

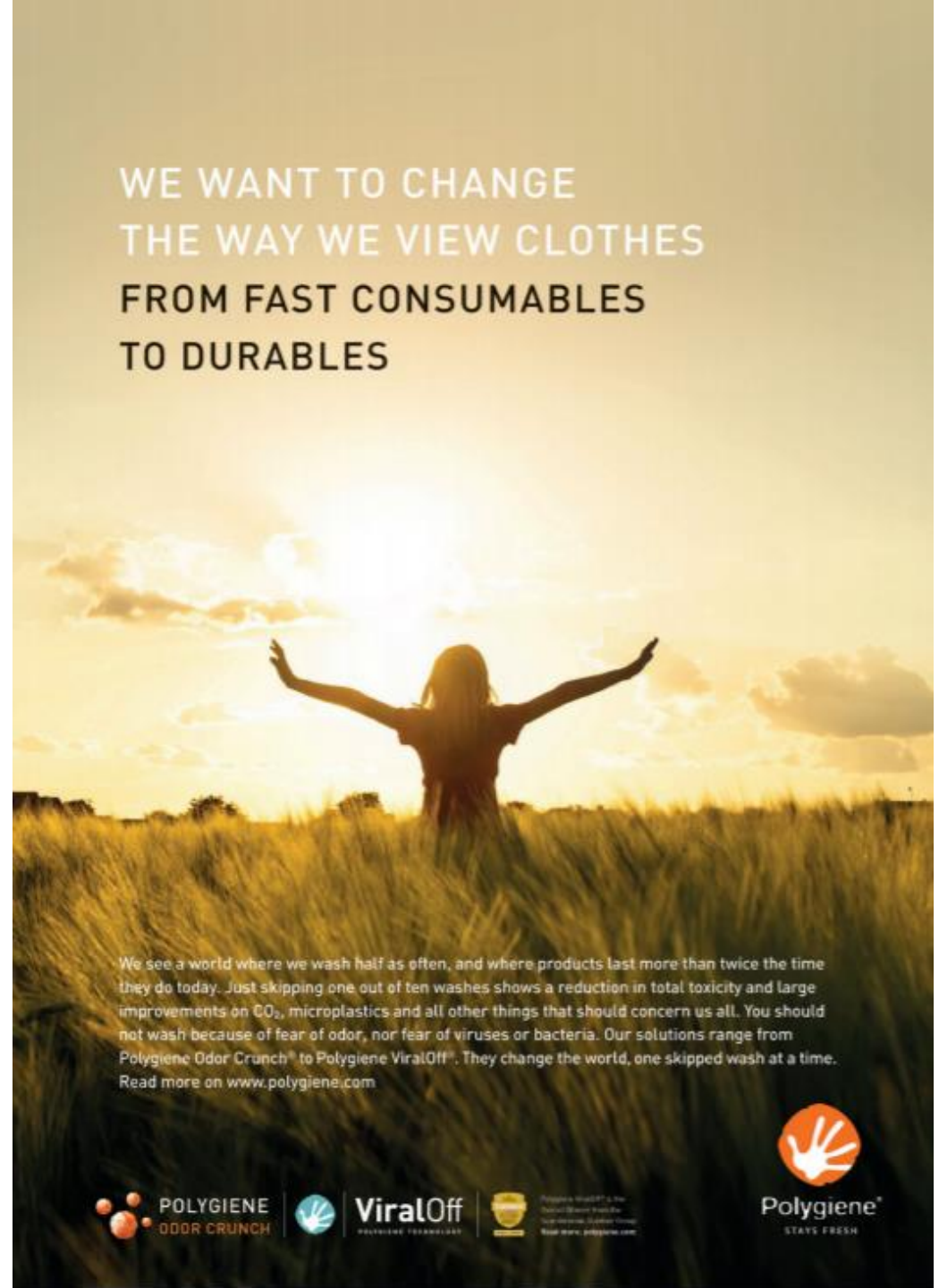


Polygiene®

UTM

UNITED TEXTILE MILLS

WE WANT TO CHANGE
THE WAY WE VIEW CLOTHES
FROM FAST CONSUMABLES
TO DURABLES



We see a world where we wash half as often, and where products last more than twice the time they do today. Just skipping one out of ten washes shows a reduction in total toxicity and large improvements on CO₂, microplastics and all other things that should concern us all. You should not wash because of fear of odor, nor fear of viruses or bacteria. Our solutions range from Polygiene Odor Crunch® to Polygiene ViralOff®. They change the world, one skipped wash at a time. Read more on www.polygiene.com



