



**广微测**  
Gmicro Testing



中国认可  
国际互认  
检测  
TESTING  
CNAS L1747

NOTE: THE ORIGINAL TEST REPROT HAS CHINESE CONTENT. HERE WE ADD ENGLISH EXPLANATION TO SOME OF THE IMPORTANT INFORMATION. THE WORDING MAY DIFFER FROM THE TECHNICAL TERMINOLOGY.

FOR REFERENCE ONLY.

## 广东省微生物分析检测中心

GUANGDONG DETECTION CENTER OF MICROBIOLOGY

# 分析检测报告

REPORT FOR ANALYSIS

**报告编号**

2020FM03839R06

Report No.

**样品名称**

LS20-00319-6

Name of Sample

**委托单位**

HEIQ MATERIALS AG

瑞士海屹科材料有限公司上海代表处

Applicant

**检测类型**

Test Type

**单位地址:** 广州市先烈中路 100 号大院 66 号楼

**Address:** Building 66, No.100 Central Xian Lie Road, Guangzhou, China

**邮政编码:** 510070

**Postcode:**

**电话号码:** (020)87137666

**Tel:**

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**Fax:**

**网 址:** www.gddcm.com

**Website:**





## 广东省微生物分析检测中心

GUANGDONG DETECTION CENTER OF MICROBIOLOGY

### 分析检测报告

REPORT FOR ANALYSIS



报告编号 (Report No.) 2020FM03839R06 校验码 (Verification Code): 40562378

样品名称 Name of Sample	LS20-00319-6	检测类型 Test Type	委托检测
委托单位 Applicant	瑞士海屹科材料有限公司上海代表处	地址 Address	上海市徐汇区裕德路 168 号徐汇商务大厦 2011
样品来源 Sample Source	委托方送检	样品数量 Sample Quantity	1 片 1 PIECE OF FABRIC SAMPLE
样品规格和批号 Spec and Lot No of Sample	NON-WOVEN MATERIALS TREATED WITH VIROBLOCK 20% WOF VIROBLOCK 20、FA2040	样品状态和特性 State and Characteristic	片状
接样日期 Sample Received Date	2020-03-03	检测完成日期 Completion Date	2020-04-01
检测依据和方法 Test Standard and Method	ISO 18184:2014		
检测项目 Item Tested	抗病毒活性 ANTIVIRAL EFFICACY		
检测结论 Test Conclusion	<p>该样品所检项目的实测数据见本检测报告续页。 PLEASE FIND IN FOLLOWING PAGES THE TEST RESULT.</p>		
备注 Remarks	<p>生产厂家：瑞士海屹科材料有限公司（由委托方提供）</p>		

微生物  
检测

签发日期: 2020-04-05  
Issue Date:



制表: 吴秋英  
Editor

审核: 孙延平  
Verifier

批准: 林保  
Approver

## 广东省微生物分析检测中心

GUANGDONG DETECTION CENTER OF MICROBIOLOGY

### 分析检测结果

ANALYSIS AND TEST RESULT

报告编号 (Report No.): 2020FM03839R06

NAME OF VIRUS 病毒名称	EXPERIMENT ID 实验序号	CONTROL CONDITION AT ZERO HOUR 对对照接种孵育 0h 后 病毒滴度的对数值 (lgTCID <sub>50</sub> /瓶)	CONTROL CONDITION AT 2 HOURS 对对照接种孵育 2h 后 病毒滴度的对数值 (lgTCID <sub>50</sub> /瓶)	FABRIC SAMPLE AT 2 HOURS 试样接种孵育 2h 后病 毒滴度的对数值 (lgTCID <sub>50</sub> /瓶)
INFLUENZA H3N2 甲型流感病毒 H3N2 MDCK 细胞	1	6.63	6.42	<1.8
	2	6.59	6.50	<1.8
	3	6.59	6.63	<1.8
IgTCID <sub>50</sub> /瓶 平均数 AVERAGE		6.60	6.52	<1.8
抗病毒活性值 LOG REDUCTION		>4.72		
抗病毒活性率 (%) % REDUCTION		>99.99		
(以下空白) LEAVE BLANK				

