mar. 26, 2019

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	---	State of Sample	Machine
Batch Number	---	Packing of Sample	In box
Sample Picture			
Standard and Methods	GB 21551.3-2010 Antibacterial and cleaning function for household and similar electrical appliances-Particular requirements of air cleaner		
Items of Analysis	Eliminating Bacterial Rate ( <i>Aspergillus niger</i> ATCC16404)		
Remarks	---		

\*\*\*To be continued\*\*\*



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**Air Disinfection Test Method:**

1. Test Equipment
  - 1) Strain: *Aspergillus niger*
  - 2) Microbial aerosol generator: TK-3
  - 3) Culture media: PDA
  - 4) Sampling equipment: six-stage sieve sampler
2. Test Conditions
  - 1) The volume of the test chamber: 30 m<sup>3</sup>
  - 2) Environment temperature: (20~25) °C
  - 3) Environment humidity: (50~70) %RH
3. Operational Conditions of the Machine  
Set the switch to position "The highest wind speed".
4. Test Procedure
  - 1) To the 4th to 7th generation of *Aspergillus niger* roxell culture, add 5.0 ml to 10.0 ml of 0.05% (v / v) Tween 80 aqueous PBS solution, scrap the *Aspergillus niger* conidia in solution and transfer the spore suspension with glass beads in the flask, lightly shaking 1 min and filter removed hypha. Centrifuge 20min in the range of 5000r / min ~ 6000r / min . Then observe under the microscope (400 times) , if there are still hypha in the suspension, to be centrifuged. Diluted with physiological saline solution to the appropriate concentration before use.
  - 2) The equipments are placed in the test chambers respectively, close the door, and open the HEPA filter. Simultaneously operate the environmental control devices until the experimental cabin temperature to be 20 °C~25 °C, relative humidity to be 50%~70%, Turn off the chamber environmental control system.
  - 3) Release microbial aerosol: turn on the microbial aerosol generator, release the microbial aerosol 15 min ~20 min at 0.2 MPa, operate the ceiling mixing fan, then turn off the fan after 10 min, and let stand for 15 min.
  - 4) Original Bacteria aerosols collected by six-stage sieve sampler.
  - 5) The air cleaner 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 respectively.
  - 6) Choose 2 PDA plates (the same batch) as the negative control, and culture them on the same condition with the samples.
  - 7) Run the test three times and take the mean as the final result.

5. Computational Formula

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

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

$$\text{Killing Rate } K_t(\%) = \frac{V_1 \times (1 - N_t) - V_2}{V_1 \times (1 - N_t)} \times 100$$

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 Time (min)	Test Strain	Test Number	Control Group			Test Group		Killing Rate $K_t$ (%)
				Original Bacteria Count $V_0$ (cfu/m <sup>3</sup> )	Bacteria Count after Treatment $V_t$ (cfu/m <sup>3</sup> )	Natural Decay Rate $N_t$ (%)	Original Bacteria Count $V_1$ (cfu/m <sup>3</sup> )	Bacteria Count after Treatment $V_2$ (cfu/m <sup>3</sup> )	
KJ20190486-1	60	<i>Aspergillus niger</i>	1	$7.42 \times 10^4$	$4.58 \times 10^4$	38.27	$5.85 \times 10^4$	7	99.98
			2	$6.85 \times 10^4$	$4.41 \times 10^4$	35.62	$7.11 \times 10^4$	7	99.98
			3	$7.86 \times 10^4$	$4.93 \times 10^4$	37.28	$6.39 \times 10^4$	7	99.98
			Mean						99.98

Note: The negative control group was sterile growth.

\*\*\* End of report\*\*\*

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