

Laborbericht / Laboratory Report

Auftraggeber / Client:	Freudenberg Home and Cleaning Solutions GmbH, Regional Technical Centre Europe Hoehnerweg 2-4, Bau 149, 69469 Weinheim Herr Thorsten Gleich		
Auftragsdatum / Date of order:	08.02.2019	BMA-Auftragsnr. / BMA order no.:	AU190208-03
Ihre Auftragsnr. / Your order no.:		BMA-Probennr. / BMA sample no.:	190211-04/1
Probeneingang/-nahme / Sample receipt/sampling:	11.02.2019	Analysenzeitraum / Period of analysis:	20.02. – 05.03.2017
Probennehmer / Sampler:	Auftraggeber / Client	Berichtsnr. / Report no.:	BE190208-03/1
		Ansprechpartner / Contact:	U. Stephan
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1. Prüfgegenstand / Specimen

Produkt/Material / Product/Material: wiping cloth "Breazy" Vileda Professional, neutral cleaner solution: Tana Green

2. Untersuchung / Examination

Microbiological examination of products

Examination of the reducing effect of wiping cloth "Breazy" moistened with neutral cleaner solution on two bacteria strains.

3. Prüfverfahren und Normverweis / Test method and standard

The present study is based on DIN EN ISO 11737-1: 2009-09, DIN EN ISO 846, method C: 1997-06 and the customer's instructions (see e-mails 11.02, 14.02. and 18.02.2019). The test was performed in a clean bench on a pre-cleaned and disinfected test surface.

Wiping cloth: "Breazy" Vileda Professional

Neutral cleaner: Tana Green care 04631 (TANA Chemie GmbH, Mainz, Germany), applied concentration 0,5%

Bacteria test strains: *Pseudomonas aeruginosa* (DSM-Nr. 288), *Staphylococcus aureus* (6538 DSM-Nr. 346)

Test surface: PVC flooring, non-structured (98 cm x 27 cm), disinfected; divided into 39 squares 9 cm x 7 cm each.

Samples 1.1 to 1.3: Negative control after disinfection, samples 1.4 to 1.9: Positive control after bacteria application, samples 1.10 to 1.39: treated sample squares after bacteria application and cleaning with the test cloth.

Applied bacteria suspension

5 ml of mixed bacteria suspension (*P. aeruginosa* + *S. aureus* 1 + 1) $1,4 \times 10^8$ cfu (colony forming unit); calculated amount per test sample (9 cm x 7 cm): $3,6 \times 10^6$.

Cleaning procedure

The cloth was fixed in a double layer to lab a testing device (provided by the customer) consisting of a massive plastic block (9 cm x 6 cm) and ensuring a homogenous pressure. It was moistened with 0,5% neutral cleaner in water (200% of the wiping cloth weight). Then the cloth with the block was wiped once across the test surface by moving it in form of an 8 at a speed of approx. 5 cm/s based on instructions of the manufacturer.

Elution and determination of bacteria from the sample squares

Samples were incubated in 15 ml 0,9% NaCl solution in a falcon tube and shaken 20 min end to end. The bacteria concentration of the suspension was analysed using the spread plate method (100 µl plating volume of dilution series) and/or the pouring method for samples with expected high or low bacteria contamination respectively. The agar plates were cultivated 3-5 days at 30°C.

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Deutsche
Akkreditierungsstelle
D-PL-18029-01-00

Anschrift:
BMA-Labor GbR
Technologiezentrum Ruhr
Universitätsstraße 142
D-44799 Bochum

Kommunikation:
Tel.: 0234 / 978 30 - 0
Fax: 0234 / 978 30 - 29
Mail: info@bma-labor.de
http://www.bma-labor.de

Gesellschafter:
Dr. rer. nat. Ute Stephan
Dr. rer. nat. Klaus Klus
USt-IdNr.: DE202600482

Postbank Frankfurt
BLZ 500 100 60
Kto.-Nr.: 117 640 607
IBAN: DE76500100600117640607
SWIFT/BIC: PBNKDEFF

4. Untersuchungsergebnisse / Test results

Die Ergebnisse der Messungen und Analysen beziehen sich ausschließlich auf die untersuchte Probe. /
 The results of the measurements and analyses exclusively refer to the examined sample.

4.1 Amount of bacteria on the test surface after pre-cleaning without treatment

Probe/Identifikation / Sample/Identification	Proben-Nr. / Sample no.	Durchschnittl. Bakterienkonz. [KbE/Rechteck] / Mean bacteria conc. [cfu/square] (<i>P. aeruginosa</i> and <i>S aureus</i>)	
		Sample square [cfu/63 cm ²]	[cfu/m ²]
Test surface (negative control) 190211-04/1	1.1-1.3	0 ^(b)	0

^(a) Nachweisgrenze Ausstrichmethode: 150 cfu/15 ml (square), ^(b) Nachweisgrenze Agargussmethode: 1 KBE/15 ml (Rechteck) /
^(a) Detection limit smear method: 150 cfu/15 ml (square), ^(b) Detection limit pouring method: 1 cfu/15 ml (square)

4.2 Amount of bacteria on the test surface after pre-cleaning and treatment

Probe/Identifikation / Sample/Identification	Proben-Nr. / Sample no.	Durchschnittl. Bakterienkonz. [KbE/Rechteck] / Mean bacteria conc. [cfu/square] (<i>P. aeruginosa</i> and <i>S aureus</i>)	
		Sample square [cfu/63 cm ²]	[cfu/m ²]
Test surface after bacteria application (positive control) 190211-04/1	1.4-1.9	8,9 x 10 ⁵ ^(a)	1,4 x 10 ⁸
Test surface after bacteria application and cleaning with Breazy + 0,5% neutral cleaner 190211-04/1	1.10-1.39	2,4 x 10 ³ ^(b)	3,8 x 10 ⁵
Reduction [%]		99,726	

^(a) Nachweisgrenze Ausstrichmethode: 150 cfu/15 ml (square), ^(b) Nachweisgrenze Agargussmethode: 1 KBE/15 ml (Rechteck) /
^(a) Detection limit smear method: 150 cfu/15 ml (square), ^(b) Detection limit pouring method: 1 cfu/15 ml (square)


 Dr. Ute Stephan
 Manager / Techn. Manager


 Dr. Bianca Schröer
 Wiss. Mitarbeiterin / Res. Assistant