



Microbe Investigations AG

LS20-00700

Report date: May 08, 2020

Customer: Cotonificio Albini

Index

- Test overview and summary
- Application data
- Antimicrobial Testing management data
- Test costs information (Pro-Forma invoice)
- Annexes to the test report



Microbe Investigations AG (MIS) is a spin-off company of ETH Zürich

MIS provides microbiological testing services primarily for industrial customers assessing the characteristics of developmental products. MIS also provides a depth of expertise in fundamental aspects of microbiology gained throughout many years of world-leading research. Target customers are primarily companies working with antimicrobial treatments on textiles, plastics, and coatings.

More information: www.microbe-investigations.com



Test report overview

General Info	Name	Contact	HeiQ KAM
Customer	Cotonificio Albini	-	S. Taruselli
Distributor	-	-	-
Brand owner	-	-	-
Brand label	-	Application at	Client
Reason for testing	QA for client	Application by	Padding (dry-in-wet)
HeiQ Effects	Others	Scale	Pilot plant

Test methods carried out in this report		
Effect / Property	Testing standard	Test parameter
Domestic laundering	ISO 6330:2013	4G: 40°C, gentle setting (wool silk synthetics)
Antibacterial test (hydrophilic fabrics)	ISO 20743:2013	Bacterium: <i>Staphylococcus aureus</i> (ATCC 6538P)

Test results: Excellent - Perfect application // no adjustment on recipe or application needed

Test summary / comments:

The sample "ALB-COTTON; NPJ03 150 g/l" shows good antimicrobial activity versus *Staphylococcus aureus* in the test ISO 20743, initially and after 10 home laundings.

Samples, finishing process and textile information

Sample number	Sample description
1	ALB-COTTON; NPJ03 150 g/l

Recipe	Sample number
Product	1
Viroblock NPJ03 [g/l]	150
Parameters	1
Pick-up [%]	90
Drying Temp. [°C]	120
Drying Time [s]	60.0
Curing Air Temp. [°C]	-
Curing Time [s]	-
Substrates	1
Cotton [%]	
Textile information	1
Weight [g/m ²]	-
Construction	WOV
Structure	-

Legend:

Construction process	Textile structure
WOV = Woven	

Antimicrobial Testing

Recipe	Sample number	
Product	1	
Viroblock NPJ03 [g/l]	150	
ISO 6330 parameters	1-1	1-2
Wash cycles 4G	0	10
Drying conditions	A	

ISO 20743: Staphylococcus aureus (ATCC 6538P)

Control	Intial	After 18 h
Log cfu	4.3	6.6
Sub-Samples	1-1	1-2
Log cfu Sample (staph)	2.0	1.8
Percent reduction Sample (staph) [%]	99.9974	99.9983
Log reduction Sample (staph)	4.6	4.8
Activity Sample (staph)	++	++

Microbe Investigations AG

LS20-01668

Report date: July 17, 2020

Customer: Cotonificio Albini

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Test report overview

General Info	Name	Contact	HeiQ KAM
Customer	Cotonificio Albini	-	S. Taruselli
Distributor	-	-	-
Brand owner	-	-	-
Brand label	-	Application at	Client
Reason for testing	Quality validation	Application by	Padding (dry-in-wet)
HeiQ Effects	HeiQ Viroblock	Scale	3 - bulk trial

Test methods carried out in this report

Effect / Property	Testing standard	Test parameter
Quantitative antibacterial test (hydrophilic fabrics)	ISO 20743:2013	Bacterium: Staphylococcus aureus (ATCC 6538P)

Test results: Excellent - Perfect application // no adjustment on recipe or application needed

Test summary / comments:

Both fabrics treated with HeiQ Viroblock NPJ03 show very good antimicrobial activity.

