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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 148835/20/CGDA

A) IDENTYFICATION OF THE SAMPLE:	
Name of the product	**Hygiene of Sweden screen & handspray** 1:15 Batch/lot: BN005 Production date: 23-03-2020 Expiry date: 23-03-2025
The active substance	Not indicated
Aspect of the dilutions of the product	Transparent
B) TEST METHOD :	
Performed in accredited subcontracted partner laboratory: Scope of Accreditacion Nr 648/LE1286	**UNE- EN-14476:2014+A2:2019 Guideline- Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine. Test method and requirements (phase 2, step 1)**
Testing method	Procedure **DESIN-6225**
C) EXPERIMENTAL CONDITIONS:	
Product test concentrations (%V/V)	80%, 50%, 0,1%
Assay period	09/04/2020 – 21/04/2020
Assay temperature	37°C ± 1°C
Contact time	1 minute
Contact temperature	20°C ± 1°C
Titration method	$TCID_{50}$ (Tissue Culture Infective Dose 50%).
Solvent of the product used in the assay	Sterile distilled water.
Procedure to stop product cytotoxicity	Molecular sieving
Procedure to stop product activity	Cooling with ice
Interfering substance	Clean conditions in the presence of bovine serum albumin 0,3 g/L
Identification of the origin of viral strains and number of passes	Coronavirus 229E (ATCC VR-740) aliquot: 2019/03/04 passage 2
Cell lines (name, origin, number of passes)	MRC-5 ref. FTMR, working aliquot 3, passages 17, working aliquot 4, passages 9 and 10

Date:
25.05.2020
Authorized by: Agnieszka Erber, Expert Analyst, Microbiology Laboratory
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 148835/20/CGDA

Validation of assay results

Coronavirus 229E (ATCC VR-740)

Titre of the viral suspension for the virus control (1 minute):

- Clean conditions.....log $10^{-6.32}$

Cytotoxicity level (80%).....log $10^{-0.5}$

Maximum level of virus inactivation detectable (difference between the titre of the viral suspension and the cytotoxicity level):

- Clean conditions.....log $10^{-5.82}$

Reference test (formaldehyde 1.4%)

Cytotoxicity level of formaldehyde 0.7%.....log $10^{-0.5}$

Viral quantification in the reference test (formaldehyde) after 15 minutes and with Coronavirus 229E.....log$10^{-2.74}$

Confidence interval

Titre of virus with 95% confidence interval with Coronavirus 229E (1 minute)

- Clean conditions .....log $10^{-6.32 \pm 0.36}$

Reduction with the confidence interval of 95 % .....See table 1.

Sensitivity of cells to virus

- Viral quantification of Coronavirus 229E with cells not treated with "Hygiene of Sweden Screen & Handspray" disinfectant .....log$10^{-6.25}$
- Viral quantification of Coronavirus 229E with cells treated with the "Hygiene of Sweden Screen & Handspray" disinfectant.....log$10^{-5.74}$

Note: only can be used to determine the infectivity of cells, those dilutions which: a) show a low degree of cellular destruction (< 25% of cell monolayer) and b) produce a reduction of the title of the virus <1log$_{10}$.

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LABORATORIUM BADAWCZE
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Control of the effectivity of the disinfectant detection activity

- Viral quantification of Coronavirus 229E after 30 minutes on bath ice without exposing the virus to the "Hygiene of Sweden Screen & Handspray" disinfectant……..$log10^{-6.16}$
- Viral quantification of Coronavirus 229E exposing the virus to "Hygiene of Sweden Screen & Handspray" disinfectant and incubated 30 minutes on ice bath……..$log10^{-5.82}$

Note: The difference between decimal logarithm of titre without exposing the virus to the product and of the test suspension should be ≤ 0.5

Special remarks

- The product is tested at 80%; 50% and 0.1%. The highest concentration that can be tested in the test is 80%, because of the mixtures made during the test.

- All controls and validation were between the basic limits.
- One concentration at least showed a log reduction less than 4 log.
- One concentration at least showed a log reduction higher than ≥4 log.

Assay results

Description

The disinfectant product, **"Hygiene of Sweden Screen & Handspray"**, batch **BN10,** under clean conditions, diluted at 80% and 50% and during 1 minute of exposure, **shows** virucidal activity against Human Coronavirus 229E (ATCC VR-740), with a reduction ≥ 5.82 ± 0.36 $TCID_{50}$, for both concentrations, when the activity is assayed according with the internal procedure DESIN-6255 based on the NF EN 14476: 2013 + A2: 2019 guideline.

The disinfectant product, **"Hygiene of Sweden Screen & Handspray"**, batch **BN10,** under clean conditions, diluted at 0.1% and during 1 minute of exposure, **does not show** virucidal activity against Human Coronavirus 229E (ATCC VR-740), with a reduction 0.16 ± 0.50 $TCID_{50}$, when the activity is assayed according with the internal procedure DESIN-6255 based on the NF EN 14476: 2013 + A2: 2019 guideline.

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Tables of results and graphics

See tables 1 and 2 and figure 1.

Conclusion

The disinfectant product **"Hygiene of Sweden Screen & Handspray"**, batch **BN10,** under clean conditions (bovine serum albumin 0.3 g/L), diluted at **80%**, requested by the customer, and during 1 minute of exposure, **shows** virucidal activity against Human Coronavirus 229E (ATCC VR-740), when the activity is assayed according with the internal procedure DESIN-6255 based on the NF EN 14476: 2013 + A2: 2019 guideline.

Tests performed only with Coronavirus strain 229E, **does not allow to conclude that the product tested shows a general virucidal activity**, but only that it shows activity against Coronaviruses.

Note 1: The results obtained correspond to the product received in this laboratory.
Note 2: The information that depend on the information received from the client and are not facilitated by the same one, shown as "not provided".

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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Table 1. Results of activity of the product "**Hygiene of Sweden Screen & Handspray**", batch **BN10,** with Coronavirus 229E (ATCC VR-740) under clean conditions.

Product	Concen-tration*	Interfering substance	Cytoto-xicity level	$\log_{10}$ TCID$_{50}$ after…..				Reduction with the confidence interval of 95 % after
				0 min	1 min	5 min	15 min	1 minute
Hygiene of Sweden Screen & Handspray	80%	0.3 g/L BSA	0.5	-	0.50	-	-	≥ 5.82 ± 0.36
	50%		0.5	-	0.50	-	-	≥ 5.82 ± 0.36
	0.1%		0.5	-	6.16	-	-	0.16 ± 0.50
Formaldehyde	0.7% (w:v)	NA	0.5	NR	NR	3.82	2.74	NA
Virus control	NA	0.3 g/L BSA	NA	6.07	6.32	NR	NR	NA
Virus control Formaldehyde	0.7% (w:v)	NA	0.5	5.91	NR	NR	5.83	NA

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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Control of sensitivity of cells to virus (difference between decimal logarithm of titre using treated and untreated cells) .....$log10^{-0.51}$ Control of the effectiveness of the disinfectant detection activity (difference between decimal logarithm of titre without exposing the virus to the product and of the test suspension).....$log10^{-0.34}$
NA: not applicable; NR: not realized Times recommended by Guideline for surfaces: maximum 5 or 5 minutes Times recommended by Guideline for instruments: maximum 5 minutes Times recommended by Guideline for Hygienic treatment of hands by friction and hygienic handwashing: between 30 or 120 minutes PBS: phosphate buffered saline; BSA: bovine serum albumin. Virucidal activity exists when the titre of virus shows a reduction ≥4 log. *: see Special remarks to understand the values of these concentrations.

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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Table 2. Results of the activity of the product "**Hygiene of Sweden Screen & Handspray**", batch **BN10,** with Coronavirus 229E (ATCC VR-740) (Assay of titration with 12 wells), under clean conditions.

Product	Concen-tration *	Interfering substance	Time of contact (min)	Dilutions (log10)[a,b]							
				1	2	3	4	5	6	7	8
Hygiene of Sweden Screen & Handspray	80%	0.3 g/L BSA	1	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	NR
	50%		1	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	NR
	0.1%		1	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0003 2202 2220	0000 0001 0000	0000 0000 0000
Cytotoxicity	80%	0.3 g/L BSA	NA	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	NR
Virus control	NA	0.3 g/L BSA	0	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0032 0220 2000	0000 0000 1100	0000 0000 0000
			1	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0032 2222 2020	0000 0011 0000	0000 0000 0000
Formaldehyde	0.7 (w/v)	NA	5	4444 4444 4444	4444 4444 4444	2322 2320 2332	0102 2200 0010	0000 0000 0000	0000 0000 0000	0000 0000 0000	NR
			15	4444 4444 4444	2322 2223 2023	0021 0102 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	NR
Control of formaldehyde cytotoxicity	0.7 (w/v)	0.3 g/L BSA	NA	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	NR
Virus control formaldehyde	0.7 (w/v)	NA	0	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	2332 0232 3322	0100 0021 1012	0000 0000 0000	NR
			15	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	2322 0302 3222	0212 0002 0110	0000 0000 0000	NR

Sensitivity control of cells to virus	NA	NA	Cells not treated	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	00CC C0CC C000	0000 0C0C C000	0000 0000 0000
			Cells treated	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CC0C CCCC CCCC	000C C0C0 C000	0000 0000 0000	0000 0000 0000
Effectiveness control of the disinfectant detection activity	NA	0.3 g/L BSA	Without PRODUCT	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	000C CC0C C0C0	0000 000C C000	0000 0000 0000
			With PRODUCT	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	000C C0CC 0C00	0000 0000 0000	0000 0000 0000

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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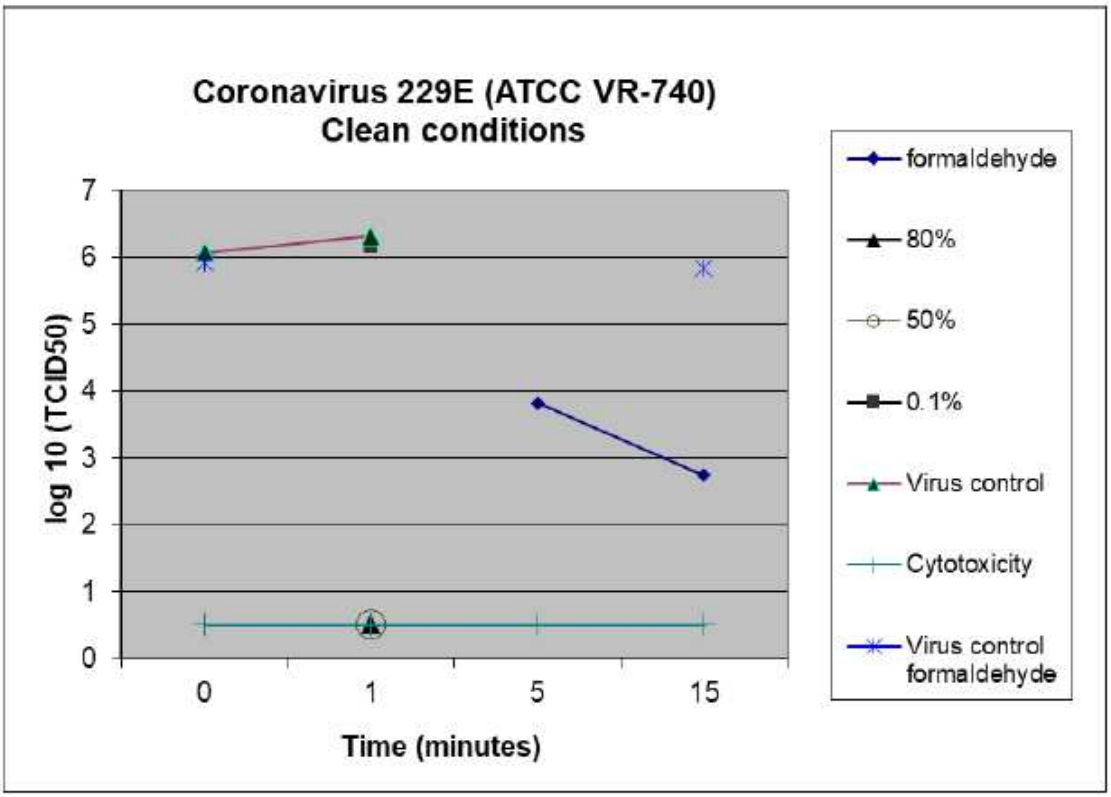
a): 1 to 4, virus present and grade of cytophatic effect in 12 units of cellular culture, or grade of cellular lesions in the cytotoxicity assay.
C = cytopathic effect with presence of virus (in this case and according to guideline does not take into account the degree of cytopathic effect only, the presence or absence of the same).
0 = no virus present or absence of cellular lesions in the cytotoxicity assay; NA: not applicable; NR: not realized; BSA: Bovine serum albumin; PBS: phosphate buffered saline.
sec: minutes; min: minutes.
*: see Special remarks to understand the values of these concentrations.

Figure 1. Results of the activity of the product "**Hygiene of Sweden Screen & Handspray**", batch **BN10**, at 80%, 50% and 0.1% concentration under clean conditions with Coronavirus 229E (ATCC VR-740).



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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

HAMILTON

ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

A) IDENTYFICATION OF THE SAMPLE:	
Name of the product	**HYGIENE OF SWEDEN DISINFECTANT** Batch number: BN022
The active substance	Not indicated
Aspect of the dilutions of the product	Liquid
B) TEST METHOD :	
Performed in accredited subcontracted partner laboratory: Scope of Accreditacion Nr 648/LE1286	**UNE- EN-14476:2014+A1:2015- Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine. Test method and requirements (phase 2, step 1) AENOR**
C) EXPERIMENTAL CONDITIONS:	
Product test concentrations (%V/V)	80%, 50%, 0,1%
Assay period	18/03/2019 – 11/04/2019
Contact time	5 minutes.
Titration method	$TCID_{50}$ (Tissue culture infective dose 50%)
Solvent of the product used in the assay	Sterile distilled water
Contact temperature	20°C ± 1°C
Procedure to stop product cytotoxicity	Molecular sieving
Procedure to stop product activity	Cooling with ice
Interfering substance	Clean conditions (0,3g/L bovine serum albumin)
Identification of the origin of viral strains and number of passes	Norovirus aliquot: 18/05/17 passage 2
Cell lines (name, origin, number of passes and culture medium)	Raw 264.7, Public health England, working aliquot 13, passage 9 and 11.

Date: 16-04-2019

Authorized by: Agnieszka Erber, Expert Analyst, Microbiology Laboratory
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, tel. +48 58 766 99 00

ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

Validation of assay results

Murine norovirus (strain S99 Berlin)

Titre of the viral suspension for the virus control (5 minutes):

- Clean conditions.....log $10^{-6.91}$

Cytotoxicity level (80%).....log $10^{-0.5}$

Maximum level of virus inactivation detectable (difference between the titre of the viral suspension and the cytotoxicity level):

- Clean conditions.....log $10^{-6.41}$

Reference test (formaldehyde 1.4%)

Cytotoxicity level of formaldehyde 0.7%..... log $10^{-0.5}$

Viral quantification in the reference test (formaldehyde) after 60 minutes and with Murine Norovirus .....log $10^{-0.91}$

Confidence interval

Title of virus with 95% confidence interval with Murine Norovirus (5 minutes)

- Clean conditions .....log $10^{-6.91 \pm 0.30}$

Reduction with the confidence interval of 95 % .....See table 1.

Date: 16-04-2019

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, tel. +48 58 766 99 00

ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

Sensitivity of cells to virus

- Viral quantification of Murine Norovirus with cells not treated with "Hygiene of Sweden disinfectant" .....$log10^{-5.24}$
- Viral quantification of Murine Norovirus with cells treated with the "Hygiene of Sweden disinfectant" .....$log10^{-4.74}$

Note: only can be used to determine the infectivity of cells, those dilutions which: a) show a low degree of cellular destruction (< 25% of cell monolayer) and b) produce a reduction of the title of the virus <1log_{10}.