分析  
专用

报告编号 (Report No.): 2020FM03839R06



## 注意事项 Notice Items

1. 检测报告无本单位检验检测专用章、骑缝章无效。  
The Test report is invalid if not affixed with Authorized Stamp of Test and Paging Seal.
2. 检测报告无审核人、批准人签字无效。  
The Test report is invalid without signature of verifier and approver.
3. 检测报告涂改增删无效。  
The Test report is invalid if being supplemented, deleted or altered.
4. 未经本单位书面同意，不得部分复制（全部复制除外）本检测报告。  
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5. 除非另有说明，本报告检验结果仅对来样负责。  
Unless otherwise stated, the results shown in this test report refer only to the sample(s) submitted.
6. 对检测报告有异议的，应于收到报告之日起十五日内提出，逾期不予受理。  
Any dispute of the report must be raised to the testing body within 15 days after the report is received, exceeding which the dispute will not be accepted.
7. 对送检样品，样品信息由委托方提供，本单位不对其真实性负责。  
For the tested sample(s) submitted by the applicant, the sample information in the test report is provided by the applicant and the laboratory is not responsible for its authenticity.

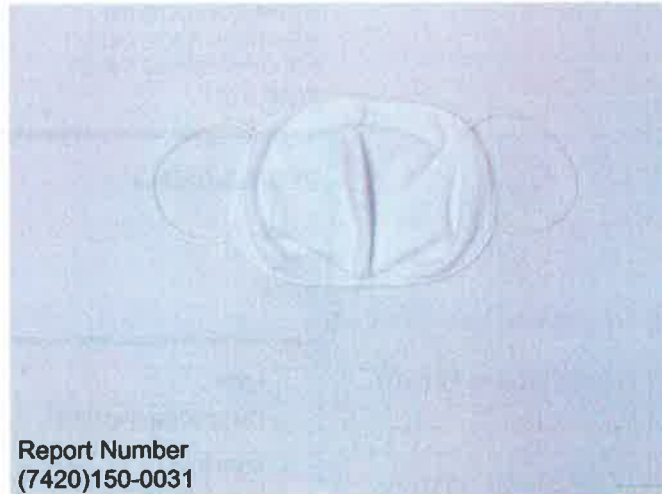




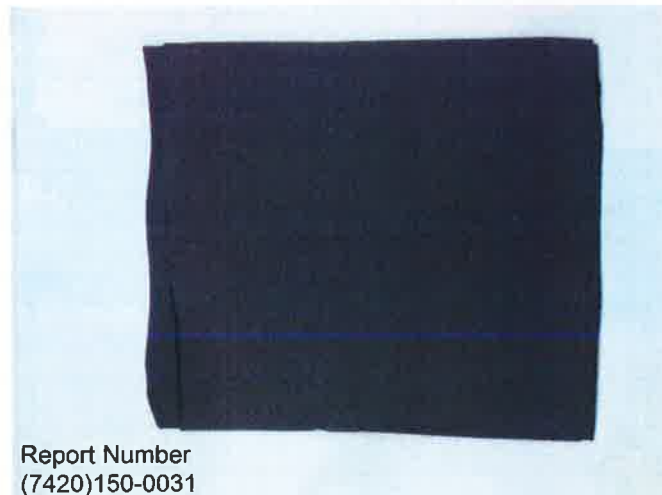
# TEST REPORT

Technical Report: (7420)150-0031(R)

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July 21, 2020



Report Number  
(7420)150-0031



Report Number  
(7420)150-0031

**Bureau Veritas Consumer Products  
Services Lanka (Pvt) Ltd.**

No. 570, Galle Road, Katubedda, Moratuwa, Sri Lanka  
Tel: (9411) 2350111-115 (dedicated lines), Fax: (9411)  
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The content of this PDF file is in accordance with the original issued reports for reference only.  
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# TEST REPORT

TO: THREAD WORKS PVT LTD  
83/14 ANGULANA STATION ROAD,  
LAXSHAPATHIYA,  
KATUBEDDA

ATTN: GEHAN

LAB NO.: (7420)150-0031(R)  
FORM NO.: 019511  
DATE IN: MAY 29,2020  
MODIFIED DATE IN: June 10, 2020  
DATE OUT: June 15, 2020  
REVISION DATE IN: July 20, 2020  
REVISION DATE OUT: July 20, 2020  
NO. OF WORKING DAYS: /  
PAGE 2 of 7

## OVERALL RATING

PASS X  
FAIL \_\_\_\_\_  
DATA \_\_\_\_\_

Vendor:	XXXXXXXXXX LTD	Agent:	/
Fabric Supplier/Mill:	/	Factory/Manufacturer:	XXXXXXXXXX LTD
P.O. No.:	/	Style No.:	/
Sample Description:	01 NO. VIROBLOCK MASK. (FINISHING: VIRO BLOCK ANTI MICROBIAL)	Style Description:	/
Color:	WHITE	Country of Origin:	/
Claimed Fabric Weight:	125GSM	Claimed Fabric Count:	42'S
Yarn Size:	/	Submitted Size:	/
Size Range:	/	FPU No.:	/
GPU No.:	/	End Use:	/