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ODOR CRUNCH



ViralOff
POLYGIENE TECHNOLOGY



Polygiene StayFresh®
The Natural Odor Freshener
For Natural Fiber Textiles
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STAYS FRESH

UNITED TEXTILE MILLS



Manufacture of
Finished Fabrics and Dyed Yarns,
Dyeing and Finishing of Fabrics and Yarns
with EN ISO 9001, EN ISO 14001
Certifications by TUV NORD, Oeko Tex
Standard 100 by TESTEX and Organic
Content Standard (OCS) by Control Union Certifications



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THE TEXTILE MAGAZINE

ASIA'S LEADING TEXTILE INDUSTRY MAGAZINE



VIRALOFF

99% reduction in virus in just 2 hours

Polygiene's innovation to Combat COVID

Special Edition on
Masks & PPEs
Antimicrobial Finishes



Ulrika Björk, CEO, Polygiene



Focus on **Masks & PPEs / Antimicrobial Finishes**

Polygiene is overall winner in Scandinavian Outdoor Group (SOG) awards 2020

Each year a jury from the SOG reviews new products and technologies across several categories. This knowledgeable and competent jury picked Polygiene's ViralOff® as the best new technology of the year. ViralOff was also declared overall winner of 2020!

"Although this is not a typical outdoor-product, Polygiene ViralOff deserves the Overall Award because it can impact developments way beyond the outdoor- or even apparel business. ViralOff is a treatment that kills 99% of the current viruses in two hours within a textile. When used in the facemasks, it will make lives for all of us a lot safer since you do not need to wash masks as often anymore. ViralOff contains silver salts and is considered not harmful for humans or for the environment" is the motivation from the jury. As Polygiene communicated recently, ViralOff has gone in just three months from a product mostly concerning masks and other protective gear in a niche market to a function – and ingredient brand – in all kinds of everyday use products like suits with Marzotto wools from premium brand manufactures, denim and casualwear from Diesel, and watches and wallets from Fossil. Antiviral treatments will be a key function of tomorrow's often-worn,



ViralOff
POLYGIENE TECHNOLOGY

often touched items. "We have been part of Scandinavian Outdoor Group for a long time. The SOG has many strong and global brands and collectively is an authority and source of

inspiration - we are proud to be a part of it. That SOG gave us this award makes us really happy. Super happy in fact. It is a recognition that Polygiene ViralOff will play an important part in

the fight against the current pandemic as well as being a sustainable solution that allows articles to be worn more and washed less" say Niklas Brosnan, Marketing Manager at Polygiene. •



99 % REDUCTION OF
VIRUSES IN 2 HOURS
[ISO18184:2019, ATCC VR-1679 (H3N2)]

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ViralOff
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99 % REDUCTION OF
VIRUSES IN 2 HOURS
[ISO18184:2019, ATCC VR-1679 (H3N2)]



Q&A – Skin Safety

ViralOff®– the textile treatment technology

May 2020

Is it safe to have close to the skin?

The component of Polygiene ViralOff is only active in the treated material and does not interfere with the natural bacterial flora of the skin. In addition, the ViralOff additive has been patch tested at the Kawai Institute of Industrial Dermatology.

Will silver chloride be transferred when breathing close to the treated fabric?

The silver chloride in the Polygiene ViralOff treatment is only active in the fabric or material by its intermolecular force, and is not transferred. Our technology is also certified for Eco Passports by OEKO-TEX®. This guarantees our additive is not harmful to human health.