Control of the effectivity of the disinfectant detection activity

- Viral quantification of Murine Norovirus after 30 minutes on bath ice without exposing the virus to the " Hygiene of Sweden disinfectant".....$log10^{-5.32}$
- Viral quantification of Murine Norovirus exposing the virus to " Hygiene of Sweden disinfectant " and incubated 30 minutes on ice bath.....$log10^{-4.91}$

Note: The difference between decimal logarithm of titre without exposing the virus to the product and of the test suspension should be ≤0.5

Special remarks

The product is tested at 80%; 50% and 0.1%. The highest concentration that can be tested in the test is 80%, because of the mixtures made during the test.

All controls and validation were between the basic limits.
One concentration at least showed a log reduction less than 4 log.
One concentration at least showed a log reduction higher than ≥4 log.

Date: 16-04-2019

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ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

Assay results

Description

The disinfectant product **Hygiene of Sweden disinfectant,** batch **BN022,** under clean conditions, diluted at 80% and 50% and during 5 minutes of exposure, **shows** virucidal activity against Murine Norovirus, with a reduction $\geq 6.41 \pm 0.30$ $TCID_{50}$ diluted at 80% and a reduction 5.59 ± 0.47 $TCID_{50}$ diluted at 50%, when the activity is assayed according with the UNE-EN 14476:2014 + A1:2015 guideline.

The disinfectant product **Hygiene of Sweden disinfectant,** batch **BN022,** under clean conditions, diluted at 0.1% and during 5 minutes of exposure, **does not show** virucidal activity against Murine Norovirus, with a reduction 0.17 ± 0.45 $TCID_{50}$, when the activity is assayed according with the UNE-EN 14476:2014 + A1:2015 guideline.

Tables of results and graphics

See tables 1 and 2 and figure 1.

Conclusion

The disinfectant product **Hygiene of Sweden disinfectant,** batch **BN022**, under clean conditions (0.3 g/L BSA), diluted at **80%** and **50%** and during 5 minutes of exposure, **shows** virucidal activity against Murine Norovirus when the activity is assayed according with the UNE-EN 14476: 2014+ A1: 2015 guideline, with deviations; due that the test has been performed not strictly following the guideline recommendations with respect to the viruses assayed.

Note 1: The results obtained correspond to the product received in this laboratory.
Note 2: The information that depend on the information received from the client and are not facilitated by the same one, shown as "not provided".

Date: 16-04-2019

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ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

Table 1. Results of activity of the **Hygiene of Sweden disinfectant,** batch **BN022,** with Murine Norovirus, strain S99 Berlin, under clean conditions:

Product	Concen-tration*	Interfering substance	Cytoto-xicity level	$\log_{10}$ $TCID_{50}$ after…..				Reduction with the confidence interval of 95 % after
				0 min	5 min	30 min	60 min	5 minutes
Hygiene of Sweden disinfectant	80%	0.3 g/L BSA	0.5	-	0.50	-	-	≥ 6.41 ± 0.30
	50%		0.5	-	1.32	-	-	5.59 ± 0.47
	0.1%		0.5	-	6.74	-	-	0.17 ± 0.45
Formaldehyde	0.7% (p:v)	PBS	0.5	-	-	2.41	0.91	NA
Virus control	NA	3 g/L BSA	NA	7.00	6.91	NR	NR	NA
Virus control Formaldehyde	0.7% (p:v)	PBS	0.5	5.08	NR	NR	5.50	NA

Control of sensitivity of cells to virus (difference between decimal logarithm of titre using treated and untreated cells) ……$\log10^{-0.41}$

Control of the effectiveness of the disinfectant detection activity (difference between decimal logarithm of titre without exposing the virus to the product and of the test suspension)…. $\log10^{-0.33}$

NA: not applicable; NR: not realized
Times recommended by Guideline for surfaces: maximum 5 or 60 minute
Times recommended by Guideline for instruments: maximum 60 minute
Times recommended by Guideline for Hygienic treatment of hands by friction and hygienic handwashing: between 30 or 120 seconds
PBS: phosphate buffered saline; BSA: bovine serum albumin.
Virucidal activity exists when the titer of virus shows a reduction ≥4 log.
*: see Special remarks to understand the values of these concentrations.

Date: 16-04-2019

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LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, tel. +48 58 766 99 00

ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

Table 2. Results of the activity of the **Hygiene of Sweden disinfectant,** batch **BN022,** with Murine Norovirus strain S99 Berlin (Assay of titration with 12 wells), under clean conditions:

Product	Concen-tration *	Interfering substance	Time of contact (min)	Dilutions (log10)[a,b]							
				1	2	3	4	5	6	7	8
Hygiene of Sweden disinfectant	80%	0.3 g/L BSA	5	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000
	50%		5	0033 3333 3030	2001 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000
	0.1%		5	4444 4444 4444	4444 4444 4444	4444 4444 4444	3333 3334 3222	0323 3333 3333	0000 2202 0100	0000 0000 0000	0000 0000 0000
Cytotoxicity	80%	NA	NA	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000
Virus control	NA	0.3 g/L BSA	0	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0032 0220 2200	0000 0000 0000
			5	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0003 3030 3300	0000 0000 0000
Formaldehyde	0.7 (p/v)	PBS	30	4444 4444 4444	0322 2222 2222	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000
			60	0032 0202 0200	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000
Control of folmaldehyde cytotoxicity	0.7 (p/v)	PBS	NA	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000	0000 0000 0000
Virus control folmaldehyde	0.7 (p/v)	PBS	0	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0330 3333 3333	0000 2202 0000	0000 0000 0000	0000 0000 0000
			60	4444 4444 4444	4444 4444 4444	4444 4444 4444	4444 4444 4444	0220 3333 3303	0000 2012 0000	0000 0000 0000	0000 0000 0000

Date: 16-04-2019

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ul. Chwaszczyńska 180, 81-571 Gdynia, tel. +48 58 766 99 00

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Sensitivity control of cells to virus	NA	NA	Cells not treated	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	00C0 CCCC 0CC0	0000 00C0 0C00	0000 0000 0000	0000 0000 0000
			Cells treated	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	0CCC CCCC CCCC	0000 CCC0 C000	0000 0000 0000	0000 0000 0000	0000 0000 0000
Effectiveness control of the disinfectant detection activity	NA	0.3 g/L BSA	Without Hygiene of Sweden disinfectant	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	0C0C CCCC C0C0	0000 00C0 0C00	0000 0000 0000	0000 0000 0000
			With Hygiene of Sweden disinfectant	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	CCCC CCCC CCCC	000C C0C0 C000	0000 0000 C000	0000 0000 0000	0000 0000 0000

a): 1 to 4, virus present and grade of cytopathic effect in 12 units of cellular culture, or grade of cellular lesions in the cytotoxicity assay.
C = cytopathic effect with presence of virus (in this case and according to guideline does not take into account the degree of cytopathic effect only, the presence or absence of the same).
0 = no virus present or absence of cellular lesions in the cytotoxicity assay; NA: not applicable; NR: not realized; BSA: Bovine serum albumin; PBS: phosphate buffered saline.
sec: seconds; min: minute
*: see Special remarks to understand the values of these concentrations.

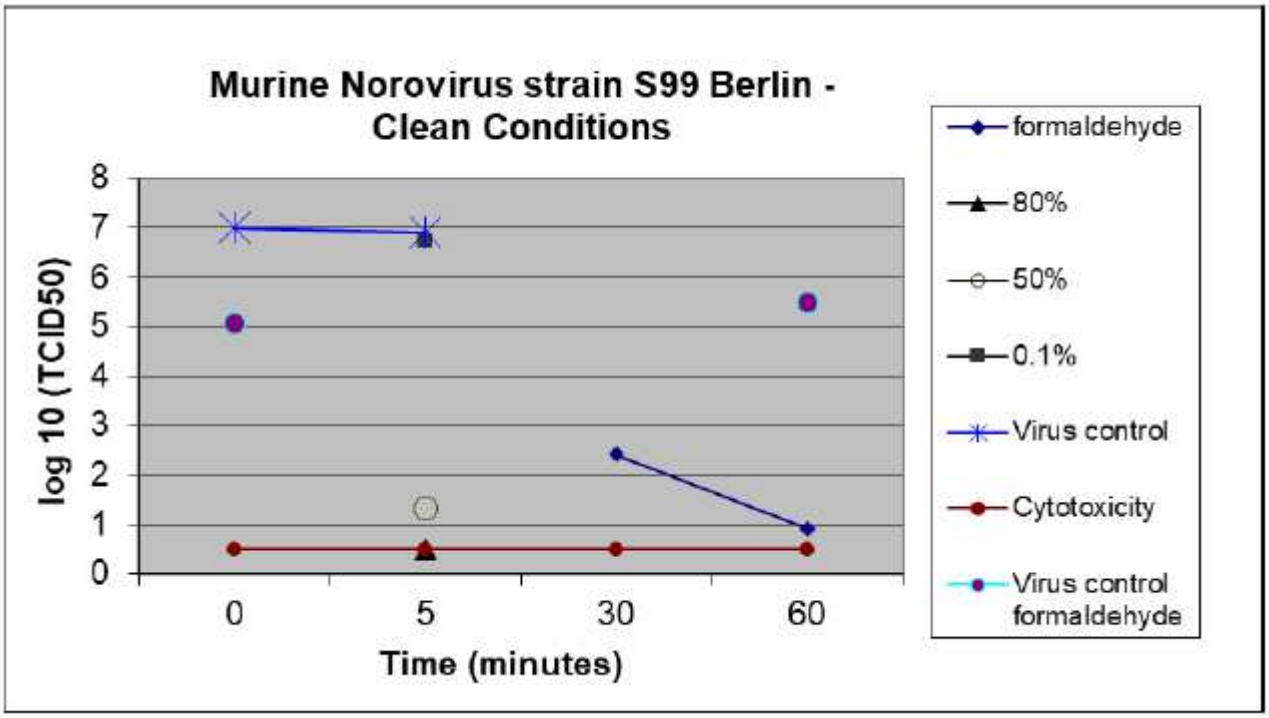
Date: 16-04-2019

Authorized by: Agnieszka Erber, Expert Analyst, Microbiology Laboratory
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, tel. +48 58 766 99 00

ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 115112/19/CGDA

Figure 1. Results of the activity of the product **Hygiene of Sweden disinfectant,** batch **BN022**, at 80%, 50% and 0.1% concentration under clean conditions with Murine Norovirus strain S99 Berlin.



Date: 16-04-2019

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418157/20/CGDA

A) IDENTIFICATION OF THE SAMPLE	
Name of the product	**Pocketspray of Sweden Screen & handspray** Batch: BN005 Production date: 01-08-2020 Expiration date: 01-08-2023
Active substance	DDAC 0,0495%
B) TEST METHOD AND ITS VALIDATION	
Method	**PN-EN 13727+A2: 2015-12** **Chemical disinfectants and antiseptics.** **Quantitative suspension test for the evaluation of bactericidal activity in the medical area.** **Test method and requirements (phase 2, step 1).**
Neutralizer	Polisorbate 80- 30 g/l, saponine- 3 g/l, cysteine- 1g/l, histidine- 1g/l, sodium thiosulfate 7,5g/l
C) EXPERIMENTAL CONDITIONS	
Product test concentrations (%V/V)	0, 01%, 50%, 80%
Test temperature	20˚C
Contact time	1 minute
Interfering substance	Clean conditions – 0,3 g/l bovine albumin Dirty conditions – 3 g/l bovine albumin+3ml/l erythrocytes
Product diluent	Sterile hard water
Temperature of incubation	37±1˚C
Identification of the bacterial and fungal strains used:	*Pseudomonas aeruginosa* ATCC 15442 *Staphylococcus aureus* ATCC 6538 *Enterococcus hirae* ATCC 10541 *Escherichia coli* K12 NCTC 10538

Date: 21.09.2020

Authorized by: Agnieszka Erber, Cosmetics Microbiology Laboratory Manager
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418157/20/CGDA

TABLE 1. RESULTS OF THE TEST

0,3 g/l BOVINE ALBUMIN - CLEAN CONDITIONS
CONTACT TIME: 1 MINUTE
TEST TEMPERATURE: 20°C
PRODUCT TEST CONCENTRATIONS: 0,01%, 50%, 80%

TEST ORGANISM	VALIDATION				VALIDATION A			VALIDATION B			VALIDATION C		
	VALIDATION SUSPENSION												
	VC1	VC2	Nv	Nvo	VC1	VC2	A	VC1	VC2	B	VC1	VC1	C
***Escherichia coli* K12 NCTC 10538**	97	95	960	96	86	81	84	74	70	72	69	66	68
***Staphylococcus aures* ATCC 6538**	93	91	920	92	83	80	82	76	78	77	71	73	72
***Pseudomonas aeruginosa* ATCC 15442**	89	81	850	85	62	67	65	59	55	57	55	51	53
***Enetrococcus hirae* ATCC 10541**	73	78	755	76	66	63	65	59	55	57	53	54	54
criteria	**300** ≤ Nv ≤ 1600		**30** ≤ Nv0 ≤ 160		**A** $\geq 0{,}5*N_{v0}$ **acceptable**			**B ≥ 0,5*N_{v0} acceptable**			**C ≥ 0,5*N_{v0} acceptable**		

TEST ORGANISM	TEST SUSPENSION							
	-6	-6	-7	-7	N	lgN	N_0	**lgN_0**
***Escherichia coli* K12 NCTC 10538**	231	230	23	22	2,3E+08	8,36	2,3E+07	7,36
***Staphylococcus aures* ATCC 6538**	215	216	21	21	2,2E+08	8,33	2,2E+07	7,33
***Pseudomonas aeruginosa* ATCC 15442**	197	198	18	19	2,0E+08	8,29	2,0E+07	7,29
***Enetrococcus hirae* ATCC 10541**	174	176	17	16	1,7E+08	8,24	1,7E+07	7,24
criteria	**$1{,}5*10^8$** ≤ N ≤ $5*10^8$		**8,17 ≤ logN ≤ 8,70**		**1,5*107 ≤ N_0** ≤ 5*107		**7,17 ≤ logN_0** ≤ 7,70	

TEST ORGANISM		0,01%					50%					80%				
	N	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**
***Escherichia coli* K12 NCTC 10538**	2,3E+08	>330	>330	>3300	>3,52	**<3,84**	0	0	<1400	<2,15	**>5,21**	0	0	<1400	<2,15	**>5,21**
***Staphylococcus aures* ATCC 6538**	2,2E+08	>330	>330	>3300	>3,53	**<3,81**	0	0	<1400	<2,15	**>5,18**	0	0	<1400	<2,15	**>5,18**
***Pseudomonas aeruginosa* ATCC 15442**	2,0E+08	>330	>330	>3300	>3,54	**<3,77**	0	0	<1400	<2,15	**>5,14**	0	0	<1400	<2,15	**>5,14**
***Enetrococcus hirae* ATCC 10541**	1,7E+08	>330	>330	>3300	>3,55	**<3,72**	0	0	<1400	<2,15	**>5,09**	0	0	<1400	<2,15	**>5,09**
criteria	**lg R ≥ 5**															

Date: 21.09.2020

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418157/20/CGDA

TABLE 2. RESULTS OF THE TEST

3 g/l BOVINE ALBUMIN+3 ml/l erythrocytes - DIRTY CONDITIONS
CONTACT TIME: 1 MINUTE
TEST TEMPERATURE: 20°C
PRODUCT TEST CONCENTRATIONS: 0,1%, 50%, 80%

TEST ORGANISM	VALIDATION VALIDATION SUSPENSION				VALIDATION A			VALIDATION B			VALIDATION C		
	VC1	VC2	Nv	Nvo	VC1	VC2	A	VC1	VC2	B	VC1	VC1	C
***Escherichia coli* K12 NCTC 10538**	99	96	975	98	87	83	85	76	75	76	70	75	73
***Staphylococcus aures* ATCC 6538**	94	96	950	95	85	84	85	79	77	78	73	77	75
***Pseudomonas aeruginosa* ATCC 15442**	88	86	870	87	89	87	88	61	60	61	53	59	56
***Enetrococcus hirae* ATCC 10541**	86	79	825	83	89	81	85	59	57	58	57	59	58
criteria	**300** ≤ Nv ≤ 1600		**30** ≤ Nv0 ≤ 160		**A** ≥ 0,5*N_{v0} **acceptable**			**B ≥ 0,5*N_{v0} acceptable**			**C ≥ 0,5*N_{v0} acceptable**		