Product Category	MASK
Test Requested	AS PER THE TEST PROPERTY BOX
Previous Report No.	/

Submitted Fiber Content	/
Actual Fiber Content	/
Suggested Fiber Content	/
Submitted Care Instruction(s)	40, HAND WASH, FLAT DRY
Client Expected Care Instruction	/
Suggested Care Instruction(s)	/


TEST PROPERTY	PASS	FAIL	COMMENTS
WATER REPELLENCY: SPRAY TEST			SEE RESULTS
DETERMINATION OF BREATHABILITY (DIFFERENTIAL PRESSURE)	X		
BACTERIAL FILTRATION EFFICIENCY (BFE) TEST ACCORDING TO ASTM F2101-19	X		

Contact information for this report (Technical and General Inquiries and Feedback)

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BUREAU VERITAS CONSUMER PRODUCTS SERVICES LANKA (PVT) LTD.  
AUTHORIZED SIGNATORY

Approved By:

  
INDEEVARIE JAYASUNDARA  
SENIOR EXECUTIVE - CRM

REVIEWED BY: IROSHANI DE SILVA

**TEST RESULTS**

**WATER RESISTANCE: IMPACT PENETRATION TEST (AATCC 42-17)**

FABRIC

SPECIMEN	1	2	3	AVERAGE
INCREASED MASS (GRAM)	>5.0 g	>5.0 g	>5.0 g	>5.0 g

**DETERMINATION OF BREATHABILITY (DIFFERENTIAL PRESSURE) EN 14683: ANNEX C**

Flow rate:- 8 l/min

Top middle area	Bottom middle area	Left middle area	Right middle area	Middle area of mask
Specimen 1 ( $X_{m1} - X_{m2}$ ) (Pa)	Specimen 2 ( $X_{m1} - X_{m2}$ ) (Pa)	Specimen 3 ( $X_{m1} - X_{m2}$ ) (Pa)	Specimen 4 ( $X_{m1} - X_{m2}$ ) (Pa)	Specimen 5 ( $X_{m1} - X_{m2}$ ) (Pa)
98	97	95	102	96

Top middle area	Bottom middle area	Left middle area	Right middle area	Middle area of mask	Average
Specimen 1 Differential pressure Pa / cm <sup>2</sup> ( Pa / 4.9 )	Specimen 2 Differential pressure Pa / cm <sup>2</sup> ( Pa / 4.9 )	Specimen 3 Differential pressure Pa / cm <sup>2</sup> ( Pa / 4.9 )	Specimen 4 Differential pressure Pa / cm <sup>2</sup> ( Pa / 4.9 )	Specimen 5 Differential pressure Pa / cm <sup>2</sup> ( Pa / 4.9 )	Differential pressure $\Delta P = (X_{m1} - X_{m2})/4,9$ Pa / cm <sup>2</sup>
20	20	19	21	20	20

$X_{m1}$  - is the pressure in Pa, measured by manometer M1 – low pressure side of the material;

$X_{m2}$  - is the pressure in Pa, measured by manometer M2 – high pressure side of the material;

4.9 – is the (in cm<sup>2</sup>) of the test material;



$\Delta P$  - is the differential pressure per cm<sup>2</sup> of test material expressed in Pa / cm<sup>2</sup>.

**Requirement:**

	Type I	Type II	Type IIR
<b>Differential pressure (Pa/cm<sup>2</sup>)</b>	< 40	< 40	< 60

**TEST RESULTS**

**Test Article:** Breath Right Kayak N95 Face mask

**Test Method:** Bacterial Standard Test Method for Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of *Staphylococcus aureus* (ASTM F 2101-19 /BSEN 14683:2019)

**Summary of Test Method**

The medical face mask material is clamped between a six-stage cascade impactor and an aerosol chamber. The bacterial aerosol is introduced into the aerosol chamber using a nebulizer and a culture suspension of *Staphylococcus aureus*. The aerosol is drawn through the medical face mask material using a vacuum attached to the cascade impactor. The six-stage cascade impactor uses six agar plates to collect aerosol droplets which penetrate the medical face mask material. Control samples are collected with no test specimen clamped in the test apparatus to determine the upstream aerosol counts.

