Department of Biocidal Products Implementation
Ekolabos sp. z o.o. (Ltd)
Duńska Street 9
54-427 Wrocław

Report No.: **RB/4932/02/21**

Date issued: 19.02.2021

Virucidal efficacy assessment report

for the product

Cloth - polyester microfiber cleaner containing colloidal silver

according to ISO 18184:2019 standard,

made for the company

RAYPATH INTERNATIONAL Sp. z o. o. sp.k.

30-199 Kraków, Rząska

Nad Potokiem Street 7a

Poland

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Signed by: Mateusz Latosiński Eng.
Signed by QES

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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 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

The aim of the study was to assess the biocidal efficacy of the product in relation to *Influenza* A *virus* (H3N2) ATCC VR-1679, *Influenza* A *virus* (H1N1) ATCC VR-1469, *Human coronavirus* 229E (ATCC VR-740).

3. FORMAL BASIS

The assessment of biocidal efficacy was carried out on the basis of the agreement/order dated 01.12.2020 (agreement No.: AFC/021303/12/20/WRO) concluded between the Contracting Party and the Contractor.

Contracting Party:

RAYPATH INTERNATIONAL Sp. z o. o. sp.k.

30-199 Kraków, Rząska

Nad Potokiem Street 7a

Poland

Contractor:

EKOLABOS sp. z o. o.

Environmental Research Laboratory

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4. LEGAL BASIS

The legal basis for the conducted tests is:

The Act of 9 October 2015 on biocidal products

ISO 18184:2019 Textiles – Determination of antiviral activity of textile products

5. SAMPLE IDENTIFICATION[1]

The tested sample was the biocidal product in the form of a ready to use. The preparation was accepted for testing on 09.12.2020. Sample code assigned by the laboratory: 002/09/12/20.

Product name: Cloth - polyester microfiber cleaner containing colloidal silver

Batch No.: no data

Product reference number: ref. 141, ref. 402/409

Manufacturer:

RAYPATH INTERNATIONAL Sp. z o. o. sp.k.

30-199 Kraków, Rząska

Nad Potokiem Street 7a

Poland

Date of manufacture: no data

Expiry date: no data

Product appearance: cloth - a cleaning cloth made of polyester microfiber, thickness approx. 0.8 mm

Recommended product solvent: N/A

Storage conditions: no data

Active substances present in the product provided by the Contracting Party:

- colloidal silver

[1] Declaration by the Principal

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6. SCOPE OF TASKS PERFORMED

Phase 2, stage 1 assessment consists in using the dilution and neutralisation method in which the test organism is exposed to the preparation at different concentrations, times and temperatures with the addition of aggravating substances. These methods are to confirm the efficacy of the product in laboratory conditions, similar to the intended use.

6.1 CONDITIONS OF THE TEST PERFORMED

Tests performed on: 15.02.2021 – 19.02.2021

Identification of the microbial strains and cell lines:

Virus strain	Collection catalogue number	Cell line	Collection catalogue number
Influenza A *virus* (H3N2)	ATCC VR-1679	MDCK (NBL-2)	ATCC CCL-34
Influenza A *virus* (H1N1)	ATCC VR-1469	MDCK (NBL-2)	ATCC CCL-34
Human coronavirus 229E	ATCC VR-740	MRC-5	ATCC CCL-171

Incubation for 72h at 37 °C ± 1 °C + 5%CO2

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

Test temperature: 25°C ± 1°C

Duration of the product contacting the microbial suspension: 2h ± 1 min

Stability of product mixture with solvent:

No precipitation formed during the test.

Reference biocidal product: provided by the manufacturer

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6.2 TESTING METHOD AND VALIDATION

Method used: neutralisation of solutions

Counting method: observation of the cytopathic effect, end point titration according to Spearman-Kärber TCID50 / ml.

Neutraliser used, composition:

- SCDLP medium

Substrates used:

- Eagle minimal medium (MEM) + 10% FCS - medium used to multiply cell lines,
- Eagle minimal medium (MEM) + 2% FCS - medium used to determine the product's activity, determination of residual activity of test and reference products without exposure to viruses, and virus titer control without using contact time.
- Dulbecco's Modified Eagle Medium (DMEM) + 10% FCS - medium used for both line expansion MRC-5 and determination of product activity, determination of residual activity of test and reference products without contact with viruses, and virus titer control without using contact time.

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7. TESTS RESULTS

The results of product testing are presented in table 1.

Table 1. Test results

Test organism	***a***	**A**	**B**	**lg(Vb)**	**lg(Va)**	**lg(Vc)**	**M**	**Mv**
Influenza A *virus* (H3N2)	**7,56**	**4,66**	**4,52**	**5,34**	**5,49**	**4,87**	**0,15**	**0,62**
Influenza A *virus* (H1N1)	**7,45**	**4,69**	**4,60**	**5,12**	**5,33**	**4,94**	**0,21**	**0,39**
Human coronavirus 229E	**7,12**	**4,72**	**4,64**	**4,98**	**5,09**	**3,54**	**0,11**	**1,55**

a- the titre of the virus used for testing expressed in logarithmic form (lg $TCID_{50}$/ml).
A- virus titer in the test product control, without direct contact of the product with the virus suspension (lg $TCID_{50}$/ml).
B- virus titer in the reference product control, without direct contact of the product with the virus suspension (lg $TCID_{50}$/ml).
Lg(Vb)- virus titer after a full test with the reference product (lg $TCID_{50}$/ml).
Lg(Va)- virus titre in the reference product control, immediately after contact of the product with the virus suspension (lg $TCID_{50}$/ml).
lg(Vc)- virus titre after a complete test with the test product (lg $TCID_{50}$/ml).
M- the resulting reduction in virus titer lg (Va/Vb)
Mv- the resulting reduction in virus titer lg(Va/Vc).

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Specific comments:

Verification of methodology – requirements and limits:

- The titre of virus *a* used in the test is at between 7,00 and 7,70.
- A is between 4.60 and 4.78 and is up to 0.5 times larger than B,
- M is up to 1.

8. CONCLUSIONS

The product tested in accordance with ISO 18184:2019 standard, during 2 hours, in temperature of 25°C, shows biocidal efficacy effect against influenza viruses and against coronaviruses in the following values:

Influenza A *virus* (H3N2)	ATCC VR-1679	0,62 lg (76%)
Influenza A *virus* (H1N1)	ATCC VR-1469	0,39 lg (59%)
Human coronavirus 229E	ATCC VR-740	1,55 lg (97%)

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

Date issued: 19.02.2021

Report prepared by: Jakub Jałówko, M.Sc

The results were authorised by: Mateusz Latosiński, Eng

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