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Test Report

Report No.:	**2100106 / 13187**	**Date:** 2021-03-16
Client:	Biopharmax Ltd. Hasadnaot 4 P.O.B12644 47633 4672831 HERZLIYA	
Subject:	Air purifier device	
Task:	Disinfection efficacy against viruses (bacteriophages)	
Order:	Order of 2020-12-08	
Date of sampling:	——	
Location of sampling:	No samples taken by OFI staff Samples provided by the client	
Receipt of samples:	2021-02-02	

1 SCOPE OF WORK

According to the order, an air purifier device was tested for its disinfection efficacy against viruses (bacteriophages). An Escherichia phage MS2 solution was used as the test suspension.

2 SCOPE OF APPLICATION

The results given in this Test Report have been obtained under the specific conditions of the individual tests. As a rule they are not the only criteria for assessing the product in question and its suitability for a specific purpose of application.

3 SAMPLE MATERIAL

Our client submitted the following samples for the purpose of testing:

- Sample: b-pure air purifier

Other documents submitted by our client:

No (other) documents submitted.

4 TESTS

Testing took place from 2021-03-08 to 2021-03-11.

The tests were carried out in the individual technical departments within the scope of competence of the authorised signatories according to the OFI QM manual.

4.1 Experimental setup

Testing was carried out with the device “b-pure” air purifier (equipped with 24W UV-light and UPLA filter) at 250 m^3/h. An Escherichia phage MS2 solution with a defined concentration was sprayed as a bioaerosol using a liquid aerosol generator (ATM 220, Topas). The fan of an air filtration test rig (TOPAS AFC132, Topas) was attached to the air outlet on the side of the air purifier device via a funnel. Behind the tested air purifier an absolute filter was placed in line with the outflowing air from the device passing through the absolute filter to collect all remaining viable virus particles. It was ensured that the volume flow during the test through the air purifier was not affected by the installation and removal of the filters. Three measurements were performed with and without air cleaning measures (UV-lamp and UPLA filter) and the phage concentration was analyzed using the absolute filter. The phage concentration was determined with counting of PFU (plaque forming unit) using the double agar layer method after 24 h of incubation at 37 ± 1°C. The disinfection efficacy of viruses is calculated according to the following formula:

$$Disinfection\ efficacy\ of\ viruses\ [\%] = (1 - \frac{pfu\ with\ UV-lamp\ and\ filter}{pfu\ without\ UV-lamp\ and\ filter}) * 100$$

The measurement parameters used are described in Table 1

Table 1: Parameters used during testing

Test aerosol	Escherichia phage MS2 ATCC 15597-B1
Host cell	*Escherichia coli* ATCC 700891
Inlet pressure [bar]	3.4

5 RESULTS

5.1 Results of the disinfection efficacy

The inactivation rate of viruses of the air purifier is given as the disinfection efficacy [%], the higher this is the more viruses are inactivated by the air purifier. The results of the individual samples are shown in Table 2 below.

Table 2: Disinfection efficacy against viruses [%] for the air purifier according to microbiological analysis

Sample	No.	Disinfection efficacy against viruses [%]		
		Single measurement	Average	Standard deviation
b-pure at 250m³/h	1	93,1	91.7	2.2
	2	89,1		
	3	92,9		

This Test Report No. **2100106 / 13187** comprises
5 sheets with 2 table(s), 0 figure(s) and 0 appendix(es).

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Kaiser Matthias
Testing engineer

Ettenberger-Bornberg Gabriele
Director in charge

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