Log Reduction	Percentage Reduction
0 log	0%
1log	90%
2log	99%
3log	99.9%
4log	99.99%
5log	99.999%
6log	99.9999%

Quality Test Report

ORIGINAL

Test Report No. 20219067944-1 (Page 1 of 2)

Applicant: Polygiene AB

April 27, 2020

Test results to submitted sample are as follows.

Reception Date : March 19, 2020

Item Name : 10130/1/1/62L035-1

(Polygiene Treated Samples)

Number of Item : 3

Test Item : The test of the antiviral efficacy

Test Method : ISO18184 : 2019 Textiles - Determination of antiviral activity of textile products

Infective titre measurement : Plaque assay

Washing Method : "Washing method of textile products with SEK mark" specified by Japan Textile

Evaluation Technology Council - Standard washing method

Test virus : Influenza A virus (H3N2) : ATCC VR-1679

Test Result :

Test sample	The common logarithm average of infectivity titer value	The antiviral activity value $\lg(Va) - \lg(Vc)$
Standard cloth	Immediately after inoculation $\lg(Va)$	6.58
	After 2h $\lg(Vb)$	5.91
10130/1/1/62L035-1 (Polygiene Treated Samples) (original)	$\lg(Vc)$	2.40
" (after fifteen wash)	$\lg(Vc)$	3.22
" (after thirty wash)	$\lg(Vc)$	3.86

Notice - This test result is applied to the submitted sample, not to the lot. Unauthorized reproduction, in whole or in part, is strictly prohibited.



20219067944

Quality Test Report

Test Report No. 20219067944-1 (Page 2 of 2)

Test Result :

Verification of this test		Test sample	Test result	Verification
Test item	Criterion value			
a	The virus infective titer of inoculated concentration for the test (PFU/mL)	—————	1.6×10^7	Pass
b	Verification of cytotoxic effect	10130/1/1/62L035-1 (original)	No damage	Pass
		" (after fifteen wash)	No damage	Pass
		" (after thirty wash)	No damage	Pass
	Verification of cell sensitivity to virus and inactivation of antiviral activity	10130/1/1/62L035-1 (original)	0.2	Pass
		" (after fifteen wash)	0.1	Pass
		" (after thirty wash)	0.2	Pass
c	Logarithm reduction value of infective titer of control specimen	—————	0.7	Pass

BOKEN QUALITY EVALUATION INSTITUTE
Osaka Functional Textile Testing Center

Supervised by *Yoshitaka Marumaki*

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20219067944

TEST RESULTS

Test Required : Antibacterial activity and efficacy of textile products Moraxella and Staphylococcus (After 30 washes)

Test Method : JIS L 1902 : 2015 (Quantitative by Absorption method)

Measuring method for number of living bacteria : Plate count method

Test results

1. Standard cotton fabric (Evaluation of F value)

Test microorganism	The number of inoculated bacteria in untreated control sample immediately after inoculation (Log Co)	The number of inoculated bacteria in untreated control sample after 18 h incubation (Log Ct)	Growth value (F) = Log Ct - Log Co
Staphylococcus aureus NBRC 12732	4.3	7.2	2.9

Verification for the test : The propagation value must be ≥ 1.0

2. Sample name : Knitted fabric in navy

Sample name	Log No. of living bacteria (Immediately after inoculation: Time 0 : Log To)	Log No. of living bacteria (After 18 h incubation : Log Tt)	A value antibacterial activity value (Log Ct - Log Co) - (Log Tt - Log To)
As received	3.6	Less than 1.3	More than 5.9
After 30 washes	4.3	Less than 1.3	More than 5.9

Measuring method for number of living bacteria : Plate count method

Test results

3. Standard cotton fabric (Evaluation of F value)

Test microorganism	The number of inoculated bacteria in untreated control sample immediately after inoculation (Log Co)	The number of inoculated bacteria in untreated control sample after 18 h incubation (Log Ct)	Growth value (F) = Log Ct - Log Co

