



MICROBIAL (BACTERIA, VIRUS, ACTINOMYCETS) REMOVAL EFFICIENCY OF LUX AEROGUARD 4S

CUSTOMER DETAILS	SAMPLE DETAILS	TEST METHODS
Eureka Forbes Ltd., No. 143, C-4, Bommasandra Industrial Area, Off- Hosur Road, Hebbagodi Village, Anekal Taluk, Bangalore 560099	Sample received: 27.02.2019 Sample Description: Lux Aeroguard 4S Sample Quantity for Testing: 1 No. each Submitted by : EUREKA FORBES LIMITED Date of Analysis started :17.03.2019 Date of Analysis Completed: 28.03.2019 Date of Report: 29.03.2019	Protocol as agreed between the Testing Lab and the customer

PRODUCT DETAILS:

Sample Details: *Lux Aeroguard 4S* is an indoor air purification system with its purification stages include **anti-dust filter** to remove the larger suspended particles, pet hair, human hair, fibre dust etc., **Swiss certified HEPA** to remove the fine dust particles including PM 2.5, allergens including pollen and micro-organisms, **de-odorization filter** to remove the carcinogenic TVOCs like formaldehyde, benzene, and non-VOCs like hydrogen sulphide and smoke, **Nanopure-Photocatalyst (TiO₂+UV)** to remove the micro-organism including virus, and its **duotron technology** to revitalize the indoors and intend to destroy microbial load on HEPA filter. *Lux Aeroguard 4S* is certified for the highest standards of air quality from GUI Lab, Germany and Indian Medical Academy.

OBJECTIVE: To assess the microbial disinfection -Bacteria, Virus and Actinomycetes removal efficiency of the **Lux Aeroguard 4S**



Methodology: *Lux Aeroguard 4S* was installed in a room size of 10'x 15'x10' and the unit was operated. Air samples were drawn before and after the operation of *Lux Aeroguard 4S*. Analyzed air samples for the presence of these micro-organisms at different time intervals. Used control in each scenario and incubated 24hrs by using Luria agar media for bacteria, starch casein agar for Actinomycetes and Bacteriophage media for 48hrs of incubation for plaque count.





Test Results:

Table 1

Bacteria reduction performance of Lux Aeroguard 4S										
Test Parameter	Place of exposure	Initial count (CFU)	1 hour		2 hours		3 hours		4 hours	
			Count (CFU)	% Reduction	Count (CFU)	% Reduction	Count (CFU)	% Reduction	Count (CFU)	% Reduction
Total bacteria count	Centre Room	44	32	27.27	13	70.45	2	95.45	0	100
	Control	44	46	NIL	46	NIL	46	NIL	52	NIL

Table 2

Actinomycetes reduction performance of Lux Aeroguard 4S										
Test Parameter	Place of exposure	Initial count (CFU)	1 hour		2 hours		3 hours		4 hours	
			Count (CFU)	% Reduction	Count (CFU)	% Reduction	Count (CFU)	% Reduction	Count (CFU)	% Reduction
Total Actinomycetes count	Centre Room	6	2	66.66	0	100	0	100	0	100
	Control	6	6	NIL	7	NIL	8	NIL	8	NIL

Table 3.

Virus EDS (Egg drop Syndrome Virus) reduction performance of Lux Aeroguard 4S										
Test Parameter	Place of exposure	Initial count (PFU)	1 hour		2 hours		3 hours		4 hours	
			Count (PFU)	% Reduction	Count (PFU)	% Reduction	Count (PFU)	% Reduction	Count (PFU)	% Reduction
Total Virus Count	Centre Room	14	5	64.28	3	78.57	2	85.71	0	100
	Control	13	14	NIL	15	NIL	14	NIL	15	NIL

Table 4

Coliphages (Seven phages) reduction performance of Lux Aeroguard 4S										
Test Parameter	Place of exposure	Initial count (PFU)	1 hour		2 hours		3 hours		4 hours	
			Count (PFU)	% Reduction	Count (PFU)	% Reduction	Count (PFU)	% Reduction	Count (PFU)	% Reduction
Total Virus Count	Centre Room	6	2	66.67	0	100	0	100	0	100
	Control	6	7	NIL	7	NIL	7	NIL	7	NIL

Inference:

Lux Air Purification system, Lux Aeroguard 4S was found to be very effective in improving the air quality by removing, bacteria, actinomycetes and viruses i.e. Virus EDS (Egg Drop Syndrome Virus) and Coliphages (Seven phages). Significant reduction of odour was also noticed.

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