The agar plates from the cascade impactor are incubated for 48 h and counted to determine the number of viable particles collected. The ratio of the upstream counts to the downstream counts collected for the test specimen are calculated and reported as a percent bacterial filtration efficiency.

**Test Results**

Conditioning Period (At temperature of 21 ± 5 °C and relative humidity of 85 ± 5 %): 4 hours

Side of the specimen oriented toward the challenge aerosol: Outward Side

BFE Area Tested: ~ 50 cm<sup>2</sup>

BFE Flow Rate: 28.3 Liters per minute (L/min)

Mean Particle size of the challenge aerosol: 3.0µm±0.1µm

Average Plate count Results for positive Controls: 1800

Average Plate count Results for Negative Controls: 01

Test Article Number	Plate count total for test sample (T)	Percent Bacterial Filtration Efficiency (BFE) (%)
1	38	97.9
2	29	98.4
3	35	98.1
4	18	99.0
5	35	98.1
Average	31	98.3
<b>Performance requirements for medical face masks as per Medical face mask-requirements &amp; test methods (ASTM F 2101-19 /BSEN 14683:2019)</b>		
Type I <sup>a</sup>	Type II	Type II R
≥95	≥98	≥98

Test was conducted as direct in test Method (ASTM F 2101-19)

**NOTE**

There filtration efficiency percentages are calculated using the following equation:

$$\% \text{ BFE} = \frac{C-T}{C} \times 100$$

C= Average plate count total for Test controls  
T= Plate count total for test sample

**CPS CONDITIONS OF SERVICE**

The party that submits a completed service request form to Company or signs a quotation issued by the Company for its performance of services ("Services") is the "Client" under these Conditions of Service. The entity within the Bureau Veritas Consumer Products Services division accepting the service request form and issuing the Report documenting the results of those Services is the "Company" under these Conditions of Service. Company and Client are, together, the "Parties" and each is a "Party". A request for Services constitutes a legally binding agreement on both Parties when such a request is accepted by the Company ("Agreement") under the following terms and conditions (collectively, "Conditions").

**1. Services.** (a) The completion of the Services shall be evidenced by the Company's issuing to Client a written report setting forth the results of the Services based upon the property accepted request, applicable protocols, written information, and where applicable, the product sample provided by Client to Company ("Report"). Company may delegate/assign the performance of all or a portion of the Services to an affiliate of Company or to an agent or subcontractor. Client shall provide to Company on a timely basis, all documents and information necessary to enable Company to properly perform the Services. Company may in its sole discretion, dispose of product samples furnished to Company for the Services that were not destroyed in the course of performance of the Services. (b) Client represents and warrants to Company that (i) each product sample is not submitted in violation of a third party's intellectual property rights, (ii) Client will not use and rely upon Company's Report for any product whose properties differ from the sample(s) upon which the Report is based, and (iii) any goods subject to inspection will be completely prepared for the type of inspection booked for the specified date, and (c) Client accepts sole responsibility and liability for the accuracy of documents submitted to government or other regulatory bodies, including certificates of compliance required under the US Consumer Product Safety Improvement Act and EU requirements under REACH regulations. Client's responsibility and liability for accuracy shall apply even where Company has provided assistance to Client in preparation of such documentation.

**2. Report.** (a) The Report shall (i) constitute the sole deliverable for the Services, (ii) relate solely to the facts and circumstances as observed and recorded by Company at the time of performance of the Services within the limits of written information and instructions received from Client. Company shall have no obligation to update the Report after its issuance. Where the Services include testing or inspection, (i) the Report will set forth the findings of Company solely with respect to the product samples identified therein and (ii) the results set forth in the Report are not to be construed as indicative or representative of the quality or characteristics of the lot from which a product sample was taken for Company's performance of Services. (b) The Report is issued solely by Company, is intended for the exclusive use of Client and its affiliates and, except as required by a regulatory body, shall not be published, used for advertising purposes, copied or replicated for distribution or publicly disclosed without Company's prior written consent. Company is not responsible for any third party's interpretation of the Report. (c) Client shall not request a Report for purposes of litigation, nor shall it list Company, its affiliates or employees as an expert in any proceeding without Company's prior written consent. If Client anticipates producing or otherwise using the Report in any legal proceedings, it shall so notify Company prior to submitting the Report in such proceeding.