TEST ORGANISM	TEST SUSPENSION							
	-6	-6	-7	-7	N	lgN	N_0	**lgN_0**
***Escherichia coli* K12 NCTC 10538**	231	230	23	22	2,3E+08	8,36	2,3E+07	7,36
***Staphylococcus aures* ATCC 6538**	215	216	21	21	2,2E+08	8,33	2,2E+07	7,33
***Pseudomonas aeruginosa* ATCC 15442**	197	198	18	19	2,0E+08	8,29	2,0E+07	7,29
***Enetrococcus hirae* ATCC 10541**	174	176	17	16	1,7E+08	8,24	1,7E+07	7,24
criteria	**$1,5*10^8$** ≤ N ≤ $5*10^8$		**8,17 ≤ logN ≤ 8,70**		**1,5*107 ≤ N_0** ≤ 5*107		**7,17 ≤ logN_0** ≤ 7,70	

TEST ORGANISM		0,01%					50%					80%				
	N	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**
***Escherichia coli* K12 NCTC 10538**	2,3E+08	>330	>330	>3300	>3,52	**<3,84**	0	0	<1400	<2,15	**>5,21**	0	0	<1400	<2,15	**>5,21**
***Staphylococcus aures* ATCC 6538**	2,2E+08	>330	>330	>3300	>3,53	**<3,81**	0	0	<1400	<2,15	**>5,18**	0	0	<1400	<2,15	**>5,18**
***Pseudomonas aeruginosa* ATCC 15442**	2,0E+08	>330	>330	>3300	>3,54	**<3,77**	0	0	<1400	<2,15	**>5,14**	0	0	<1400	<2,15	**>5,14**
***Enetrococcus hirae* ATCC 10541**	1,7E+08	>330	>330	>3300	>3,55	**<3,72**	0	0	<1400	<2,15	**>5,09**	0	0	<1400	<2,15	**>5,09**
criteria	**lg R ≥ 5**															

Date: 21.09.2020

Authorized by: Agnieszka Erber, Cosmetics Microbiology Laboratory Manager
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418590/20/CGDA

A) IDENTIFICATION OF THE SAMPLE	
Name of the product	**Pocketspray of Sweden Screen & handspray** **Batch: BN005** **Production date: 01-08-2020** **Expiration date: 01-08-2023**
Active substance	DDAC, 0,0495%
B) TEST METHOD AND ITS VALIDATION	
Method	**PN-EN 13697+A1:2019-08** **Chemical disinfectants and antiseptics – Quantitative non-porous surface test for the evaluation of bactericidal and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas – Test method and requirements without mechanical action (phase 2, step 2)**
Neutralizer	Polisorbate 80- 30 g/l, saponine- 3 g/l, cysteine- 1g/l, histidine- 1g/l, sodium thiosulfate 7,5g/l
C) EXPERIMENTAL CONDITIONS	
Product test concentrations (%V/V)	0,01%, 50%, 100%
Test temperature	20°C+/-1°C
Contact time	5 minutes bacteria, 15 minutes fungi
Interfering substance	Clean conditions : 0,3g/l bovine albumin Dirty conditions : 3g/l bovine albumin
Product diluent	Sterile hard water
Temperature of incubation	36±1˚C bacteria 30±1˚C fungi
Identification of the bacterial and fungal strains used:	*Pseudomonas aeruginosa* ATCC 15442 *Pseudomonas aeruginosa* ATCC 15442 *Escherichia coli ATCC 10536* *Staphylococcus aureus ATCC 6538* *Enterococcus hirae ATCC 10541* *Aspergillus brasiliensis ATCC 16404* *Candida albicans* ATCC 10231

Date: 21.09.2020

Authorized by: Agnieszka Erber, Cosmetics Microbiology Laboratory Manager
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418590/20/CGDA

TABLE 1. RESULTS OF THE TEST
0,3 g/l BOVINE ALBUMIN - CLEAN CONDITIONS
CONTACT TIME: 5 minutes bacteria, 15 minutes fungi
TEST TEMPERATURE: 20°C +/-1°C
PRODUCT TEST CONCENTRATIONS: 0,01%, 50%, 100%

	BACTERIAL/FUNGAL TEST SUSPENSION : N					BADANIE WALIDACYJNE NT					BADANIE WALIDACYJNE NC				
TEST ORGANISM	DILUTION	VC1	VC2	AVERAGE	N	DILUTION	VC1	VC2	AVERAGE	NT	DILUTION	VC1	VC2	AVERAGE	NC
Pseudomonas aeruginosa ATCC 15442	1,00E-07	236	239	237	7,77	1E-04	112	116	114	7,06	1E-04	111	113	112	7,05
	1,00E-08	23	23												
Escherichia coli ATCC 10536	1,00E-06	221	226	224	6,75	1E-04	121	126	123,5	7,09	1E-04	120	123	121,5	7,08
	1,00E-07	22	23												
Staphylococcus aureus ATCC 6538	1,00E-06	251	246	248	6,79	1E-04	138	134	136	7,13	1E-04	131	130	130,5	7,12
	1,00E-07	25	24												
Enterococcus hirae ATCC 10541	1,00E-06	226	229	228	6,76	1E-04	126	125	125,5	7,10	1E-04	123	121	122	7,09
	1,00E-07	23	24												
Aspergillus brasiliensis ATCC 16404	1,00E-05	231	233	232	5,76	1E-03	133	131	132	6,12	1E-03	129	127	128	6,11
	1,00E-06	23	24												
Candida albicans ATCC10231	1,00E-06	226	221	223	6,75	1E-03	119	121	120	6,08	1E-03	116	114	115	6,06
	1,00E-07	21	22												

	WATER CONTROL N_C					
TEST ORGANISM	DILUTION	VC1	VC2	AVERAGE	Nc	Nts
Pseudomonas aeruginosa ATCC 15442	1E-04	134	135	135	7,13	>100
Escherichia coli ATCC 10536	1E-04	122	127	125	7,10	>100
Staphylococcus aureus ATCC 6538	1E-04	131	133	132	7,12	>100
Enterococcus hirae ATCC 10541	1E-04	129	124	127	7,10	>100
Aspergillus brasiliensis ATCC 16404	1E-03	122	128	125	6,10	>100
Candida albicans ATCC10231	1E-03	123	121	122	6,09	>100

CRITERIA:
NT-N_C ≤ ±0,3 log
NC-N_C ≤ ±0,3 log

Bacteria 6,57≤ N ≤ 7,10 Nc>4 log
P.aeruginosa clean conditions 7,57≤ N ≤ 8,10
Fungi 5,57 ≤ N ≤ 6,10 Nc>3 log
C.albicans 6,57≤ N ≤ 7,10 clean conditions

Date: 21.09.2020

Authorized by: Agnieszka Erber, Cosmetics Microbiology Laboratory Manager
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418590/20/CGDA

TEST ORGANISM	PROCEDURA BADANIA DLA STĘŻEŃ % (V/V)																			
	0,01%							50%							100%					
	DILUTION	VC1	VC2	AVERAGE	Nd	**R=Nc-Nd**	Nts	DILUTION	VC1	VC2	AVERAGE	Nd	**R=Nc-Nd**	Nts	DILUTION	VC1	VC2	AVERAGE	Nd	**R=Nc-Nd**	Nts
Pseudomonas aeruginosa ATCC 15442	1,00E-01	>330	>330	>330	>4,52	**<2,61**	>100	1,00E-01	15	17	16	3,20	**3,93**	0	1,00E-01	0	0	0	<0,1	**>7,03**	0
Escherichia coli ATCC 10536	1,00E-01	>330	>330	>330	>4,52	**<2,58**	>100	1,00E-01	0	0	0	<0,1	**>7,00**	0	1,00E-01	0	0	0	<0,1	**>7,00**	0
Staphylococcus aureus ATCC 6538	1,00E-01	>330	>330	>330	>4,52	**<2,60**	>100	1,00E-01	0	0	0	<0,1	**>7,02**	0	1,00E-01	0	0	0	<0,1	**>7,02**	0
Enterococcus hirae ATCC 10541	1,00E-01	>330	>330	>330	>4,52	**<2,58**	>100	1,00E-01	0	0	0	<0,1	**>7,00**	0	1,00E-01	0	0	0	<0,1	**>7,00**	0
Aspergillus brasiliensis ATCC 16404	1,00E-01	>165	>165	>330	>4,22	**<1,88**	>100	1,00E-01	10	9	10	3,00	**3,10**	0	1,00E-01	0	0	0	<0,1	**>6,00**	0
Candida albicans ATCC10231	1,00E-01	>330	>330	>330	>4,52	**<1,57**	>100	1,00E-01	22	21	22	3,34	**2,75**	2	1,00E-01	0	0	0	<0,1	**>5,99**	0

Date: 21.09.2020

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J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418590/20/CGDA

TABLE 2. RESULTS OF THE TEST
3 g/l BOVINE ALBUMIN - DIRTY CONDITIONS
CONTACT TIME: 5 minutes bacteria, 15 minutes fungi
TEST TEMPERATURE: 20°C +/-1°C
PRODUCT TEST CONCENTRATIONS: 0,01%, 50%, 100%

	BACTERIAL/FUNGAL TEST SUSPENSION : N					BADANIE WALIDACYJNE NT					BADANIE WALIDACYJNE NC				
TEST ORGANISM	DILUTION	VC1	VC2	AVERAGE	N	DILUTION	VC1	VC2	AVERAGE	NT	DILUTION	VC1	VC2	AVERAGE	NC
Pseudomonas aeruginosa ATCC 15442	1,00E-07	236	239	237	7,77	1E-04	117	119	118	7,07	1E-04	113	115	114	7,06
	1,00E-08	23	23												
Escherichia coli ATCC 10536	1,00E-06	221	226	224	6,75	1E-04	126	129	127,5	7,11	1E-04	123	121	122	7,09
	1,00E-07	22	23												
Staphylococcus aureus ATCC 6538	1,00E-06	251	246	248	6,79	1E-04	139	135	137	7,14	1E-04	132	136	134	7,13
	1,00E-07	25	24												
Enterococcus hirae ATCC 10541	1,00E-06	226	229	228	6,76	1E-04	129	127	128	7,11	1E-04	126	123	124,5	7,10
	1,00E-07	23	24												
Aspergillus brasiliensis ATCC 16404	1,00E-05	231	233	232	5,76	1E-03	136	134	135	6,13	1E-03	133	131	132	6,12
	1,00E-06	23	24												
Candida albicans ATCC10231	1,00E-06	226	221	223	6,75	1E-03	126	128	127	6,10	1E-03	121	123	122	6,09
	1,00E-07	21	22												

	WATER CONTROL N_C					
TEST ORGANISM	DILUTION	VC1	VC2	AVERAGE	Nc	Nts
Pseudomonas aeruginosa ATCC 15442	1E-04	134	135	135	7,13	>100
Escherichia coli ATCC 10536	1E-04	122	127	125	7,10	>100
Staphylococcus aureus ATCC 6538	1E-04	131	133	132	7,12	>100
Enterococcus hirae ATCC 10541	1E-04	129	124	127	7,10	>100
Aspergillus brasiliensis ATCC 16404	1E-03	122	128	125	6,10	>100
Candida albicans ATCC10231	1E-03	123	121	122	6,09	>100

CRITERIA:
NT-N_C ≤ ±0,3 log
NC-N_C ≤ ±0,3 log

Bacteria 6,57≤ N ≤ 7,10 Nc>4 log
P.aeruginosa clean conditions 7,57≤ N ≤ 8,10
Fungi 5,57 ≤ N ≤ 6,10 Nc>3 log
C.albicans 6,57≤ N ≤ 7,10 clean conditions

Date: 21.09.2020

Authorized by: Agnieszka Erber, Cosmetics Microbiology Laboratory Manager
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 418590/20/CGDA

	PROCEDURA BADANIA DLA STĘŻEŃ % (V/V)																						
	0,01%							50%								100%							
TEST ORGANISM	DILUTION	VC1	VC2	AVERAGE	Nd	**R=Nc-Nd**	Nts	DILUTION	VC1	VC2	AVERAGE	Nd	**R=Nc-Nd**	Nts		DILUTION	VC1	VC2	AVERAGE	Nd	**R=Nc-Nd**	Nts
Pseudomonas aeruginosa ATCC 15442	1,00E-01	>330	>330	>330	>4,52	**<2,61**	>100	1,00E-01	19	18	19	3,28	**3,85**	0		1,00E-01	0	0	0	<0,1	**>7,03**	0
Escherichia coli ATCC 10536	1,00E-01	>330	>330	>330	>4,52	**<2,58**	>100	1,00E-01	0	0	0	<0,1	**>7,00**	0		1,00E-01	0	0	0	<0,1	**>7,00**	0
Staphylococcus aureus ATCC 6538	1,00E-01	>330	>330	>330	>4,52	**<2,60**	>100	1,00E-01	0	0	0	<0,1	**>7,02**	0		1,00E-01	0	0	0	<0,1	**>7,02**	0
Enterococcus hirae ATCC 10541	1,00E-01	>330	>330	>330	>4,52	**<2,58**	>100	1,00E-01	0	0	0	<0,1	**>7,00**	0		1,00E-01	0	0	0	<0,1	**>7,00**	0
Aspergillus brasiliensis ATCC 16404	1,00E-01	>165	>165	>330	>4,22	**<1,88**	>100	1,00E-01	13	12	13	3,11	**2,99**	0		1,00E-01	0	0	0	<0,1	**>6,00**	0
Candida albicans ATCC10231	1,00E-01	>330	>330	>330	>4,52	**<1,57**	>100	1,00E-01	27	26	27	3,43	**2,66**	2		1,00E-01	0	0	0	<0,1	**>5,99**	0

CRITERIA:

Bactericidal activity- R ≥ 4 log
Fungicidal activity– R ≥ 3 log

Vc- number of cfu/ ml (one or two plates)
N- test suspension (jtk) *0,025
NT- validation of the neutralization-dilution method
NC- neutralizer control
Nc- water control (log)
Nts- number of residual cfu recovered from test surface
Nd- number of microorganisms on the surface after applying the product (log)
R- reduction Nc-Nd (log)

Date: 21.09.2020

Authorized by: Agnieszka Erber, Cosmetics Microbiology Laboratory Manager
Approved by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND Sp. z o.o.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia, POLAND tel. +48 58 766 99 00

ENCLOSURE No. 3 TO REPORT OF ANALYSIS NO. 5034220/17/JSHI

A) IDENTIFICATION OF THE SAMPLE	
Name of the product	**Hygiene of Sweden Screen & hand spray**
Active substance	Didecyldimethylammoniumklorid, CAS 7173-51-5, 0,495g/l
B) TEST METHOD AND ITS VALIDATION	
Method	**PN-EN 1276:2010 – Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas – Test method and requirements (phase 2, step 1)**
Neutralizer	Polisorbate 80- 30 g/l, soponine- 3 g/l, cysteine- 1g/l, histidine- 1g/l, sodium thiosulfate 7,5g/l
C) EXPERIMENTAL CONDITIONS	
Product test concentrations (%V/V)	1%, 50%, 80%
Test temperature	20˚C
Contact time	5 min
Interfering substance	Clean conditions 0,3g/l bovine albumin Dirty conditions 3g/l bovine albumin
Product diluent	Sterile hard water
Temperature of incubation	37±1 °C
Identification of the bacterial and fungal strains used:	*Listeria monocytogenes* ATCC 19111

Date: 11-01-2018

Authorized by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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ENCLOSURE No. 3 TO REPORT OF ANALYSIS NO. 5034220/17/JSHI

