

Test Report **SL52025244502501TX** **Date: June 03, 2020** **Page 1 of 3**
 SHANDONG SHENGQUAN NEW MATERIAL CO.,LTD.
 DIAOZHEN INDUSTRIAL DEVELOPMENT ZONE,ZHANGQIU DISTRICT,JINAN,SHANDONG,CHINA.

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : (A)Biomass Graphene Medical Face Mask
 Style No. : SMDP20605
 Composition : (A)Graphene non-woven fabric (gray) high-efficiency melt-blown fabric, spun-bonded non-woven fabric, PE (blue), spandex, polyester
 Sample Color : (A)grey/ blue
 Proposed Care Instruction : -
 Test Performed : Selected test(s) as requested by applicant
 Sample Receiving Date : Apr 14, 2020
 Testing Period : Apr 14, 2020 - Jun 03, 2020
 Test Result(s) : Unless otherwise stated the results shown in this test report refer only to the sample(s) tested, for further details, please refer to the following page(s).

Signed for and on behalf of
 SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd Testing Center



Sara Guo (Account Executive)

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com



3rd Building, No.889, Yishan Road, Xuhui District Shanghai, China 200233 t (86-21) 61402666 f (86-21) 64958763 www.sgsgroup.com.cn
 中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666 f (86-21) 64958763 e sgs.china@sgs.com

Test Result

Standard Specification for Performance of Materials Used in Medical Face Masks
(ASTM F2100-2019)

Section 6.1 Bacterial filtration efficiency (BFE)*
(ASTM F2101)

	1#	2#	3#	4#	5#
(BFE), %	>99.9	>99.9a	>99.9	>99.9a	>99.9a

Remark: Performance Requirement: Level 1 ≥95%, Level 2 ≥98%, Level 3 ≥98%

a: There were no detected colonies on any of the Andersen sampler plates for this test article.

* Tests denoted with an * in this test report have been subcontracted to another ISO 17025 Accredited Laboratory.

Section 6.1 Differential Pressure
(EN 14683 :2019 Annex C, Flow rate 8 l/min)

	1#	2#	3#	4#	5#
Differential pressure ΔP (mm H ₂ O/cm ²)	5.1	5.1	5.2	5.3	5.3

Remark: Performance Level: Level 1 Barrier: <5.0mm H₂O/cm², Level 2 Barrier: <6.0 mm H₂O/cm², Level 3 Barrier: <6.0 mm H₂O/cm²

Section 6.1 Sub-micron particulate filtration efficiency(PFE)*
(ASTM F2299)

	1#	2#	3#	4#	5#
(PFE), %	99.68	99.07	99.0	99.0	97.1

Remark: Performance Requirement: Level 1 ≥95%, Level 2 ≥98%, Level 3 ≥98%

* Tests denoted with an * in this test report have been subcontracted to another ISO 17025 Accredited Laboratory.

Section 6.1 Resistance to Penetration by Synthetic Blood
(ASTM F1862/F1862M-2017)

Pressure 120mmHg

Penetration on inside surface							
1#	2#	3#	4#	5#	6#	7#	8#
Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
9#	10#	11#	12#	13#	14#	15#	16#
Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
17#	18#	19#	20#	21#	22#	23#	24#
Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
25#	26#	27#	28#	29#	30#	31#	32#
Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Number of Pass:			32				
Overall result:			Acceptable				



Remark:

- 1) Performance Requirement Level 1 Barrier: 80mmHg, Level 2 Barrier: 120mmHg, Level 3 Barrier: 160mmHg
- 2) Distance of the medical face mask target area surface to the tip of cannula is 30.5cm.
- 3) Condition and Test temperature (21±5)° C, relative humidity (85±5)%
- 4) An acceptable quality limit of 4.0% is met for a single sampling plan when 29 or more of the 32 tested specimens show pass results

Section 6.2 Flammability

(16 CFR Part 1610 - 2008)

Sample : A
 Fabric Surface : Smooth
 Test Specimen Direction : Length

<u>As Received</u>	
<u>Burn Code</u>	
(1)	IBE
(2)	IBE
(3)	IBE
(4)	IBE
(5)	IBE

Flammability Classification: Class 1

Requirement: Class 1 for Level 1/ Level 2/ Level 3

Conclusion: Pass

Remarks

Class 1 Normal Flammability
 Class 1 textiles exhibit normal flammability and are acceptable for use in clothing.

Burn Code Description:

IBE = Ignited, but extinguished

The statement of conformity in this test report is only based on measured values by the laboratory and does not take their uncertainties into consideration.

End of Report



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
 Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
 SGS-CSTC Standards Technical Service (Shanghai) Co., Ltd. 3rd Building, No.889, Yishan Road, Xuhui District Shanghai, China 200233 t (86-21) 61402666 f (86-21) 64958763 www.sgs.com.cn
 Testing Center: 中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666 f (86-21) 64958763 e sgs.china@sgs.com