Samples, finishing process and textile information

Sample	Sample description
1	TP2 TP2; NPJ03 170 g/l
2	REGENT SATAIN REGENT SATAIN; NPJ03 170 g/l

Recipe	Sample number	
	1	2
Product	1	2
Viroblock NPJ03 (17204) [g/l]	170	170
Parameters	1	2
Pick-up [%]	40	40
Drying Temp. [°C]	-	-
Drying Time [s]	-	-
Curing Air Temp. [°C]	-	-
Curing Time [s]	-	-
Substrates	1	2
Not specified [%]		
Textile information	1	2
Weight [g/m2]	-	-
Construction	WOV	WOV
Structure	-	-

Legend:

Construction process	Textile structure
WOV = Woven	

Antimicrobial Testing

Recipe	Sample number	
Product	1	2
Viroblock NPJ03 (17204) [g/l]	170	170
ISO 6330 parameters	1-1	2-1
No. of domestic launderings	0	0
Drying conditions		

ISO 20743: Staphylococcus aureus (ATCC 6538P)

Control	Intial	After 18 h
Log cfu	4.8	7.3
Sub-Samples	1-1	2-1
Log cfu Sample (staph)	2.1	2.1
Percent reduction Sample (staph) [%]	100.00	100.00
Log reduction Sample (staph)	5.2	5.2
Activity Sample (staph)	++	++



Microbe Investigations AG

LS20-02805

Report date: September 25, 2020

Customer: Cotonificio Albini

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- Test overview and summary
- Application data
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- Annexes to the test report



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More information: www.microbe-investigations.com



Test report overview

General Info	Name	Contact	HeiQ KAM
Customer	Cotonificio Albini	-	S. Taruselli
Distributor	-	-	-
Brand owner	-	-	-
Brand label	-	Application at	Client
Reason for testing	Quality validation	Application by	Padding (dry-in-wet)
HeiQ Effects	HeiQ Viroblock	Scale	3 - bulk trial

Test methods carried out in this report

Effect / Property	Testing standard	Test parameter
Domestic laundering	ISO 6330:2013	3G: 30°C, gentle setting (wool silk synthetics)
Quantitative antibacterial test (hydrophilic fabrics)	ISO 20743:2013	Bacterium: <i>Staphylococcus aureus</i> (ATCC 6538P)

Test results: Good - Correct application // always obey application/recipe parameters

Test summary / comments:

In the test ISO 20743 the sample "REGENT SATAIN; NPJ03 170 g/l" shows good antimicrobial activity versus *Staphylococcus aureus*, initially, after 10, after 20, and after 30 home launderings.

Samples, finishing process and textile information

Sample	Sample description
1	REGENT SATAIN REGENT SATAIN; NPJ03 170 g/l

Recipe	Sample number
Product	1
Viroblock NPJ03 (17202) [g/l]	170
Parameters	1
Pick-up [%]	40
Drying Temp. [°C]	-
Drying Time [s]	-
Curing Air Temp. [°C]	-
Curing Time [s]	-
Substrates	1
Cotton [%]	100
Textile information	1
Weight [g/m ²]	-
Construction	WOV
Structure	-

Legend:

Construction process	Textile structure
WOV = Woven	

Antimicrobial Testing

Recipe	Sample number			
Product	1			
Viroblock NPJ03 (17202) [g/l]	170			
ISO 6330 parameters	1-1	1-2	1-3	1-4
ISO 6330 3G		10	20	30
Drying conditions		A	A	A

ISO 20743: Staphylococcus aureus (ATCC 6538P)

Control	Intial	After 18 h		
Log cfu	4.33	6.15		
Sub-Samples	1-1	1-2	1-3	1-4
Log cfu Sample (staph)	2.00	2.55	2.68	3.80
Percent reduction Sample (staph) [%]	99.993	99.975	99.966	99.548
Log reduction Sample (staph)	4.10	3.60	3.50	2.30
Activity Sample (staph)	++	++	++	+



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TEST REPORT

COMPANY NAME: HeiQ MATERIALS AG
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Report No.: (6720)266-0443
Form No.: 37644
Date In: 22nd Sep 2020
Date Out: 24th Oct 2020
No. Of Working Days: 28
Page: 01 of 04
Pretest for Buyer: /

Sample Description:	1) LS20-01668-1-1; TP2; NPJ03 170 G/L (Initial Sample + 20 X 40 ^o C Washes By Veritas) 2) LS20-01668-2-1; Regent Satain; NPJ03170 G/L (Initial Sample + 20 X 40 ^o c Washes By Veritas)
Color(s):	White, Other Blue With Stripes
Lab Id Color(s):	White, Other Blue With Stripes
Style No. (s):	Not Listed
Article No(s):	TP2, RESP. Regent Satain
Lot No. (s):	Not Listed
Applicant:	Not Listed
Quantity:	Not Listed
Size:	Not Listed
Country of Origin	Italy
Country of Destination:	Italy
End Use:	Not Listed