TABLE 1. RESULTS OF THE TEST

0,3 g/l BOVINE ALBUMIN - CLEAN CONDITIONS
CONTACT TIME: 5 min
TEST TEMPERATURE: 20°C
PRODUCT TEST CONCENTRATIONS: 1%, 50% 80%

TEST ORGANISM	VALIDATION VALIDATION SUSPENSION				VALIDATION A			VALIDATION B			VALIDATION C		
	VC1	VC2	Nv	Nvo	VC1	VC2	A	VC1	VC2	B	VC1	VC1	C
Listeria monocytogenes ATCC 19111	112	107	1095	110	74	68	71	62	65	64	65	57	61
criteria	**300** ≤ Nv ≤ 1600		**30** ≤ Nv0 ≤ 160		**A** ≥ 0,5*N_{v0} **acceptable**			**B ≥ 0,5*N_{v0} acceptable**			**C ≥ 0,5*N_{v0} acceptable**		

TEST ORGANISM	TEST SUSPENSION							
	-6	-6	-7	-7	N	lgN	N_0	**lgN_0**
Listeria monocytogenes ATCC 19111	>300	>300	42	48	4,5E+08	8,65	4,5E+07	7,65
criteria	**1,5*10^8** ≤ N ≤ 5*10^8		**8,17 ≤ logN ≤ 8,70**		**1,5*107 ≤ N_0** ≤ 5*107		**7,17 ≤ logN_0** ≤ 7,70	

TEST ORGANISM		1,00%					50,0%					80,0%				
	N	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**
Listeria monocytogenes ATCC 19111	4,5E+08	90	123	1065	3,03	**4,62**	0	0	<140	<2,15	**>5,5**	0	0	<140	<2,15	**>5,5**
criteria	**lg R ≥ 5**															

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

ENCLOSURE No. 3 TO REPORT OF ANALYSIS NO. 5034220/17/JSHI

TABLE 2. RESULTS OF THE TEST

3 g/l BOVINE ALBUMIN - DIRTY CONDITIONS
CONTACT TIME: 5 min
TEST TEMPERATURE: 20°C
PRODUCT TEST CONCENTRATIONS: 1%, 50% 80%

TEST ORGANISM	VALIDATION VALIDATION SUSPENSION				VALIDATION A			VALIDATION B			VALIDATION C		
	VC1	VC2	Nv	Nvo	VC1	VC2	A	VC1	VC2	B	VC1	VC1	C
Listeria monocytogenes ATCC 19111	112	107	1095	110	74	68	71	62	65	64	66	59	63
criteria	**300** ≤ Nv ≤ 1600		**30** ≤ Nv0 ≤ 160		**A** ≥ 0,5*N_{v0} **acceptable**			**B ≥ 0,5*N_{v0} acceptable**			**C ≥ 0,5*N_{v0} acceptable**		

TEST ORGANISM	TEST SUSPENSION							
	-6	-6	-7	-7	N	lgN	N_0	**lgN_0**
Listeria monocytogenes ATCC 19111	>300	>300	42	48	4,5E+08	8,65	4,5E+07	7,65
criteria	**1,5*10^8** ≤ N ≤ 5*10^8		**8,17 ≤ logN ≤ 8,70**		**1,5*107 ≤ N_0** ≤ 5*107		**7,17 ≤ logN_0** ≤ 7,70	

TEST ORGANISM		1,00%					50,0%					80,0%				
	N	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**	VC1	VC2	Na	lg Na	**lg R**
Listeria monocytogenes ATCC 19111	4,5E+08	134	144	1390	3,14	**4,51**	0	0	<140	<2,15	**>5,5**	0	0	<140	<2,15	**>5,5**
criteria	**lg R ≥ 5**															

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 4534220/17/JSHI

A) IDENTYFICATION OF THE SAMPLE:	
Name of the product	**Hygiene of Sweden Screen & hand spray**
Active substance	Didecyldimethylammoniumklorid, CAS 7173-51-5, 0,495g/l
B) TEST METHOD :	
Method	**EN 1499:2013 Chemical Disinfectants And Antiseptics - Hygienic handwash - Test Method And Requirements (*phase 2, step 2*)**
Neutralizer	Polisorbat 80 30 g/l, soponine 3g/l, histidine 1g/l, cysteine 1g/l
C) EXPERIMENTAL CONDITIONS:	
Product test concentrations (%V/V)	100%
Test temperature	20°C
Contact time	5ml , washing hands for 60s.
Incubation temperature	36±1 °C
Test-organism	*E. coli* K12 NCTC 10538

Date: 11-01-2018

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 4534220/17/JSHI

Table 1. PROCEDURE FOR REFERENCE HYGIENIC HANDWASH

PRODUCT R: SOFT SOAP (linseed oil, potassium hydroxide, ethanol, hot distilled water)
TEST ORGANISM: *E. coli* K12 NCTC 10538
NUMBER IN CONTAMINATION FLUID: 2,2 x 10^8 cfu/g

volunteer		number of cfu per plate from dilution 10x							Reduction
	Hand	prevalues			postvalues				
Nr	left/right	$x10^{-4}$	$x10^{-5}$	log x	$x10^{0}$	$x10^{-1}$	$x\ 10^{-2}$	log y	log z
	l	248	20		234	17	0		
1	p	221	22	6,34	245	25	2	2,37	3,97
	l	197	16		128	9	1		
2	p	125	10	6,19	104	13	1	2,06	4,13
	l	167	12		232	14	1		
3	p	202	18	6,26	142	11	1	2,14	4,12
	l	194	17		145	13	2		
4	p	254	23	6,34	134	16	2	2,15	4,20
	l	96	8		212	27	1		
5	p	132	13	5,54	245	12	1	2,35	3,19
	l	215	18		236	20	3		
6	p	165	16	6,27	169	15	0	2,25	4,02
	l	231	28		137	16	2		
7	p	254	21	6,38	168	10	1	2,18	4,21
	l	158	14		196	16	2		
8	p	134	16	6,16	229	23	2	2,32	3,84
	l	96	8		216	14	1		
9	p	131	12	6,04	166	18	1	2,27	3,77
	l	278	25		112	12	1		
10	p	241	22	6,41	154	16	1	2,12	4,29
	l	256	18		179	24	2		
11	p	176	13	5,18	134	16	2	2,20	2,98
	l	222	24		217	13	1		
12	p	254	17	6,37	258	22	2	2,36	4,00
	l	216	14		154	13	1		
13	p	165	22	6,28	131	16	1	2,15	4,12
	l	>300	48		185	16	1		
14	p	>300	65	6,75	143	12	0	2,21	4,54
	l	147	15		238	18	1		
15	p	178	23	6,21	175	23	1	2,31	3,90
$x_{śr}$				6,12				2,23	3,95
s				0,38				0,11	0,41

log x-logarithm of the average value of the initial left and right hand
log y-logarithm of the average value of the final left and right hand
log z-logarithm reduction
x śr- overall average of log x, log y, log z

Date: 11-01-2018

Authorized by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

ENCLOSURE No. 1 TO REPORT OF ANALYSIS NO. 4534220/17/JSHI

Table 2. HYGIENIC HANDWASH PROCEDURE WITH THE PRODUCT

PRODUCT P - Antibacterial Handwash (Formula 17063914, ref 12658, lab nr 319803)
TEST ORGANISM: *E. coli* K12 NCTC 10538
NUMBER IN CONTAMINATION FLUID: 2,2 x 10^8 cfu/g

volunteer		number of cfu per plate from dilution 10x							
	Hand	prevalues			postvalues				Reduction
Nr	left/right	x10^{-4}	x10^{-5}	log x	x10^{0}	x10^{-1}	x 10^{-2}	log y	log z
	l	231	23		94	7	0		
1	p	267	28	6,40	83	8	0	1,83	4,56
	l	156	13		56	9	1		
2	p	121	21	6,15	34	7	0	1,88	4,27
	l	249	22		126	14	2		
3	p	186	18	6,33	168	11	1	2,10	4,23
	l	223	14		86	5	1		
4	p	165	10	6,27	132	14	1	1,94	4,33
	l	185	12		85	7	0		
5	p	145	18	5,17	79	6	0	1,77	3,40
	l	169	16		154	10	1		
6	p	134	13	6,18	123	13	1	2,05	4,12
	l	213	14		146	14	1		
7	p	174	19	6,28	164	17	2	2,19	4,09
	l	227	15		111	10	1		
8	p	182	20	6,30	125	13	0	2,04	4,27
	l	179	23		159	15	1		
9	p	251	25	6,33	122	7	3	2,06	4,27
	l	163	9		102	9	1		
10	p	99	14	6,01	144	13	1	2,03	3,98
	l	154	14		178	21	2		
11	p	187	19	6,23	132	16	1	2,25	3,97
	l	143	12		163	16	2		
12	p	188	13	5,67	127	12	1	2,14	3,53
	l	144	16		84	8	0		
13	p	222	24	6,26	137	15	1	2,01	4,24
	l	176	15		96	7	0		
14	p	229	17	6,29	76	6	0	1,77	4,52
	l	135	16		142	12	1		
15	p	156	14	6,16	78	7	0	1,94	4,23
$x_{śr}$				6,11				2,02	4,13
s				0,35				0,14	0,33

log x-logarithm of the average value of the initial left and right hand
log y-logarithm of the average value of the final left and right hand
log z-logarithm reduction
x śr- overall average of log x, log y, log z

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Authorized by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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Table 3. LIST OF COMPUTED IG VALUES AND IG REDUCTIONS

volunteer		R			P		
Nr		log x	log y	log z	log x	log y	log z
1	R-P	6,34	2,37	3,97	6,40	1,83	4,56
2	R-P	6,19	2,06	4,13	6,15	1,88	4,27
3	R-P	6,26	2,14	4,12	6,33	2,10	4,23
4	R-P	6,34	2,15	4,20	6,27	1,94	4,33
5	R-P	5,54	2,35	3,19	5,17	1,77	3,40
6	R-P	6,27	2,25	4,02	6,18	2,05	4,12
7	R-P	6,38	2,18	4,21	6,28	2,19	4,09
8	R-P	6,16	2,32	3,84	6,30	2,04	4,27
9	P-R	6,04	2,27	3,77	6,33	2,06	4,27
10	P-R	6,41	2,12	4,29	6,01	2,03	3,98
11	P-R	5,18	2,20	2,98	6,23	2,25	3,97
12	P-R	6,37	2,36	4,00	5,67	2,14	3,53
13	P-R	6,28	2,15	4,12	6,26	2,01	4,24
14	P-R	6,75	2,21	4,54	6,29	1,77	4,52
15	P-R	6,21	2,31	3,90	6,16	1,94	4,23
X 15		**6,18**	2,23	3,95	**6,13**	2,00	4,13
X8(R-P)		6,19	2,23	**3,96**	6,13	1,97	**4,16**
X7(P-R)		6,18	2,23	**3,95**	6,14	2,03	**4,11**

Criteria:

Rs (R-P) = 3,96 - 4,16 = -0,2
Rs (P-R) = 3,95 - 4,11 = -0,16
Abs = -0,2-(-0,16) = -0,04 <2
logx(R)= 6,18 >5
logx(P)= 6,13 >5

Validation conditions of neutralizer and methods have been satisfied

Table 4. COMPUTATION OF INDIVIDUAL DIFFERENCES OF lg R-P

volunteer	log RF		difference	difference	
	R	P	R-P	high to low	Range +/-
1	3,97	4,56	-0,59	0,47	1
2	4,13	4,27	-0,14	0,31	2
3	4,12	4,23	-0,11	0,12	3
4	4,20	4,33	-0,14	0,02	4
5	3,19	3,40	-0,20	-0,10	-5
6	4,02	4,12	-0,10	-0,11	-6
7	4,21	4,09	0,12	-0,12	-7
8	3,84	4,27	-0,42	-0,14	-8
9	3,77	4,27	-0,50	-0,14	-9
10	4,29	3,98	0,31	-0,20	-10
11	2,98	3,97	-0,99	-0,32	-11
12	4,00	3,53	0,47	-0,42	-12
13	4,12	4,24	-0,12	-0,50	-13
14	4,54	4,52	0,02	-0,59	-14
15	3,90	4,23	-0,32	-0,99	-15
sum of ranks (+): 10					
sum of ranks (-): 100					

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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Table 5. WILCOXON'S TMATCHED PAIRS SIGNED-RANKS TEST:
CRITICAL VALUES LESS WITH RANG SUM (+) OR (-) AT DIFFERENT LEVELS OF SIGNIFICANCE

n	one-sided level of significance		
	0,05	**0,01**	0,001
12	17	**9**	2
13	21	**12**	4
14	25	**15**	6
15	30	**19**	8

$10 \leq 19$ The product P is significantly more effective than standard R (soft soap).

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 4534220/17/JSHI

A) IDENTYFICATION OF THE SAMPLE:	
Name of the product	**Hygiene of Sweden Screen & hand spray**
The active substance	Didecyldimethylammoniumklorid, CAS 7173-51-5, 0,495g/l
B) TEST METHOD :	
Method	**EN 1500:2013 Chemical Disinfectants And Antiseptics - Hygienic Handrub - Test Method And Requirements (*phase 2, step 2*)**
Neutralizer	Polisorbate 80- 30 g/l, soponine- 3 g/l, cysteine- 1g/l, histidine- 1g/l, sodium thiosulfate 7,5g/l
C) EXPERIMENTAL CONDITIONS:	
Product test concentrations (%V/V)	100%
Test temperature	20°C
Contact time	5ml of the preparation for 60 seconds
Incubation temperature	36±1 °C
Test-organism	*E. coli* K12 NCTC 10538

Date: 11-01-2018

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 4534220/17/JSHI

Table 1. PROCEDURE FOR REFERENCE HYGIENIC HANDRUB

PRODUCT: Standard 2-propanol 60% (V/V)
TEST ORGANISM: *E. coli* K12 NCTC 10538
NUMBER IN CONTAMINATION FLUID: 3,4 x 10^8 cfu/g

volunteer		number of cfu per plate from dilution 10x							Reduction
	Hand	prevalues			postvalues				
Nr	left/right	$x10^{-4}$	$x10^{-5}$	log x	$x10^{0}$	$x10^{-1}$	$x\ 10^{-2}$	log y	log z
	l	182	15		55	2	3		
1	p	165	19	6,28	29	2	3	1,66	4,62
	l	110	13		64	7	2		
2	p	121	11	6,11	42	3	1	1,71	4,39
	l	115	18		134	9	0		
3	p	106	16	6,11	169	15	0	2,17	3,94
	l	151	20		138	11	0		
4	p	173	15	6,21	156	13	1	2,16	4,05
	l	83	7		77	7	2		
5	p	108	12	5,98	51	3	2	1,79	4,19
	l	134	18		179	9	0		
6	p	165	16	6,18	154	16	0	2,21	3,97
	l	88	8		145	10	0		
7	p	99	9	5,97	132	12	1	2,13	3,83
	l	138	12		56	8	0		
8	p	166	14	6,11	77	9	0	1,83	4,28
	l	98	5		112	13	2		
9	p	67	13	5,92	160	12	2	2,12	3,79
	l	156	19		89	8	0		
10	p	189	15	6,23	67	9	0	1,89	4,34
	l	147	13		139	12	0		
11	p	123	14	6,13	165	17	0	2,18	3,95
	l	93	8		94	9	0		
12	p	58	9	5,84	65	8	0	1,90	3,95
	l	156	10		154	12	0		
13	p	104	11	6,10	187	18	3	2,22	3,87
	l	67	7		78	4	6		
14	p	95	9	5,90	88	8	4	1,91	3,99
	l	129	11		126	17	2		
15	p	145	17	6,14	163	11	0	2,16	3,98
	l	139	15		66	7	2		
16	p	112	13	6,10	122	17	2	1,96	4,14
	l	87	8		118	19	2		
17	p	54	5	5,83	123	20	3	2,10	3,73
	l	167	16		36	3	0		
18	p	198	24	6,26	54	8	0	1,65	4,61
	l	77	8		12	2	0		
19	p	121	15	5,99	19	1	0	1,18	4,81
	l	203	22		114	15	2		
20	p	183	12	6,28	111	10	1	2,06	4,22
$x_{śr}$				6,08				1,95	4,13
s				0,14				0,26	0,30

log x-logarithm of the average value of the initial left and right hand
log y-logarithm of the average value of the final left and right hand
log z-logarithm reduction
x śr- overall average of log x, log y, log z