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TEST RESULTS

Test microorganism	The number of inoculated bacteria in untreated control sample immediately after inoculation (Log Co)	The number of inoculated bacteria in untreated control sample after 18 h incubation (Log Ct)	Growth value (F) = Log Ct - Log Co
Moraxella osloensis ATCC 19978	4.6	7.5	2.9

Verification for the test : The propagation value must be ≥ 1.0

4. Sample name : Knitted fabric in navy

Sample name	Log No. of living bacteria (Immediately after inoculation: Time 0 : Log To)	Log No. of living bacteria (After 18 h incubation : Log Tt)	A value antibacterial activity value (Log Ct - Log Co) - (Log Tt - Log To)
As received	4.5	Less than 1.3	More than 6.2
After 30 washes	4.5	Less than 1.3	More than 6.2

Note : Washing condition: JIS L0217:1995 ; Method 103, 40 degree c, normal cycle, flat dry.

Calculation :

- Growth value on the control specimen (F) = Log Ct - Log Co
 - Antibacterial activity value (A) = (Log Ct - Log Co) - (Log Tt - Log To)
- In the case of log Co \geq log To, substitute log Co for log To

Where

- Log Co = Log No. of living bacteria on Standard cotton fabric, Immediately after inoculation : time 0
- Log Ct = Log No. of living bacteria on Standard cotton fabric, After 18 h incubation
- Log To = Log No. of living bacteria on Antimicrobial sample, Immediately after inoculation : time 0
- Log Tt = Log No. of living bacteria on Antimicrobial sample, After 18 h incubation

***** End of Report *****

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ยับยั้ง ไวรัส

ด้วยหน้ากาก
ViralOff Fabric



ARROW
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ViralOff FABRIC 3D MASK



ผลิตจากผ้าที่มีคุณสมบัติ
ยับยั้งเชื้อไวรัสที่ก่อให้เกิด
ไข้หวัดใหญ่ (H3N2)

สามารถยับยั้งไวรัสได้ 99 %
ภายใน 2 ชั่วโมง



เนื้อผ้าแห้งไว
ระบายอากาศได้ดี



ช่วยป้องกันการกระจาย
จากการไอ หรือจาม



รูปแบบ 3D
มีโครงลวดปิดจมูก
ใช้งานสะดวก



สามารถซักได้กว่า 20 ครั้ง
และนำกลับมาใช้ซ้ำได้

2/6

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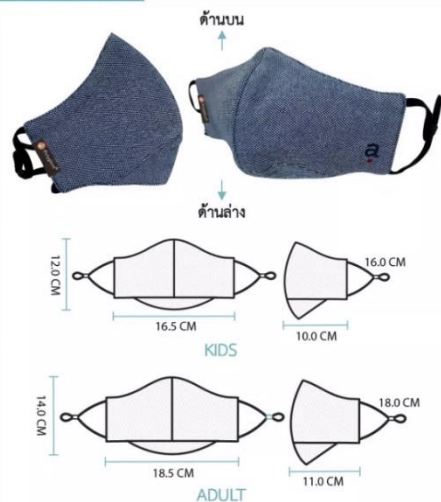


MASK

ViralOff Fabric



ขนาดหน้ากาก



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- ผลิตจากผ้าที่มีคุณสมบัติยับยั้งไวรัสที่ก่อให้เกิดไข้หวัดใหญ่ (H3N2) อ้างอิงผลการทดสอบจากสถาบัน BOKEN Quality Evaluation Institute Osaka Function Textile Testing Center ประเทศญี่ปุ่น Test report No.BK20219067944-1 มาตรฐานการทดสอบ ISO18184:2019 ไม่มีผลต่อสุขอนามัยส่วนบุคคล
- หลังผ่านการซัก 20 ครั้ง ประสิทธิภาพยังคงอยู่
- ไม่ใช่ผลิตภัณฑ์ทางการแพทย์

คุณสมบัติ

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- ไม่ใช่ผลิตภัณฑ์ทางการแพทย์





BLUE BEAR



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**99% REDUCTION OF VIRUSES
ON THE FABRIC IN 2 HOURS**



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