Submitted Fiber Content:	Not Specified
Fiber Content:	Not Listed
Test Requested:	Determination Of Antiviral Activity Of Textile Products
Submitted Care Instruction:	Not Listed
Suggested Care Instruction:	Not Listed

If Retest

Previous Report No.:	/
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If Revision

Reason For Revision:	/
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(6720)266-0443 S

"Pls. refer the website www.nabl-india.org to view our Scope of accredited Tests.

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**BUREAU
VERITAS**

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PHOTO OF THE SUBMITTED SAMPLE



**BUREAU VERITAS
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AUTHORIZED SIGNATORIES**

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SUMMARY OF TEST RESULTS

TEST PROPERTY	COMMENTS
DETERMINATION OF ANTIVIRAL ACTIVITY OF TEXTILE PRODUCTS	SEE RESULT

NOTE:

1. Only the listed tests have been conducted as per customer request.
2. Laboratory is not responsible for safety of the users in any case, these results do not purport to address all of the safety concerns, if any associated with use of the final product, above test determination of antiviral activity of textile products is not accredited under NABL (ISO 17025) test scope.
3. Tests have been performed as per submitter request for their internal quality check.
4. Reports represents the results for submitted product only.
5. It's not inspection pulled samples but it has been submitted by customer end.
6. Results shows the performance tested under laboratory conditions for the submitted sample by the client, please note that the test may not reflect the reality of use.
7. Users are responsible to establish safety and determine the applicability of the PPE's as per the regulatory requirements and uses, the test does not conform to all blood borne pathogens exposure.
8. Above Listed test Antiviral Activity has been subcontracted to Non BVCPs Lab.
9. This report is only for customer self-reference not to be used for advertisement or legal purpose.
10. Test Report has not been concluded as no desirable provided.

DETERMINATION OF ANTIVIRAL ACTIVITY OF TEXTILE PRODUCTS
 Test Method: ISO 18184: 2019
 Sample: Fabric - White, Other Blue With Stripes

CRITERIA	REQUIREMENTS	METHOD
Storage Conditions	Ambient	ISO 18184: 2019
Appearance of the Product	N/A	
Neutralization Method	Dilution	
Product Diluent	N/A	
Test Concentrations	Neat as supplied	
Test Temperature	25°C ± 1°C	
Temperature of Incubation	34°C ± 1°C (For Influenza A Virus)	
Identification of the Viral Strains:	Influenza A virus (H1N1)	
Contact Times	2 hrs.	



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TEST RESULTS

TESTED AGAINST: Influenza A Virus (H1N1): ATCC VR-1469

ORIGINAL

Sample: Fabric – White	Log Value
Reference Specimen Immediately after inoculation	5.7
Reference Specimen after 2 hours contact time (of inoculation)	0.6
Antiviral Activity Log (Avg. Reduction)	5.1
Total Viral Activity Reduction (%)	99.999 %

Sample: Fabric – Blue With Stripes	Log Value
Reference Specimen Immediately after inoculation	5.7
Reference Specimen after 2 hours contact time (of inoculation)	0.6
Antiviral Activity Log (Avg. Reduction)	5.1
Total Viral Activity Reduction (%)	99.999 %

AFTER 20 WASH

Sample: Fabric – White	Log Value
Reference Specimen Immediately after inoculation	5.7
Reference Specimen after 2 hours contact time (of inoculation)	1.4
Antiviral Activity Log (Avg. Reduction)	4.3
Total Viral Activity Reduction (%)	99.95 %

Sample: Fabric – Blue With Stripes	Log Value
Reference Specimen Immediately after inoculation	5.7
Reference Specimen after 2 hours contact time (of inoculation)	1.4
Antiviral Activity Log (Avg. Reduction)	4.3
Total Viral Activity Reduction (%)	99.995 %

-----END OF TEST REPORT-----