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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ENCLOSURE No. 2 TO REPORT OF ANALYSIS NO. 4534220/17/JSHI

Table 2. HYGIENIC HANDRUB PROCEDURE WITH THE PRODUCT

PRODUCT P
TEST ORGANISM: *E. coli* K12 NCTC 10538
NUMBER IN CONTAMINATION FLUID: 3,4 x 10^8 cfu/g

volunteer		number of cfu per plate from dilution 10x							
	Hand	prevalues			postvalues				Reduction
Nr	left/right	x10^{-4}	x10^{-5}	log x	x10^{0}	x10^{-1}	x 10^{-2}	log y	log z
	l	123	10		67	8	0		
1	p	102	14	6,07	98	9	0	1,91	4,16
	l	76	9		45	6	0		
2	p	57	6	5,82	65	5	0	1,73	4,09
	l	116	15		87	7	0		
3	p	134	13	6,10	98	9	0	1,96	4,14
	l	76	8		121	14	0		
4	p	94	7	5,87	87	9	0	2,01	3,86
	l	63	6		163	20	2		
5	p	87	5	5,75	134	12	1	2,17	3,58
	l	143	11		86	7	1		
6	p	172	18	6,19	116	19	1	2,01	4,18
	l	113	16		66	8	0		
7	p	138	17	6,11	44	9	0	1,76	4,35
	l	154	11		96	8	0		
8	p	121	16	6,14	126	15	0	2,04	4,09
	l	87	9		47	7	0		
9	p	67	8	5,89	62	8	0	1,75	4,14
	l	151	17		122	12	0		
10	p	99	12	6,09	78	5	0	1,98	4,11
	l	65	6		110	14	0		
11	p	96	5	5,89	87	8	0	1,99	3,89
	l	145	12		36	4	0		
12	p	169	15	6,19	22	2	0	1,45	4,74
	l	178	16		135	11	0		
13	p	141	15	6,20	164	16	0	2,17	4,03
	l	116	12		136	19	2		
14	p	87	8	6,00	124	13	1	2,12	3,88
	l	89	9		145	16	1		
15	p	65	7	5,88	112	18	1	2,12	3,76
	l	132	14		53	8	0		
16	p	121	8	6,10	42	6	0	1,69	4,40
	l	144	16		83	6	3		
17	p	174	13	6,20	56	8	0	1,84	4,36
	l	131	16		112	11	3		
18	p	163	12	6,16	132	9	0	2,08	4,09
	l	78	7		43	6	0		
19	p	95	11	5,94	34	4	0	1,59	4,34
	l	133	8		93	10	1		
20	p	86	9	6,02	56	6	1	1,86	4,16
$x_{śr}$				6,03				1,91	4,12
s				0,14				0,20	0,26

log x-logarithm of the average value of the initial left and right hand
log y-logarithm of the average value of the final left and right hand
log z-logarithm reduction
x śr- overall average of log x, log y, log z

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J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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Table 3. LIST OF COMPUTED IG VALUES AND IG REDUCTIONS

volunteer		R 2-propanol 60% (V/V)			P		
Nr		log x	log y	log z	log x	log y	log z
1	R-P	6,28	1,66	4,62	6,07	1,91	4,16
2	R-P	6,11	1,71	4,39	5,82	1,73	4,09
3	R-P	6,11	2,17	3,94	6,10	1,96	4,14
4	R-P	6,21	2,16	4,05	5,87	2,01	3,86
5	R-P	5,98	1,79	4,19	5,75	2,17	3,58
6	P-R	6,18	2,21	3,97	6,19	2,01	4,18
7	P-R	5,97	2,13	3,83	6,11	1,76	4,35
8	P-R	6,11	1,83	4,28	6,14	2,04	4,09
9	P-R	5,92	2,12	3,79	5,89	1,75	4,14
10	P-R	6,23	1,89	4,34	6,09	1,98	4,11
11	R-P	6,13	2,18	3,95	5,89	1,99	3,89
12	R-P	5,84	1,90	3,95	6,19	1,45	4,74
13	R-P	6,10	2,22	3,87	6,20	2,17	4,03
14	R-P	5,90	1,91	3,99	6,00	2,12	3,88
15	R-P	6,14	2,16	3,98	5,88	2,12	3,76
16	P-R	6,10	1,96	4,14	6,10	1,69	4,40
17	P-R	5,83	2,10	3,73	6,20	1,84	4,36
18	P-R	6,26	1,65	4,61	6,16	2,08	4,09
19	P-R	5,99	1,18	4,81	5,94	1,59	4,34
20	P-R	6,28	2,06	4,22	6,02	1,86	4,16
X_{20}		**6,08**	1,95	4,13	**6,03**	1,91	4,12
X10(R-P)		6,08	1,98	**4,09**	5,98	1,96	**4,01**
X10 (P-R)		6,09	1,91	**4,17**	6,08	1,86	**4,22**

Criteria:
Rs (R-P) = 4,09 - 4,01 = 0,08
Rs (P-R)= 4,17 - 4,22 = -0,05
Abs= 0,08 -(-0,05) = -0,13 <2
logx(R)= 6,08>5
logx(P)= 6,03 >5
logz (P), logz (R) >3

Validation conditions of neutralizer and methods have been satisfied

Date: 11-01-2018

Authorized by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND S.A.
ul. Chwaszczyńska 180, 81-571 Gdynia, Poland, tel. +48 58 766 99 00

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Table 4. COMPUTATION OF INDIVIDUAL DIFFERENCES OF lg R-P

volunteer	log RF		difference	difference	
	R	P	R-P	high to low	Range +/-
1	4,62	4,16	0,46	0,61	1
2	4,39	4,09	0,31	0,53	2
3	3,94	4,14	-0,20	0,47	3
4	4,05	3,86	0,19	0,46	4
5	4,19	3,58	0,61	0,31	5
6	3,97	4,18	-0,22	0,23	6
7	3,83	4,35	-0,52	0,22	7
8	4,28	4,09	0,19	0,19	8
9	3,79	4,14	-0,35	0,19	9
10	4,34	4,11	0,23	0,11	10
11	3,95	3,89	0,06	0,06	11
12	3,95	4,74	-0,79	0,06	12
13	3,87	4,03	-0,16	-0,16	-13
14	3,99	3,88	0,11	-0,20	-14
15	3,98	3,76	0,22	-0,22	-15
16	4,14	4,40	-0,27	-0,27	-16
17	3,73	4,36	-0,63	-0,35	-17
18	4,61	4,09	0,53	-0,52	-18
19	4,81	4,34	0,47	-0,63	-19
20	4,22	4,16	0,06	-0,79	-20
suma rang (+): 78					
suma rang (-): 132					

Table 5. SORTING OF INDIVIDUAL DIFFERENCES AND COMPUTATION FOR HODGES-LEHMANN 97,5% UPPER CONFIDENCE LIMITS FOR THE DIFFERENCE IN lg BETWEEN R-P

		0,61	0,53	0,47	0,46	0,31	0,23	0,22	0,19	0,19
1	0,61	0,61								
2	0,53	0,57	0,53							
3	0,47	0,54	0,50	0,47						
4	0,46	0,54	0,50	0,47	0,46					
5	0,31	0,46	0,42	0,39	0,39	0,31				
6	0,23	0,42	0,38	0,35	0,35	0,27	0,23			
7	0,22	0,42	0,38	0,35	0,34	**0,27**	0,23	-0,22		
8	0,19	0,40	0,36	0,33	0,33	0,25	0,21	-0,21	-0,19	
9	0,19	0,40	0,36	0,33	0,33	0,25	0,21	-0,21	-0,19	-0,19
10	0,11	0,36	0,32	0,29	0,29	0,21	0,17	-0,17	-0,15	-0,06
11	0,06	0,34	0,30	0,27	0,26	0,19	0,15	-0,14	-0,13	-0,03
12	0,06	0,34	0,30	0,27	0,26	0,19	0,15	-0,14	-0,13	
13	-0,16	0,23	0,19	0,16	0,15	0,08	0,04	-0,03		
14	-0,20	0,21	0,17	0,14	0,13	0,06	0,02			
15	-0,22	0,20	0,16	0,13	0,12	0,05				
16	-0,27	0,17	0,13	0,10	0,10					
17	-0,35	0,13	0,09	0,06						
18	-0,52	0,05	0,01							
19	-0,63	-0,01								
20	-0,79									

Date: 11-01-2018

Authorized by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

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Table 6. WILCOXON'S TMATCHED PAIRS SIGNED-RANKS TEST:
CRITICAL VALUES LESS WITH RANG SUM (+) OR (-) AT DIFFERENT LEVELS OF SIGNIFICANCE

n	one-sided level of significance		
	0,05	**0,025**	0,01
18	47	**40**	32
19	53	**46**	27
20	60	**52**	43
21	68	**59**	49
22	75	**66**	56

For the designated level of significance 0,025 for n=20 the value read from the table 6 is 52.
Hence c = 52+1 =53.
For the distribution of 53 Table 5 assigns a value of 0,27 which is less than the agreed inferiority margin of 0,6.
Therefore, the hypothesis of inferiority of PP compared to the reference RP is rejected.
The test preparation (PP) is non-inferior to RP.

Date: 11-01-2018

Authorized by: Hanna Wachowska, Laboratory Director *(Approved with qualified electronic signature)*

J.S. HAMILTON POLAND S.A.
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POLSKIE CENTRUM AKREDYTACJI
POLISH CENTRE FOR ACCREDITATION

Sygnatariusz EA MLA
EA MLA Signatory

CERTYFIKAT AKREDYTACJI
LABORATORIUM BADAWCZEGO
ACCREDITATION CERTIFICATE OF TESTING LABORATORY
Nr **AB 079**

Potwierdza się, że: / This is to confirm that:

J.S. HAMILTON POLAND S.A.
LABORATORIUM BADAWCZE
ul. Chwaszczyńska 180, 81-571 Gdynia

spełnia wymagania normy PN-EN ISO/IEC 17025:2005
meets requirements of the PN-EN ISO/IEC 17025:2005 standard

Akredytowana działalność jest określona w Zakresie Akredytacji Nr AB 079
Accredited activity is defined in the Scope of Accreditation No AB 079

Akredytacja pozostaje w mocy pod warunkiem przestrzegania wymagań jednostki akredytującej określonych w kontrakcie Nr AB 079
This accreditation remains in force provided the Laboratory observes the requirements of Accreditation Body defined in the Contract No AB 079

Certyfikat akredytacji ważny do dnia 31.05.2022 r.
The certificate of accreditation is valid until 31.05.2022

Akredytacji udzielono dnia 15.10.1996 r.
Accreditation was granted on 15.10.1996

012361

POLSKIE CENTRUM AKREDYTACJI * 1 *

DYREKTOR
POLSKIEGO CENTRUM AKREDYTACJI

LUCYNA OLBORSKA

Warszawa, 24 maja 2018 roku

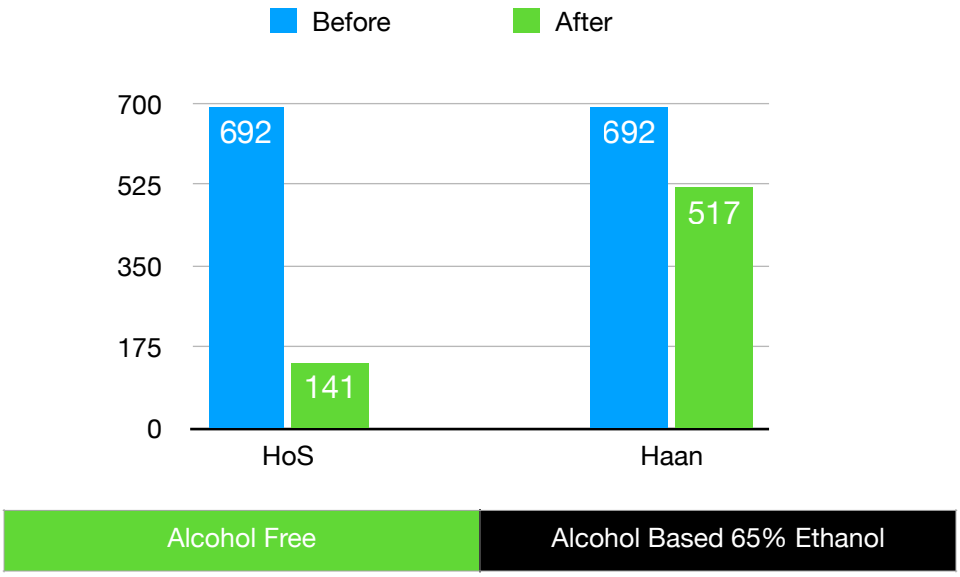
ATP Bacterial Activity Test

2020-08-08, Hygiene of Sweden Laboratory, Landskrona, Sweden

Test: Measuring difference in efficacy between a alcohol based spray and Hygiene of Swedens Alcohol-free antibacterial formula

Test Method: Spray by the different products 4 time at top and bottom of the skin, wait 30s, wipe off with a paper towel, measure activity with ATP meter (3M CleanTrace)

Test conducted by: Biochemist Philip Wilhelmsson



Test result: HoS is 322% more effective than the product used for benchmarking.

Conclusion: Leather is a very hard material to treat due to its structure. Alcohol will also damage the material as its very solvent. Due to the atomizer in a spray a non alcoholic formula fits better as it does not evaporate before covering the surface.

STUDY REPORT

STUDY TITLE

MEASURING THE ANTIMICROBIAL EFFICACY OF A RESIDUAL SURFACE BIOCIDE AFTER 24 HOURS

STUDY REF: REF/PRO/BLT13

TYPE/ CODE: PRO

CUSTOMER

HYGIENE OF SWEDEN AB

Bangårdsgatan 17, SE-261 35 Landskrona

TEST FACILITY

BIOLABTESTS LTD.

3 Parade Court, Central Boulevard, Prologis Park, Coventry, UK. CV6 4QL.

BIOLABTESTS

Table of Contents

1. Study details

1.1 General

Study title: Measuring the antimicrobial efficacy of residual surface biocide after 24 hours.

Study reference: REF/PRO/BLT13

Test facility: BioLabTests Ltd., 3 Parade Court, Central Boulevard, Prologis Park, Coventry, CV6 4QL.

1.2 Study responsibilities

Study Director: Ms. Megan Vaughan; Laboratory Manager

Study Conductor: Ms. Ria Warren; Quality Manager & Microbiologist

Customer: Philip Wilhelmsson – Hygiene of Sweden Bangårdsgatan 17, SE-261 35 Landskrona

1.3 Study schedule

Experiment initiation date: 12.01.2021

Experiment end date: 14.01.2021

Study completion date: 28.01.2021

Report issued: 29.01.2021

2. Study objectives

To determine the antimicrobial efficacy of the residue left, after disinfecting with the biocide present in the product HYGIENE OF SWEDEN - ANTIBACTERIAL SURFACE CLEANER, against methicillin resistant *Staphylococcus aureus* (MRSA) and *Escherichia coli* (*E. coli*) after a 24-hour period. Antimicrobial efficacy will be determined at 24 hours accompanied by positive and negative controls.

3. Samples

A sealed 500ml liquid sample of surface biocide was provided.

Table 1: *Sample descriptions*

Sample I.D.	Product name	Batch no.
1	HYGIENE OF SWEDEN - ANTIBACTERIAL SURFACE CLEANER	N/A

4. Procedure

Glass test slides were wiped with 70% ethanol and dry heated for one hour at 65˚C to ensure sterility. Once cooled, the test slides were sprayed with one direct spray of the surface biocide on to each slide to simulate a more realistic application of the product. Negative test slides were also sprayed in an identical manner to the test slides. Positive test slides were excluded from the above to serve as a positive control. Slides were left to dry naturally for 24 hours.

