

Report No.: **RB/4905/02/21**

Date issued: **10.02.2021**

**Biocidal efficacy assessment report
for the product**

Cleaning cloth - polyester microfiber

according to AATCC TM100-2019 standard

made for the company

RAYPATH INTERNATIONAL Sp. z o.o. Sp. K.

Rząska, Nad Potokiem Street 7a

30-199 Kraków

Poland

RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber



CONTENTS

1. INTRODUCTION	3
2. PURPOSE OF THE STUDY.....	3
3. FORMAL BASIS	3
4. LEGAL BASIS	4
5. SAMPLE IDENTIFICATION	4
6. SCOPE OF TASKS PERFORMED	5
6.1 CONDITIONS OF THE TEST PERFORMED.....	5
6.2 TESTING METHOD AND VALIDATION	6
7. TESTS RESULTS	7
8. CONCLUSIONS.....	8

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The presented measurement results refer to the tested objects solely.

RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber



1. INTRODUCTION

The properties of biocidal preparations, before they are authorised for use, are assessed based on tests carried out in accordance with European standards or other methods accepted by designated national authorities.

The progressing standardisation of testing methods in recent years, through the development of successive European standards on the efficacy of disinfectants and antiseptics, allows a uniform, objective assessment of the antimicrobial effect of these agents and guarantees that the products offered in the market have adequate efficacy.

2. PURPOSE OF THE STUDY

This study aims to assess the biocidal efficacy of the product in relation to *Staphylococcus aureus* ATCC 6538 and *Klebsiella pneumoniae* ATCC 4352.

3. FORMAL BASIS

The assessment of antibacterial efficacy was carried out on the basis of the agreement/order dated 21.10.2020 (Agreement No.: AFC/020566/10/20/WRO) concluded between the Contracting Party and the Contractor.

Contracting Party:

RAYPATH INTERNATIONAL Sp. z o.o. Sp. K.

Rząska, Nad Potokiem Street 7a

30-199 Kraków

Poland

Contractor:

EKOLABOS sp. z o. o.

Environmental Research Laboratory

Duńska Street 9, 54-427 Wrocław

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RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber



4. LEGAL BASIS

The legal basis for the conducted tests is:

The Act of 9 October 2015 on biocidal products

AATCC TM100-2019 Test Method for Antibacterial Finishes on Textile Materials: Assessment of.

5. SAMPLE IDENTIFICATION¹

The test sample was a biocidal product, in the form of a ready-to-use biocidal material. The preparation was accepted for testing on 28.10.2020. Sample code assigned by the laboratory: 022/28/10/20.

Product name: Cleaning cloth - polyester microfiber

Lot No.: no data

Product reference number: 402

Manufacturer:

RAYPATH INTERNATIONAL Sp. z o.o. Sp. K.

Rząska, Nad Potokiem Street 7a

30-199 Kraków

Poland

Date of manufacture: no data

Expiry date: not applicable

Product appearance: blue fabric

Recommended product solvent: not applicable

Storage conditions: no data

Active substances present in the product provided by the Contracting Party and their concentrations:

- polyester enriched with Nano silver

¹ Declaration by the Principal



6. SCOPE OF TASKS PERFORMED

The tests consist a inoculating the product with a suspension of microorganisms. After a 24-hour exposure of microorganisms to the tested product, their quantification is performed in order to determine the degree of reduction of their amount, in relation to the control sample without bactericidal properties. This method is to confirm the performance of the product in laboratory conditions similar to the intended use.

6.1 CONDITIONS OF THE TEST PERFORMED

Tests performed on: 28.01.2021 – 03.02.2021

Identification of the microbial strains:

Staphylococcus aureus ATCC 6538,

Klebsiella pneumoniae ATCC 4352,

Incubation for 24 h at 37°C ± 1°C.

Number of times the test is repeated on the microbe: 1

Test temperature: 20°C ± 1°C

Required duration of the product contacting the microbial suspension: 24 h ± 10 sec

Aggravating substances: none

Solvent used during the test:

none

Stability of product mixture with solvent:

No precipitation formed during the test.

RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber



6.2 TESTING METHOD AND VALIDATION

Method used: neutralisation of solutions

Counting method: deep inoculation on plates

Neutraliser used, composition:

- Polysorbate 80 – 30 g/l
- Sodium thiosulphate – 10 g/l
- Lecithin – 3 g/l

The neutraliser used allowed for validation of the method.

Substrates used: Trypticasein Soy LAB-Agar (TSA)

RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber



7. TESTS RESULTS

The results of product testing are presented in tables 1.

Table 1. Test results

Test organism	N_0	Test results (test conditions: contact time: 24 hours ,temperature: 20°C ± 1°C)
<i>Staphylococcus aureus</i> ATCC 6538	5,41	110, 115
		Nx: 1125 Na: 3,05
		R:2,36
R ($N_0 - Na$)		
<i>Klebsiella pneumoniae</i> ATCC 4352	5,15	75, 78
		Nx: 765 Na: 2,88
		R:2,26
R ($N_0 - Na$)		

N_0 – log of the number of microorganisms used for the test;

Na – log of the number of microorganisms remaining on the product after the contact time

Nx – the amount of microorganisms remained in the test mixture after treatment with the formulation

R – log reduction of bacterial cells obtained during the test

RB/4905/02/20 Biocidal efficacy assessment report
 Cleaning cloth - polyester microfiber



Specific comments:

Verification of methodology – requirements and limits:

- N is between $1,0 \times 10^5$ CFU/ml and $3,0 \times 10^5$ CFU/ml ($5,00 \leq \log N_0 \leq 5,48$),
- The ratio control of the weighted mean of serial dilutions for N is from 5.0 to 15.0,
- The average number of bacteria on each plate used for the calculation and obtained from the test is between 14 and 330.

8. CONCLUSIONS

The product tested in accordance with AATCC TM100-2019 standard, during 24 hours, at temperature of 20°C, has a biocidal effect against:

<i>Staphylococcus aureus</i>	ATCC 6538	R: 2.36 (reduction by 99.57%)
<i>Klebsiella pneumoniae</i>	ATCC 4352	R: 2.26 (reduction by 99.45%)

The results obtained during all controls and tests met all the requirements of the methodology and were within the limits set.

RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber



Date issued: 10.02.2021

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The results were authorised by: Mateusz Latosiński, Eng

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RB/4905/02/20 Biocidal efficacy assessment report
Cleaning cloth - polyester microfiber