**3. Representations and Warranties.** (a) Company undertakes due care and ordinary skill in the performance of its Services. (b) Client agrees that Company is neither an insurer nor a guarantor and does not take the place of Client or the third parties that it retains, including designers, manufacturers, agents, buyers, distributors and transportation or shipping companies. Company disclaims all liability in such capacities. Client understands that, if it seeks to protect itself from claims of loss, damage or injury, it should obtain appropriate insurance. (c) Company does not warrant or guarantee Client's products and Company's Report does not represent a warranty of merchantability, a warranty of fitness for a particular purpose, or any other warranty or guarantee.

**4. Payment.** Payment in full shall be due 30 days after the date of invoice, failing which Company may revoke any credit extended to Client. Client shall reimburse Company for (i) interest on overdue amounts from the due date until paid at an interest rate of 1.5% per month and (ii) any other costs Company incurs in collecting past due amounts, including court, attorneys and collection agencies' fees.

**5. Intellectual Property.** The names, service marks, trademarks and copyrights of Company and its affiliates (collectively, the "Marks") are and remain the sole property of Company and shall not be used by Client. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of Company or its affiliates. Client understands that any information or samples submitted to Company is a license for Company to use the same in the performance of Services.

**6. Relationship.** (a) Nothing herein creates a partnership, agency or joint venture between the Parties. (b) The failure to require strict observance or performance of any provision of these Conditions shall not be construed to be a waiver of a Party's right to later require strict observance and performance of the same. If any provision of these Conditions is held to be invalid or unenforceable, such invalidity shall not invalidate the remainder of the Conditions. (c) For a period of two years after the commencement of this Agreement, Client shall not directly or indirectly try to solicit for employment any of Company's employees.

**7. INDEMNITY.** CLIENT SHALL HOLD HARMLESS AND INDEMNIFY COMPANY, ITS AFFILIATES AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL THIRD-PARTY CLAIMS FOR LOSS, DAMAGE, INJURY, DEATH, OR EXPENSE OF WHATEVER NATURE, INCLUDING BUT NOT LIMITED TO CLAIMS ARISING FROM OR RELATING TO (I) THE PERFORMANCE OF ANY SERVICES BY COMPANY, (II) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY OF CLIENT'S GOODS OR (III) BREACH OF CLIENT'S OBLIGATIONS OR WARRANTIES HEREIN.

**8. LIMITATIONS OF LIABILITY.** (A) COMPANY SHALL NOT BE LIABLE FOR ANY INDIRECT, CONSEQUENTIAL OR SPECIAL LOSS IN CONNECTION WITH THE REPORT, THE PRODUCT FOR WHICH SERVICES WERE PERFORMED, OR THE SERVICES PROVIDED BY COMPANY HEREUNDER. COMPANY SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE WHATSOEVER RESULTING FROM ANY DELAY IN THE PERFORMANCE OF ITS OBLIGATIONS HEREUNDER OR FROM THE FAILURE OF COMPANY TO PROVIDE ITS SERVICES WITHIN ANY TIME PERIOD FOR COMPLETION ESTIMATED BY COMPANY, REGARDLESS OF THE CAUSE OF THE DELAY OR FAILURE. (B) THE ENTIRE FINANCIAL AND LEGAL LIABILITY OF COMPANY IN RESPECT OF ANY CLAIM FOR LOSS, INDEMNITY, CONTRIBUTION OR DAMAGE OF WHATEVER NATURE OR HOWSOEVER ARISING, SHALL NOT EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF FEES PAID TO COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM.

**9. Force Majeure.** If any event of force majeure or any event outside the control of Company occurs, Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

**10. Governing Law.** These Conditions shall be governed by the laws of the country as follows: for Services performed in (i) the Americas, the laws of New York, (ii) Asia Pacific, South Asia, Middle East and Africa, the laws of Hong Kong (except for China where PRC laws govern), and (iii) Europe, the laws of England.

**11. Dispute Resolution.** (a) If Client desires to assert a claim relating to the Services, it must submit the same to Company in writing setting forth with particularity the basis for such claim within 90 days from discovery of the claim and not more than six months after the date of issuance of the Report. Client waives any and all claims without limitation that it does not submit within such time periods. (b) If a dispute arises under this Agreement, the Parties shall first attempt good faith negotiations, failing which the Parties (i) agree that the courts of the country of governing law shall have exclusive jurisdiction to settle any such dispute related to this Agreement, and (ii) irrevocably waive their right to trial by jury in any such action or proceeding.

**12.** These Conditions, the applicable order form and/or quotation and the Report represent the entire understanding of the Parties on the subject matter hereof, and no modification is binding unless in writing. Any of Client's terms and conditions attached to, enclosed with or referred to in any order form, purchase order or other document shall not apply.

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**END OF THE REPORT**