Alongside this, strains of *E. coli* (ATCC® 8739™) and MRSA (ATCC® 43300™) were sub-cultured aseptically and grown to late log phase via overnight incubation at 35˚C on Plate Count Agar (PCA).

A serial dilution was performed using phosphate buffer saline solution, diluted down to 10^{-8} dilution, and plated on to PCA. Plates were grown overnight for 16-24 hours at 35˚C and counted to obtain an initial count in CFU/ml (colony forming unit). See *table 2* for concentrations for MRSA and *E. coli* in CFU/ml.

After 24 hours (+/- 5 mins), 50µl of bacteria at a dilution of 10^{-3} was applied to the test slide and carefully spread to ensure a thin smear to enable maximum contact with the dried, residual biocide. This was left for 1 hour to enable the residual biocide to take effect. Simultaneously, the same treatment was applied to the positive control slides that did not contain a biocide.

After 1 hour, all slides were recovered in a neutralising buffer, Soybean Casein Lecithin Polysorbate 80 Medium (SCDLP) and placed on a platform shaker for 1 minute to distribute any bacteria present within the buffer.
100µl of buffer was plated on to PCA, spread aseptically and incubated for 16-24 hours overnight at 35˚C.

The Total Viable Count (TVC) was recorded, and the results were calculated based on the number of colonies recovered per ml.

5. Observation and results

5.1 Raw data

The table below gives the raw data for the serial dilution of the bacteria used for testing.

Table 2: Raw data for obtaining the CFU/ml used for testing.

Serial dilution	10^{-8}	10^{-7}	10^{-6}	10^{-5}	CFU inoculated (50µl at 10^{-3})	CFU/ml
E. coli	33	111	560	TNTC	8.28 x10^5	1.66 x10^7
MRSA	5	84	648	TNTC	3.31 x10^5	6.63 x10^6

**TNTC = too numerous to count*

Table 3: Raw data displaying the amount of CFU off for test samples and positive control samples after the displayed times. Note – a result of <1 is reported where no colonies are observed; this is recorded as <100, or 1.00x10^2 *as this is the limit of detection for the method.*

Replicate	Test Description	Bacteria	Dilution			CFU off (control)	CFU off (treated)
			Neat	10^{-1}	10^{-2}		
1	Positive Control	*E. coli*	936	115	15	1.05 x10^5	1.00x10^2
	Test slide		<1	<1	<1		
2	Positive Control		1192	184	33		
	Test slide		<1	<1	<1		
3	Positive Control		1032	96	13		
	Test slide		<1	<1	<1		
1	Positive Control	MRSA	228	56	7	2.51 x10^4	1.00x10^2
	Test slide		<1	<1	<1		
2	Positive Control		222	72	8		
	Test slide		<1	<1	<1		
3	Positive Control		302	102	11		
	Test slide		<1	<1	<1		

Table 4: Data to show the negative control results ran alongside test samples and positive controls. Note – a result of <1 is recorded when no colonies are observed, this is recorded as <100, or $1.00x10^2$ *as this is the limit of detection for the method.*

Time	Test Description	Results	CFU
E. coli	Negative Control	<1	$1.00x10^2$
MRSA		<1	$1.00x10^2$

5.2 Spread plates

The images below represent the test method as described in section 4. These results were used to determine the final percentage reduction of MRSA and *E. coli* following 24 hour residual testing.

Plates representing the positive control are labelled as +VE from a neat dilution (N) down to 10^{-2}. Test samples are labelled as TS from a neat dilution (N) down to 10^{-2}.

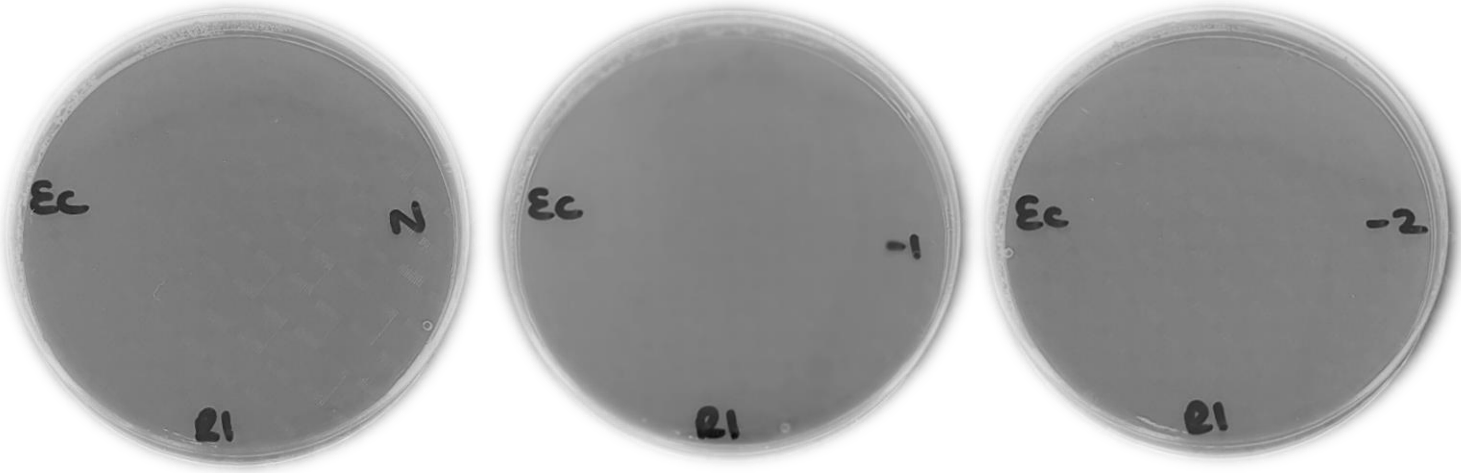


Figure 1: Spread plates representing replicate 1 of the treated slide, for efficacy against E. coli, after 24 hours.

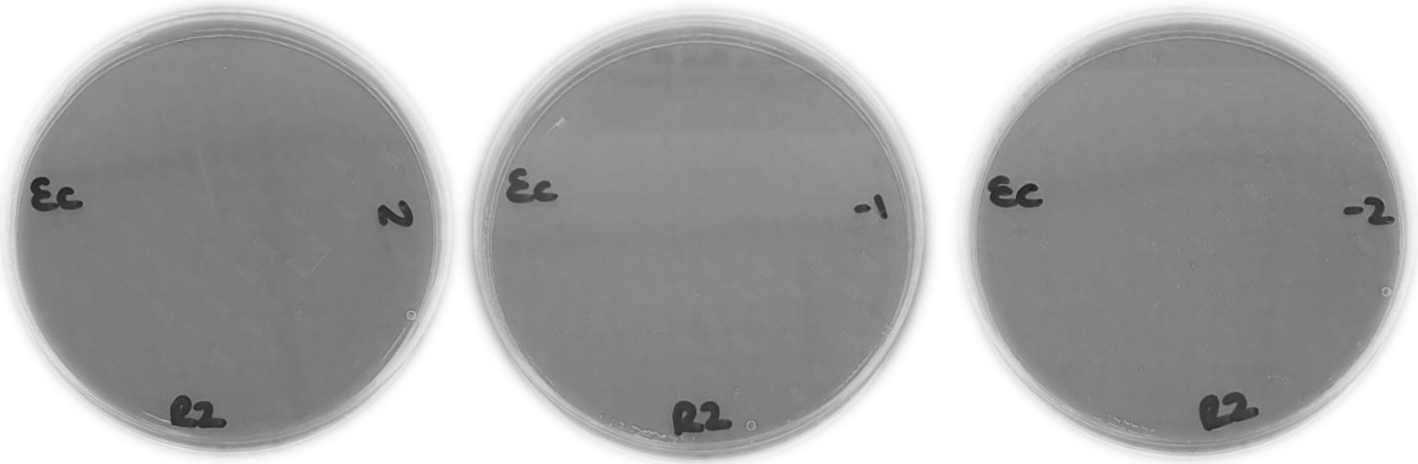


Figure 2: Spread plates representing replicate 2 of the treated slide, for efficacy against E. coli, after 24 hours.

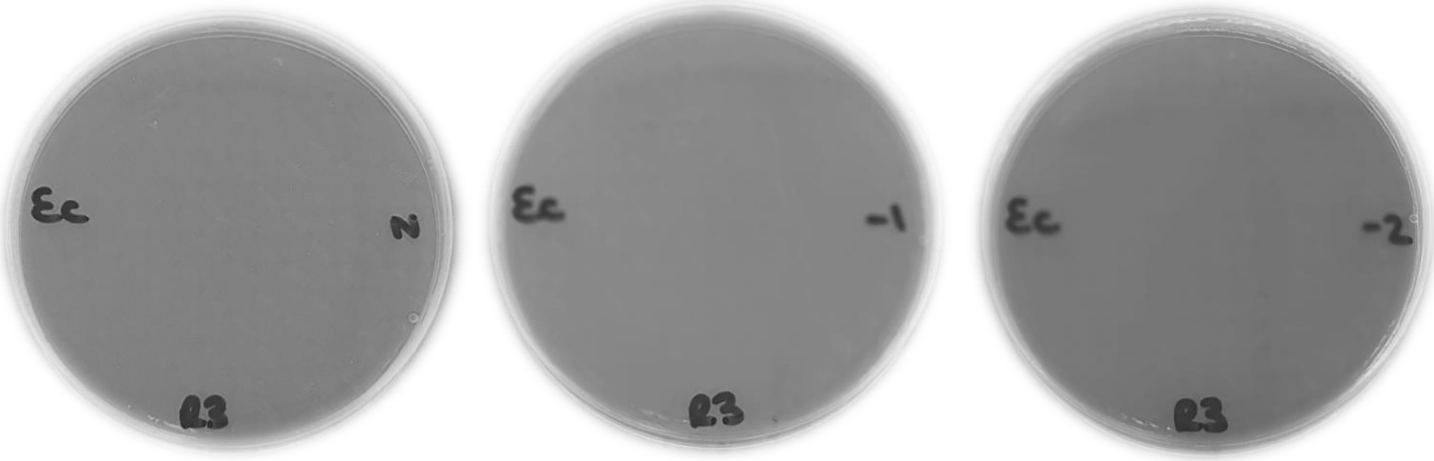


Figure 3: Spread plates representing replicate 3 of the treated slide, for efficacy against E. coli, after 24 hours.

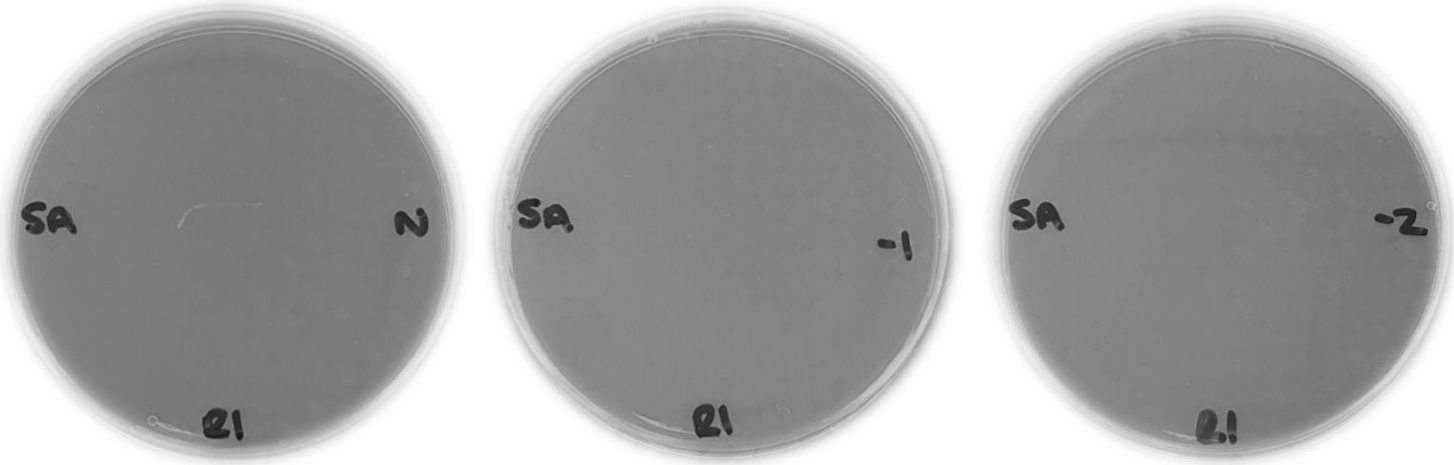


Figure 4: Spread plates representing replicate 1 of the treated slide, for efficacy against MRSA*, after 24 hours.*

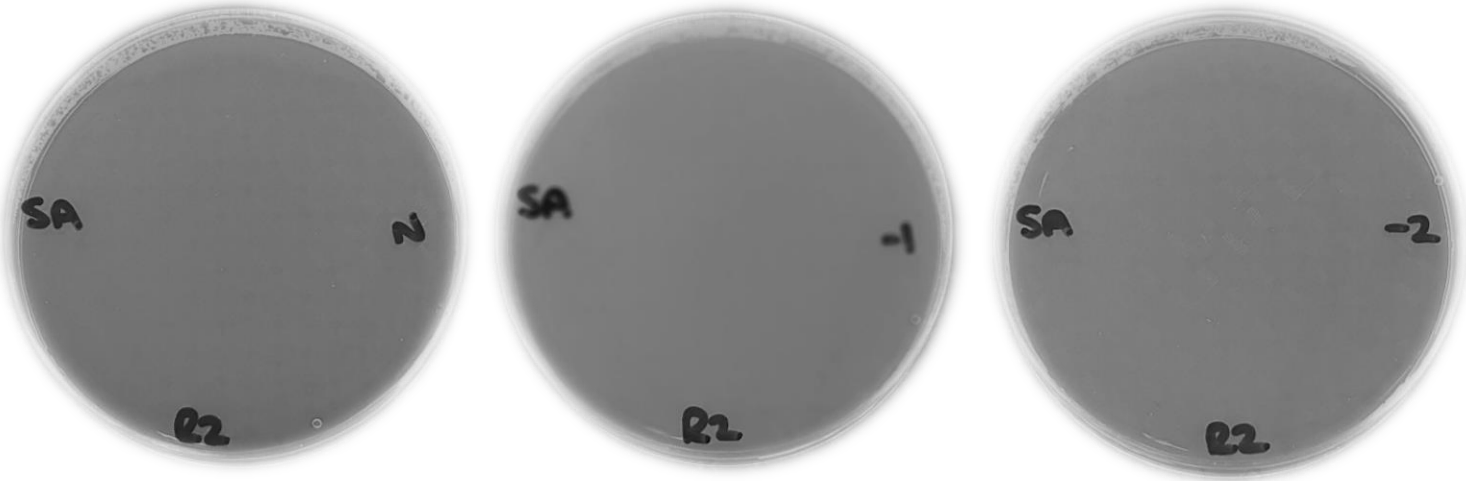


Figure 5: Spread plates representing replicate 2 of the treated slide, for efficacy against MRSA*, after 24 hours.*

