

ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 399164/20/POZ

A) IDENTIFICATION OF THE SAMPLE:	
Name of the product	Elastomer 5% - 6 pieces of the test sample and 12 pieces of the control sample (without anti-bacterial properties) Lot: 1 Production date: 07-08-2020 Expiration date: 11-08-2021
Composition of the antibacterial coat	-
B) TEST METHOD :	
Method	ISO 22196:2011 – Plastics- Measurement of antibacterial activity on plastics surfaces
Neutralizer	SCDLP (Soybean casein digest broth with lecithin and polyoxyethylene sorbitan monooleate)
C) EXPERIMENTAL CONDITIONS:	
Surface	50 mm x 50 mm, covered with a film size of 40 mm x 40 mm. Test and control samples were placed in sterile petri dishes.
Assay period	22/09/2020 – 25/09/2020
Temperature of incubation	35 ± 1 ° C/ 24h
Identification of the bacterial strains used	<i>Escherichia coli</i> ATCC 8739 <i>Staphylococcus aureus</i> ATCC 6538
Special remarks	The test was performed in several repetitions. Test samples were used to determine amount of live cells of bacteria.
Conclusion	The sample shows antibacterial activity against the used reference strains.

Date: 14.06.2021

Authorized by: Daria Depa, Analyst Specialist, Cosmetics Microbiology Laboratory
 Approved by: Hanna Wachowska, Laboratory Director (*Approved with qualified electronic signature*)

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 399164/20/POZ**RESULTS****Inoculum:**E.coli $5,5 \times 10^5$ cfu/mlStaphylococcus aureus $9,4 \times 10^5$ cfu/ml**The number of viable bacterial on the control sample immediately after inoculation:**E.coli (U_0 E.coli) $1,6 \times 10^5$ cfu/ cm^2 = 5,21 log $1,8 \times 10^5$ cfu/ cm^2 = 5,26 log $3,4 \times 10^5$ cfu/ cm^2 = 5,53 logStaphylococcus aureus (U_0 S.aureus) $2,1 \times 10^5$ cfu/ cm^2 = 5,32 log $4,4 \times 10^5$ cfu/ cm^2 = 5,64 log $1,5 \times 10^5$ cfu/ cm^2 = 5,18 log**The number of viable bacterial on the control sample after incubation for 24h:**

E.coli (Ut E.coli)

 $7,7 \times 10^7$ cfu/ cm^2 = 7,89 log $5,8 \times 10^7$ cfu/ cm^2 = 7,77 log $7,2 \times 10^7$ cfu/ cm^2 = 7,86 log

Staphylococcus aureus (Ut S.aureus)

 $4,6 \times 10^7$ cfu/ cm^2 = 7,66 log $2,0 \times 10^7$ cfu/ cm^2 = 7,30 log $1,7 \times 10^7$ cfu/ cm^2 = 7,24 log**The number of viable bacterial after inoculation (24h $35 \pm 1^\circ$ C) (test sample):**

E.coli (At E.coli)

 $1,5 \times 10^3$ cfu/ cm^2 = 3,18 log $3,9 \times 10^3$ cfu/ cm^2 = 3,59 log $3,5 \times 10^3$ cfu/ cm^2 = 3,54 log

Staphylococcus aureus (At S.aureus)

 $9,2 \times 10^2$ cfu/ cm^2 = 2,96 log $5,0 \times 10^2$ cfu/ cm^2 = 2,70 log $1,4 \times 10^3$ cfu/ cm^2 = 3,16 log

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 399164/20/POZ**CALCULATIONS**

Antimicrobial efficacy (R) is determined by reducing the number of viable bacterial cells in the control sample (Ut) and the tested sample (At).

$$R = (U_t - U_0) - (A_t - U_0) = U_t - A_t$$

E.coli

$$R = (7,89 - 5,21) - (3,18 - 5,21) = 2,68 - (-2,03) = 4,71$$

$$R = (7,77 - 5,26) - (3,59 - 5,26) = 2,51 - (-1,67) = 4,18$$

$$R = (7,86 - 5,53) - (3,54 - 5,53) = 2,33 - (-1,99) = 4,32$$

S.aureus

$$R = (7,66 - 5,32) - (2,96 - 5,32) = 0,34 - (-2,36) = 2,70$$

$$R = (7,30 - 5,64) - (2,70 - 5,64) = 1,66 - (-2,94) = 4,60$$

$$R = (7,24 - 5,18) - (3,16 - 5,18) = 2,06 - (-2,02) = 4,08$$

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