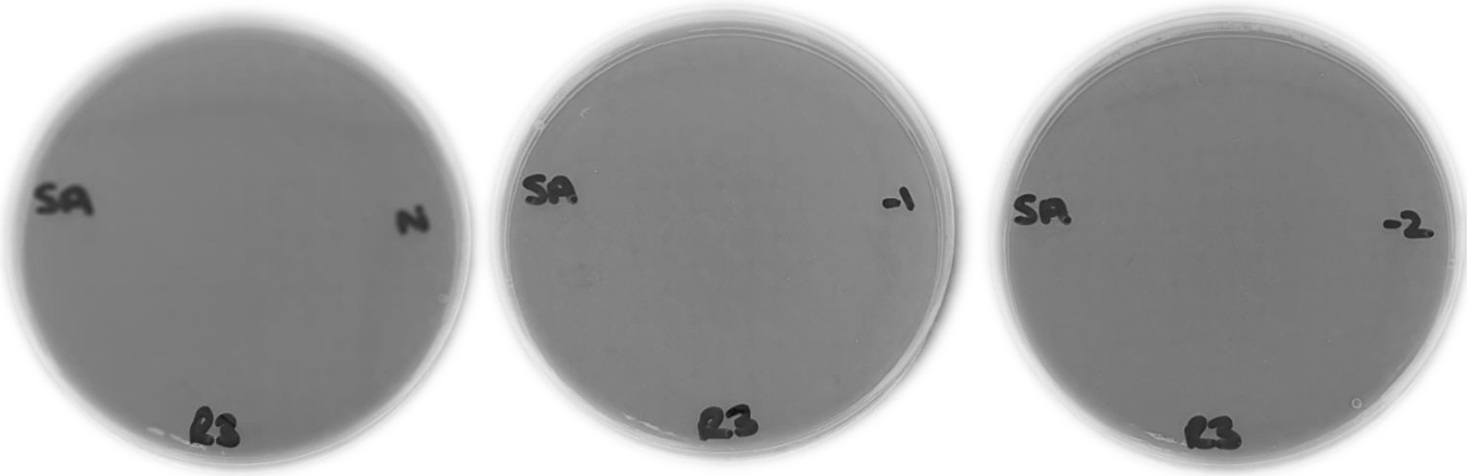


Figure 6: Spread plates representing replicate 3 of the treated slide, for efficacy against MRSA*, after 24 hours.*

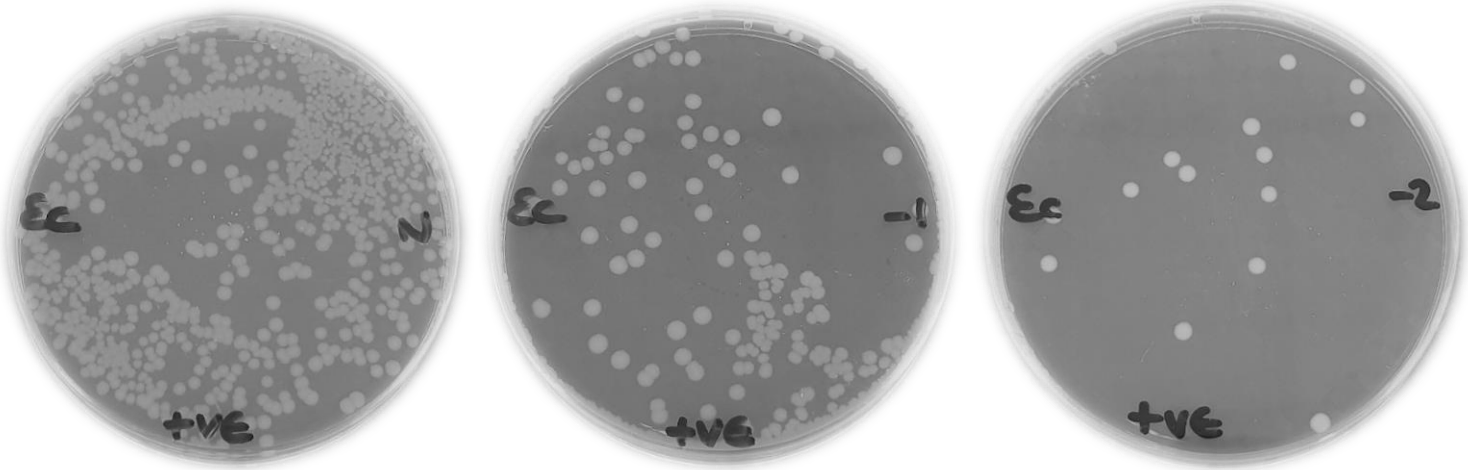


Figure 7: Spread plates representing an example of the positive control test slide inoculated with E. coli after contact for 1 hour.

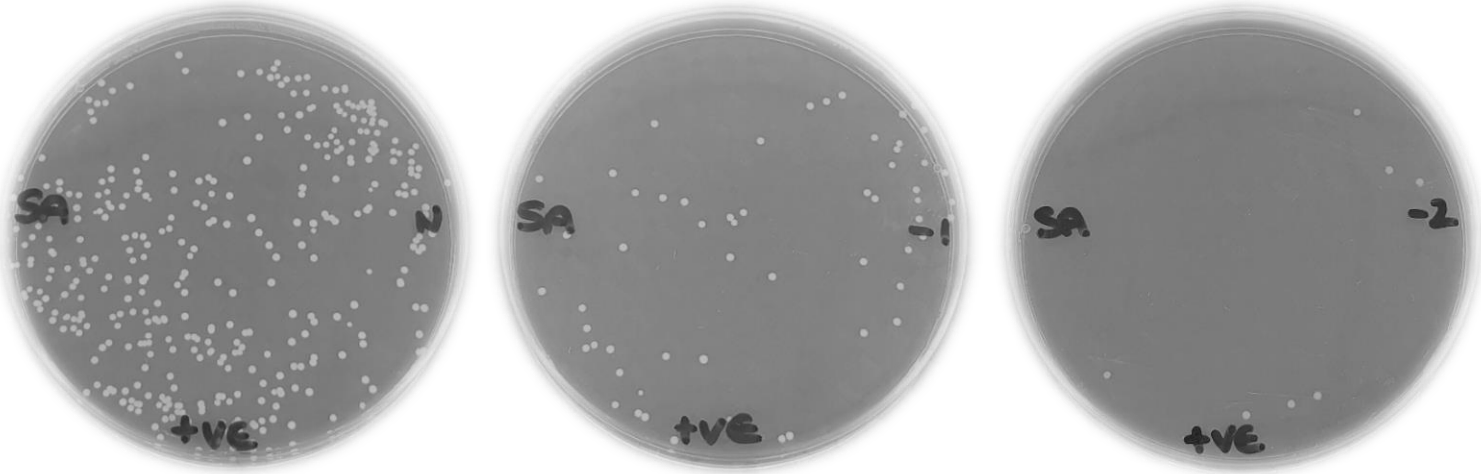


Figure 8: Spread plates representing an example of the positive control test slide inoculated with MRSA *after contact for 1 hour.*

The images below show the negative controls which were ran alongside the positive controls and the test samples at 24 hours.

No viable colonies were observed on the negative controls, showing no environmental interference in the test.

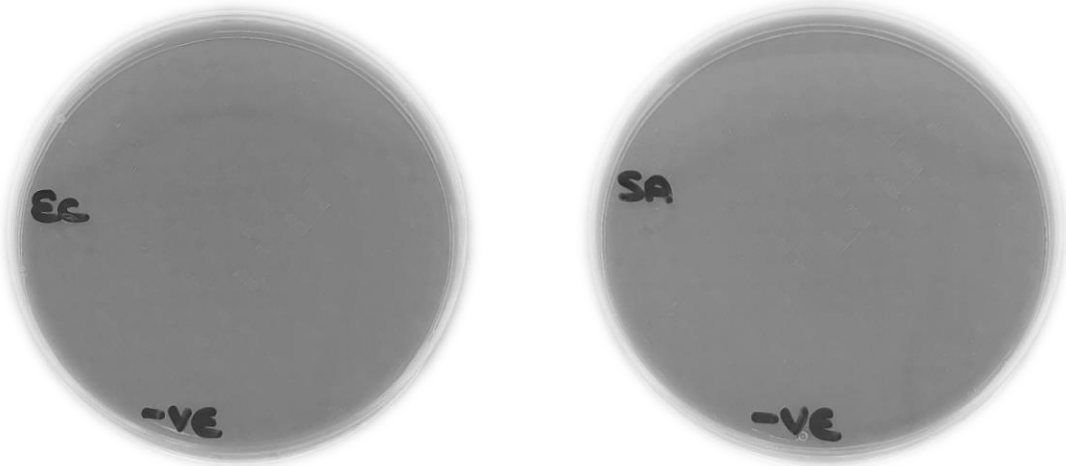


Figure 9: Negative controls run alongside positive controls and test samples for MRSA and E. coli.

5.3 Percentage reduction

The results below show the final percentage reduction of the bacteria tested after 24 hours, with data given against both the control and the initial.

5.3.1 Results against the control

The results represented in table 5 below were calculated against the number of CFU recovered from the positive control that was run alongside the test samples.

These results allow for a strong representation of accurate results as the test slides are directly compared to the recovery of the positive slides. As both test and positive slides were performed simultaneously, this is a good indication of favourable environmental conditions for growth before exposure to the biocide.

Table 5: Final percentage reduction of test and positive slides after 24 hours.

Bacteria	Time	Positive Control (CFU)	Test Sample (CFU)	Log10 Reduction	Percentage Reduction
E. coli	24 hours	1.05×10^5	1.00×10^2	≥3.02	≥99.91%
MRSA		2.51×10^4	1.00×10^2	≥2.40	≥99.60%

5.3.2 Results against the initial

The results represented in table 6 below were calculated against the initial number of cells originally applied to the test slide.

These results give a direct comparison of the number of bacteria originally applied at the start of the test verses the number of bacteria that were recovered.

Table 6: Final percentage reduction of test and positive slides after 24 hours

Bacteria	Time	Initial recovery (CFU)	Test Sample (CFU)	Log10 Reduction	Percentage Reduction
E. coli	24 hours	8.28 x10^5	1.00 x10^2	≥3.92	≥99.99%
MRSA		3.31 x10^5	1.00 x10^2	≥3.52	≥99.97%

6. **Descriptive analysis**

The residue was visibly present on the test slides after 24 hours and it was noted that the residue appeared to become 'active' once the bacterial suspension was added to the dried slide. Generally, disinfectants need to be wet in order to have an active biocidal effect on the bacteria and it is possible that the bacterial suspension containing phosphate buffer saline activated the dried residue after the allocated time and continued to have a biocidal effect.

However, as the test was performed under laboratory conditions containing a cultured and artificially high number of bacteria, the surface biocide used in this experiment is likely to have a biocidal effect on environmental bacteria. This is as they are typically present in lower numbers of cells. Additionally, contamination events beyond environmental bacteria tend to contain moisture e.g. raw meat or sneezing.

The experiment tested against the two main bacterial types. Bacteria generally are classified into two large groups: Gram positive and Gram negative. This is due to the structural difference between the two groups; Gram positive bacteria have a thicker cell wall composed of peptidoglycan whilst Gram negative bacteria contain a thinner layer of peptidoglycan and an outer membrane with a lipopolysaccharide component not found in Gram positive bacteria. Both of these organisms are very common within general environments and therefore by testing two bacteria with different

structures, we can observe if there is any difference in efficacy between the two when testing.

MRSA is an opportunistic pathogen of high commercial and media interest with the ability to cause major health implications for immunocompromised patients. This strain of *Staphylococcus aureus* has acquired specific virulence factors to enable resistance to many common antibiotics, which causes issues within the health-care industry. *E. coli*, also an opportunistic pathogen, is generally associated with faecal matter residing within the gut of animals and humans. The presence of *E. coli* within general environments such as offices, toilets etc. usually indicate improper cleanliness and poor hygiene.

The results display a clear reduction in the number of bacteria for both MRSA and *E. coli* with a ≥99% reduction (against the initial and the control) in residual biocide at 24 hours. Further testing would be required to determine if the residual biocide has an effect upon bacteria after 24 hours.

To conclude, the results show that the surface biocide present in the product HYGIENE OF SWEDEN - ANTIBACTERIAL SURFACE CLEANER can be effective against MRSA and *E. coli* by a reduction of ≥99% at 24 hours in a residual state.

6. Glossary

Colony Forming Units (CFU) – is a unit of measurement to represent a single bacterium that is able to multiply to form a colony. These colonies can be counted and the estimated number of cells per ml can be calculated by using a formula that takes into account the number of cells, the dilution factor and amount of bacterial suspension plated.

Total Viable Counts (TVC) – a Total Viable Count is produced by plating serial dilutions tenfold (e.g. 1ml in to 9ml) until there is an acceptable amount of colonies to count, usually around 30 to 300 colonies. This does not include non-viable bacteria that cannot be cultured on routine microbiological media but may remain viable through other methods of cultivation and retain virulence.

Serial dilutions – the aim of this is to reduce the concentration of a solute in solution. Bacterial dilutions are diluted from the neat suspension containing a large number of cells to 1/10 (10^{-1}), 1/100 (10^{-2}), 1/1000 (10^{-3}) etc. until a concentration that is countable is produced, usually to 10^{-8}.

Controls – controls are used during scientific experiments to assess the validity of the test. In microbiology, to assess the validity of a biocide for example, the test is run alongside a positive and a negative control. The positive control indicates that there were no adverse effects on the bacteria inoculated and any results from the test sample were a true result. A negative control should yield no bacteria and shows that no contamination occurred during the process. If there are bacteria present on the negative control, any bacteria present on the test sample could be as a result of contamination and it is therefore considered invalid as a test.

Limit of detection – The limit of detection, or LoD, represents the minimum number of colonies that can be reliably detected on an agar plate. Whilst the minimum number of cells that can physically be detected is 1, this is multiplied by 100 due to the recovery of bacterial cells in 10ml neutralising broth hereby increasing the LoD to ≤100, or 1.00 x10^2. This will account for any non-viable cells (that were not visually present) and serial dilutions whereby the number of cells detectable in an increasingly diluted solution are limited.

Ria Warren (BSc Hons, MRes)
Quality Manager and Microbiologist
BioLabTests Ltd

END OF REPORT

BioLabTests
Unit 3 Parade Court
Central Boulevard, Prologis Park
Coventry, CV6 4QL
United Kingdom

Tel: +44 (0) 333 240 8308
Fax: +44 (0) 2476 338081
info@biolabtests.com
www.biolabtests.com

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B-Lab-For-009

Certificate of Analysis

Customer Name: HYGIENE OF SWEDEN
Customer Contact: Philip Wilhelmsson
Customer Email/Phone: philip@hygieneofsweden.com
Certificate Number: BL017/2021

Date Received: 16.12.2020
Date Analysed: 23.02.2021
Date Reported: 01.04.2021

Test Method: Measuring the Antimicrobial Efficacy of a Residual Surface Biocide After 7 Days and 30 Days

Sample Reference Number	Sample	Test Bacteria	Contact Time*			Reduction against Control	
			Initial	1 hour contact		Log_{10}	% Reduction
			0 Hrs	Test Slide	Positive Control		
BL112	ANTIBACTERIAL SURFACE CLEANER. 7 DAY RESIDUE TESTING	MRSA	7.56×10^5	≤100	2.92×10^5	≥3.46	≥99.97%
		E. coli	2.50×10^5	≤100	2.39×10^5	≥3.38	≥99.96%
BL113	ANTIBACTERIAL SURFACE CLEANER 30 DAY RESIDUE TESTING	MRSA	7.56×10^5	≤100	1.03×10^5	≥3.01	≥99.90%
		E. coli	2.50×10^5	≤100	2.04×10^5	≥3.31	≥99.95%

*Numbers represent Colony Forming Units at representative contact times.

The above data describe the difference in the population sizes of the test organisms MRSA (ATCC® 43300™) and *E. coli* (ATCC®8739™), following contact with the residual ANTIBACTERIAL SURFACE CLEANER detailed in this CoA after 1 hour, relative to the control population. The residue applied to the test slides were left in aseptic conditions for the test times requested by the customer.

All testing is performed on site at the BioLabTests address above unless otherwise disclosed.

BioLabTests
Unit 3 Parade Court
Central Boulevard, Prologis Park
Coventry, CV6 4QL
United Kingdom

Tel: +44 (0) 333 240 8308
Fax: +44 (0) 2476 338081
info@biolabtests.com
www.biolabtests.com

Noted during testing	
	Note
Initial bacterial concentration:	MRSA: 1.51 x10^7 CFU/ml *E. coli*: 4.99 x10^6 CFU/ml
Inoculation volume:	0.05ml
Comments (if applicable):	The sample ANTIBACTERIAL SURFACE CLEANER was provided in a sealed 500ml bottle. One spray to each test slide was applied to sufficiently coat the surface. The test samples were then left for 7 days or 30 days, as applicable, before being tested. No abrasion or wear occurred in this time.

Please note; the sample was received in a ready to test state from the customer apart from a spray bottle for the purposes of administration of the disinfectant. This was supplied by BioLabTests.

Ria Warren BSc (Hons), MRes
Quality Manager,
BioLabTests Ltd

END OF REPORT

New study shows that a Swedish alcohol-free hand sanitizer eliminates bacteria for 24 hours

A new study shows that a Swedish technique without the use of alcohol eliminates bacteria such as E. coli and MRSA on surfaces for 24 hours. It is also effective against viruses causing Covid-19 and Norovirus. Since the public health authorities and the WHO began recommending hand hygiene as the best way to stop the spread of Covid-19, the demand for antibacterial products have skyrocketed. However, by cleaning your hands with alcoholic hand spray several times a day, it causes the skin to dry out, adding the risk of your skin to start to split. The alcohol-based hand sanitiser also causes another problem. The alcohol destroys the skin barrier and therefore damages our immune defence. Hygiene of Sweden, a Swedish company, has developed an alcohol-free hand spray that provides full protection without damaging your skin.

Efficacy remains for 24 hours
According to a new clinical study conducted in January this year, Hygiene of Sweden's hand spray can eliminate bacteria such as E. coli and MRSA on surfaces for 24 hours. The study, which was conducted by Bio Laboratories, an independent laboratory in the UK, shows that the hand spray protects the surface up to 99.99%, which is the highest possible measuring level one can achieve in the study.

A few other independent studies have also showed that the spray eliminates viruses such as Corona (Covid-19) and Norovirus (Calicivirus). Several tests have been conducted as per EN-standards to ensure that they are following laws and regulations, to prove how effective the product is in different environments.

Alcohol is only effective for seconds
The reason why Hygiene of Sweden's hand spray offers longer efficacy is because it's not alcoholbased. An alcohol-based hand spray kills bacteria and viruses by dissolving them. As alcohol evaporates in a normal atmosphere, the effectiveness only lasts between 10-15 seconds. Hygiene of Sweden's antibacterial solution is based on their own recipe that includes their own developed formula with BioPolymerPlus in combination with an active ingredient and lactic acid amongst other things.

The story behind the formula comes from the energy industry when treating micro-organisms in water cooling systems, which was developed by biochemist Philip Wilhelmsson, CEO of Hygiene of Sweden. This biopolymer does not evaporate, which means that it provides a longer lasting protection and prolonged battle against bacteria and viruses. This also means that the product does not put the same environmental strain as alcohol-based products, as it does not need to produce ethanol (alcohol), which is a carbon dioxide demanding process.

Another important factor is that alcohol is flammable and not suitable in environments such as work places, schools and airports. No dangerous transport, no risk of misuse due to the alcohol levels and bigger sanitising effect on surfaces are a few of the additional advantages.

Official Sponsor of the Swedish Cross-Country Ski Team
The antibacterial formula has been in high demand nationally and internationally. Hygiene of Sweden has for several years been co-operating with the Swedish athletics team and recently also became the official provider for the Swedish Cross-Country Ski Team.

– We are very pleased by the result from the study. We will now try and see if the formula is effective for seven days, says biochemist Philip Wilhelmsson, CEO of Hygiene of Sweden.

Hygiene of Sweden's products are sold in pharmacies amongst other places and are available as spray, hand foam and antibacterial wipes.

FACTS:

A complete and alcohol-free formula for both hands and surfaces, which is water-based and has a lower environmental impact than products that contain alcohol. Contains Aloe Vera and Vitamin B5. Protects against unwanted bacteria and keeps hands protected and soft. Clinical studies have been conducted where Hygiene of Sweden proves effective against bacteria, non-enveloped viruses and so called enveloped viruses (same virus types as Covid-19). A new study shows that the formula has efficacy against bacteria such as E. coli and MRSA on surfaces for 24 hours.

Facts about Hygiene of Sweden

Hygiene of Sweden develops and manufactures antibacterial solutions for hands and surfaces. Under the guiding by biochemist Philip Wilhelmsson, the company has developed unique solutions for sanitising spaces such as offices and shopping centres. The biggest market for Hygiene of Sweden today is the US, Russia, Asia and the Middle-East. The laboratory and the production is based in Landskrona and in Helsingborg. Currently the product is approved in 30 different countries and in Sweden it is registered with Kemikalieinspektionen since 2011.

Ny studie visar att en svensk handspray utan alkohol eliminerar bakterier i 24 timmar

En ny studie visar att en svensk teknik utan alkohol eliminerar bakterier som E.coli och MRSA på ytor i 24 timmar. Den är också effektiv mot virus som ger Covid-19 och vinterkräksjukan.

Sedan Folkhälsomyndigheten och WHO gick ut och rekommenderade handhygien som bästa sättet att stoppa covid-19 har efterfrågan på antibakteriella produkter blivit stor. Men att rengöra händerna flera gånger dagligen med handsprit ger torr och fnasig hud. Handspriten som vanligtvis innehåller alkohol orsakar också ett annat problem. Alkoholen förstör hudbarriären och skadar vårt immunförsvar. Det svenska företaget Hygiene of Sweden har utvecklat en handspray utan alkohol och som ger fullgott skydd men inte skadar huden.

Effekten kvarstår i 24 timmar
Enligt en färsk klinisk studie som genomfördes i januari i år kan handsprayen eliminera bakterier som E.coli och MRSA på ytor i 24 timmar. Studien, som är utförd av ett oberoende laboratorium i Storbritannien, Bio Labs, visar att handsprayen skyddar på ytor till 99,99 procent, högsta möjliga mätvärdet i studien.

Ett flertal tidigare oberoende studier har dessutom har visat att sprayen också eliminerar virus som corona (Covid-19) - och norovirus (vinterkräksjukan). Flertalet tester har genomförts enligt EN-normen för att säkerställa att man följer lagar och regler samtidigt som man bevisar hur effektiv produkten är i olika miljöer.

Alkohol verkar enbart i sekunder
Orsaken till handsprayens långa effektivitet beror just på att den inte baseras på alkohol. En alkoholbaserad handsprit dödar bakterier och virus genom att lösa upp dem. Eftersom alkohol avdunstar i en normal atmosfär varar effekten bara i 10-15 sekunder. Hygiene of Swedens antibakteriella lösning är baserad på ett recept innehållande sin egenutvecklade formulering med BiopolymerPlus i kombination med bl a en aktiv ingrediens och mjölksyra.

Bakgrunden till formulan kommer från energikraftverk och behandling av tillväxt av mikroorganismer i kylvattensystem utvecklat av biokemisten Philip Wilhelmsson, VD Hygiene of Sweden.

Denna biopolymer avdunstar inte vilket i sin tur innebär längre skydd och längre kontakttid mot bakterier och virus. Detta innebär också att produkten är miljövänligare eftersom man inte behöver framställa etanol (alkohol) som är en koldioxidkrävande process. En annan viktig faktor är att alkohol är brandfarligt och olämpligt i vissa miljöer som i skolor och på flygplan. Inga farliga transporter, inget missbruk pga alkoholhalten och en större rengörande effekt på ytor är några av fördelarna.

Levererar till Svenska Skidlandslaget
Den antibakteriella produkten har blivit eftertraktad såväl nationellt som internationellt. Sedan flera år har Hygiene of Sweden ett samarbete med Svensk friidrott och nyligen blev företaget även officiell leverantör till Svenska skidlandslaget.

– Vi är mycket nöjda med resultatet av studien. Nu ska vi gå vidare och se om formulan är effektiv under sju dagar, säger Anders Karlsson, försäljningschef för internationella marknader.

Fakta Hygiene of Sweden
Hygiene of Sweden utvecklar och tillverkar antibakteriella lösningar för händer, ytor och vattensystem. Idag finns produkterna registrerade i ett 30 tal länder och i Sverige är produkterna registrerade av Kemikalieinspektionen sedan 2011. Hygiene of Swedens produkter säljs på apotek och finns både som spray, handskum och desinfektionsservetter.

Safety data sheet

According to Regulation (EC) No. 1907/2006 and (EG) 453/2010

Pocketspray of Sweden anti-bacterial spray

Date 2012-04-20, Revision 1

1. Identification of the substance/preparation and of the company/undertaking

Trade name	Pocketspray of Sweden anti-bacterial spray
Use of the preparation	Disinfects hands and surface
Supplier	Hygiene of Sweden AB Bangårdsgatan 19 SE-261 35 Landskrona, Sweden
Marketed by	Hygiene of Sweden AB
Contact	Tel. +46 (0)40-61 60 795
E-mail/Web page	Philip Wilhelmsson info@hygieneofsweden.com
Emergency telephone	Swedish poison information +46 (0)8-331231

2. Hazards identification

Classification
Classification (1999/45/EC): This product is not classified as flammable, irritating or dangerous for the enviroment
Label elements:
Symbol
None
Risk phrases
None
Safety phrases
None
Other hazards
No hazards known.
Ingredients according to Direktive 648/2004/EC
Cationic surfactants < 5%
Active ingredient Didecyldimethylammonium chloride 0.495g/l (0,00495%)

3. Composition/information on ingredients

Chemical composition: mixture. Pocketspray of Swededen is a preparation of multiple synagistic biocides in an aqueous solution.

Components	CAS-No EC-No	Reg-No	Conc. %	Symbol & R-phrases *	Hazard Class and Category Code(s)	Hazard statement Code(s)(2)
-	-	-	-	-	-	-

* The full text of Risk phrases and Hazard statement Codes are listed under heading 16.

The classification is based on data from the chemical supplier and www.ecb.europa.eu (databases)
Explanation of symbols:
T= Toxic; T+= Very toxic; C= Corrosive; Xn= Harmful; Xi= Irritant; O= Oxidizing; E= Explosive;
F= Highly flammable; F+= Extremely flammable; N= Dangerous to the environment

Pocketspray of Sweden anti-bacterial spray

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4. First aid measures

Description of first aid measures:

General information
Never give fluids or induce vomiting if patient is unconscious. Keep person warm and calm. In all cases of doubt, or when symptoms persist, seek medical advice.

Inhalation
Fresh air.

Skin contact

Eye contact
Rinse with water for several minutes. Hold eyelids apart. Contact a doctor if the complaints persist.

Ingestion
Rinse mouth with water and drink several glasses of water. Contact a doctor if the complaints persist.

Most important symptoms and effects, both acute and delayed:

Inhalation:	No irritation expected.
Skin contact:	No irritation expected.
Eye contact:	May be slight irritating to eyes.
Ingestion:	Ingestion may cause discomfort, nausea.

Indication of any immediate medical attention and special treatment needed
-

5. Fire-fighting measures

Extinguishing media
Choose material suitable for surrounding fire:
Water spray, fog or mist, foam, powder or carbon dioxide.

Special hazards arising from the substance or mixture
Do not breathe fumes. During fire, gases hazardous to health may be formed.

Special protective equipment
Appropriate breathing apparatus may be required.

Additional information
Cool endangered containers with water in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation.

Environmental precautions
Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up
Small quantities may be wiped up with a cloth. Flush with water.
Larger spill: Contain spill with inert material. Absorb in vermiculite, dry sand or earth.
Place in container for disposal according to local regulations.

Pocketspray of Sweden anti-bacterial spray

Date 2012-04-20, Revision 1

6. Accidental release measures (...)

Reference to other sections
See Section 7 for proper handling and storage.
For personal protection see section 8.
For disposal of spillage, see section 13.

7. Handling and storage

Precautions for safe handling
Read instructions before use.
Normal precautions taken when handling chemicals should be observed.
Conditions for safe storage, including any incompatibilities
Store in a cool, dry area.
Store in a well ventilated area.
Specific end use(s)
-

8. Exposure controls/personal protection

Ventilation requirements
Provide adequate ventilation.
Exposure limits
Not applicable.

Exposure controls:
General protective and hygiene measures
The usual precautionary measures for the handing of chemicals have to be observed.
Individual protection measures, such as personal protective equipment.
Always consult a competent person/supplier when selecting personal protective equipment.
Respiratory protection
None required.
Hand protection
Not required when used as intended.
Eye protection
Wear tightly fitting protective goggles if there is a risk of direct contact or splash.
Body protection
None required.

Pocketspray of Sweden anti-bacterial spray

Date 2012-04-20, Revision 1

9. Physical and chemical properties

Information on basic physical and chemical properties:

Form:	Liquid
Colour:	Colourless
Odour:	Characteristic
pH-value:	Ca 5,5
Boiling point/ (°C):	>100
Solubility in water:	Miscible in water.
Explosive properties:	Not Explosive
Oxidising properties:	Not Oxidising

Other information
No specific

10. Stability and reactivity

Reactivity
Stable under recommended storage and handing conditions.
Chemical stability
Stable
Possibility of hazardous reactions
Stable under recommended storage and handing conditions.
Conditions to avoid
No known.
Incompatible materials
No known.
Hazardous decomposition products
No hazardous decompositions products known under recommended handing conditions.

11. Toxicological information

Information on toxicological effects
See section 4. (Most important symptoms and effects, both acute and delayed)
Acute toxicity
Information about this preparation is not available.

Effects of chronic exposure
No known
Routes of exposure
Eyes and skin ,ingestion, inhalation.
Allergenic potential
The product is not classified as allergenic by inhalation or skin contact.
Carcinogenicity, mutagenicity and toxicity for reproduction
This product do not contain any substances classified as carcinogen, mutagen and toxic for reproduction.
Other information
Hygiene of Sweden Handfoam passed Cytotoxicity In Vitro 3T3 NRU conforms ISO 10993-5.

Pocketspray of Sweden anti-bacterial spray

Date 2012-04-20, Revision 1

12. Ecological information

This product is not classified as dangerous for the environment.

Toxicity
Information about this preparation is not available.

Persistence and degradability
More than 90% biodegradable.

Bioaccumulative potential
Does not bioaccumulate.

Mobility in soil
Soluble in water.

Results of PBT and vPvB assessment
-

Other adverse effects
-

13. Disposal considerations

Waste treatment methods
This product or residues of this product is not classified as hazardous waste. Dispose of in accordance with local authority requirements.

Disposal of Packaging
Well cleaned packaging could be left for recycling

14. Transport information

UN number
The product is not classified as dangerous goods according to ADR/RID, IMDG, DGR

UN proper shipping name
-

Transport hazard class(es)
-

Packing group
-

Environmental hazards
Marine Pollutant: No

Special precautions for user
-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
-

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Classification according to (67/548/EEC, 1999/45/EC)
Chemical safety assessment: -

Pocketspray of Sweden anti-bacterial spray

Date 2012-04-20, Revision 1

16. Other information

Additional information

Pocketspray of Sweden anti.bacterial spray is a preparation of multiple synagistic biocides in an aqueous solution. These occur in such a small amount in this product so it is classified as non hazardous according to EU-rules.

The full text of Risk phrases and Hazard statement Codes are listed under heading 3:

-

Sources

Safety data sheet provided by the manufacturer. CLP-regulation, www.kemi.se, www.ecb.europa.eu (databases)

Revision 1: 2012-04-20. Safety data sheet according to Regulation (EC) No. 1907/2006 and (EG) 453/2010

Abbreviations explanations

ADR: :International Carriage of Dangerous Goods by Road
BCF: Bio Concentration Factor
CAS-nr: Chemical Abstracts Service number
EC_{50}: Effect Concentration
EG-nr: A substance number i Einecs, Elincs or in No-Longer Polymers List.
IMDG: International Maritime Dangerous Goods Code.
LC_{50}: Lethal Concentration
LD_{50}: Lethal Dose
IC_{50}: Median Inhibition Concentration
NOEC: No Observed Effect Concentration
PBT-substance: Persistent, Bio accumulative and Toxic substances.
vPvB-substance; Very persistent and Very Bio accumulative substances.