

CIN:U74220DL1998PLC092698

TEST REPORT

Test Report Issued To:

UNOR EXIM PRIVATE LIMITED

403, 4TH FLOOR, KIRTI MAHAL BUILDING, 19,
RAJENDRA PLACE, NEW DELHI, DELHI, INDIA, 110008,

Test Report No: D201016011/D201016011-11

Date of Issue: 26-Oct-2020



Sample Receipt Date: 16-Oct-2020

Date of Start of Testing: 16-Oct-2020

Date of Completion of Test: 21-Oct-2020

Customer Relationship Number

61470

Sample Description :

PRODUCT NAME-UNOMAK- GNL-99 DISPOSABLE FACE MASK ,
MODEL NAME-UNOMAK- GNL-99 , BRAND-UNOMAK ,
FUNCTION-ANTIDUST,ANTI-BACTERIA,ANTI-VIRUS ,
MATERIAL-NON WOVEN CLOTH,FABRIC-1stPLY:25GSM2 PP
SPUNBOND,2nd PLY:25GSM2MELT-BLOWN(FILTER)(NELSON
LAB USA APPROVED),3rd PLY:25GSM2 , PP SPUN- BOND ,
TYPE- EAR LOOP, TIE STRAP , COLOR-BLUE/WHITE , ITEM
SIZE-175*95MM , USAGE-PREVENT FROM BACTERIA AND
VIRUSES,DROPLETS



Customer Reference No

Kind Attention : MS. PRIYANKA GOEL

E-Mail: accounts@unorexim.com

Contact No: 8826450088

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549220000018091F

Authenticity of report can be verified by mail at verification@spectrolab.in

This is a Digitally Signed Report and hence doesn't require Physical Signature.

Spectro Analytical Labs Limited, E-41, Okhla Indl. Area, Phase-II, New Delhi- 110020 (India)

Phone :+91-11-40522000, 41611000 || Web : www.spectro.in || Email:care@spectro.in

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Laboratory

Please refer to our Website <http://www.spectro.in/spectro-policies.html> for Terms & Condition

TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

UNOMAK- GNL-99 DISPOSABLE FACE MASK

2. Test Method

ASTM F2100-19: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given ASTM F2101-19, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: **Spectro Analytical Labs Limited**
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 16.10.2020

6. Specimen Verification

Fabric – Non Woven
GSM – 25gsm2

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

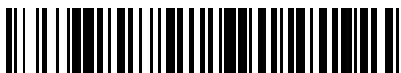
Tryptic soya agar

10. Temperature condition

37



ULR-TC549220000018091F



Analyst Signature

Testing(TC-5492)

Authorised Signatory

11. Observations, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per ASTM F2100-19/ASTM F2101-19	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	98.3	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	ASTM F2101-19
		98.0		
		98.4		
		98.2		
		98.1		
	Average of BFE results (%)	98.2		
2	Area of test Specimen	Face side	Face side	ASTM F2101-19
3	Flow rate of aerosol	28.3	28.3 L/Minute	ASTM F2101-19
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.0	3 \pm 0.3	ASTM F2101-19
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	2286	1700-3000	ASTM F2101-19
6	Average Plate count of Negative control	Negative	Negative	ASTM F2101-19

Remarks: The sample showed average 98.2 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to ASTM F2101-19 test method.

Rity Tiwari

Analyst Signature



Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

TEST REPORT FOR DETERMINATION OF:

The Resistance against penetration by synthetic blood (Fixed Volume, Horizontally projected)

1. Name of Product

UNOMAK- GNL-99 DISPOSABLE FACE MASK

2. Test Method

ASTM F 2100:19; Standard Specification for Performance of Materials Used in Medical Face Masks

ASTM F1862 / F1862M – 17; Standard Test Method for Resistance of Medical Face Masks to Penetration by Synthetic Blood (Horizontal Projection of Fixed Volume at a Known Velocity)

3. Scope

ASTM F1862 / F1862M – 17; Standard Test Method for Resistance of Medical Face Masks to Penetration by Synthetic Blood (Horizontal Projection of Fixed Volume at a Known Velocity)

4. Testing Laboratory

Name: **Spectro Analytical Labs Limited**

Address: E-41, Okhla phase-2
New Delhi-110020

5. Date of Test

Test Date – 19-10-2020

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

6.2 Specimen Identification

Fabric – Non Woven

GSM – 25gsm²

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 23 °C and a relative humidity of 85 %.

Analyst Signature



Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

TEST REPORT

8. Observations & Test Result

1. Selected Blood Pressure : 160 mm Hg
2. Volume : 2 ml
3. Valve Time : 660 ms
4. Target Area : Centre of mask
5. Test Condition : Temperature 23 °C and Relative Humidity 85 %.
6. Pre- Treatment technique used : Not Given
7. Targeting plate Used : No
8. Thickening agent used : DR110 in place of Acrysol G111
9. **Result** : **Pass in Level 3**

Table 1. Summary of Individual specimen

Specimen Number	Result	Specimen Number	Result
1	Pass	17	Pass
2	Pass	18	Pass
3	Pass	19	Pass
4	Pass	20	Pass
5	Pass	21	Pass
6	Pass	22	Pass
7	Pass	23	Pass
8	Pass	24	Pass
9	Pass	25	Pass
10	Pass	26	Pass
11	Pass	27	Pass
12	Pass	28	Pass
13	Pass	29	Pass
14	Pass	30	Pass
15	Pass	31	Pass
16	Pass	32	Pass

[Signature]

Analyst Signature



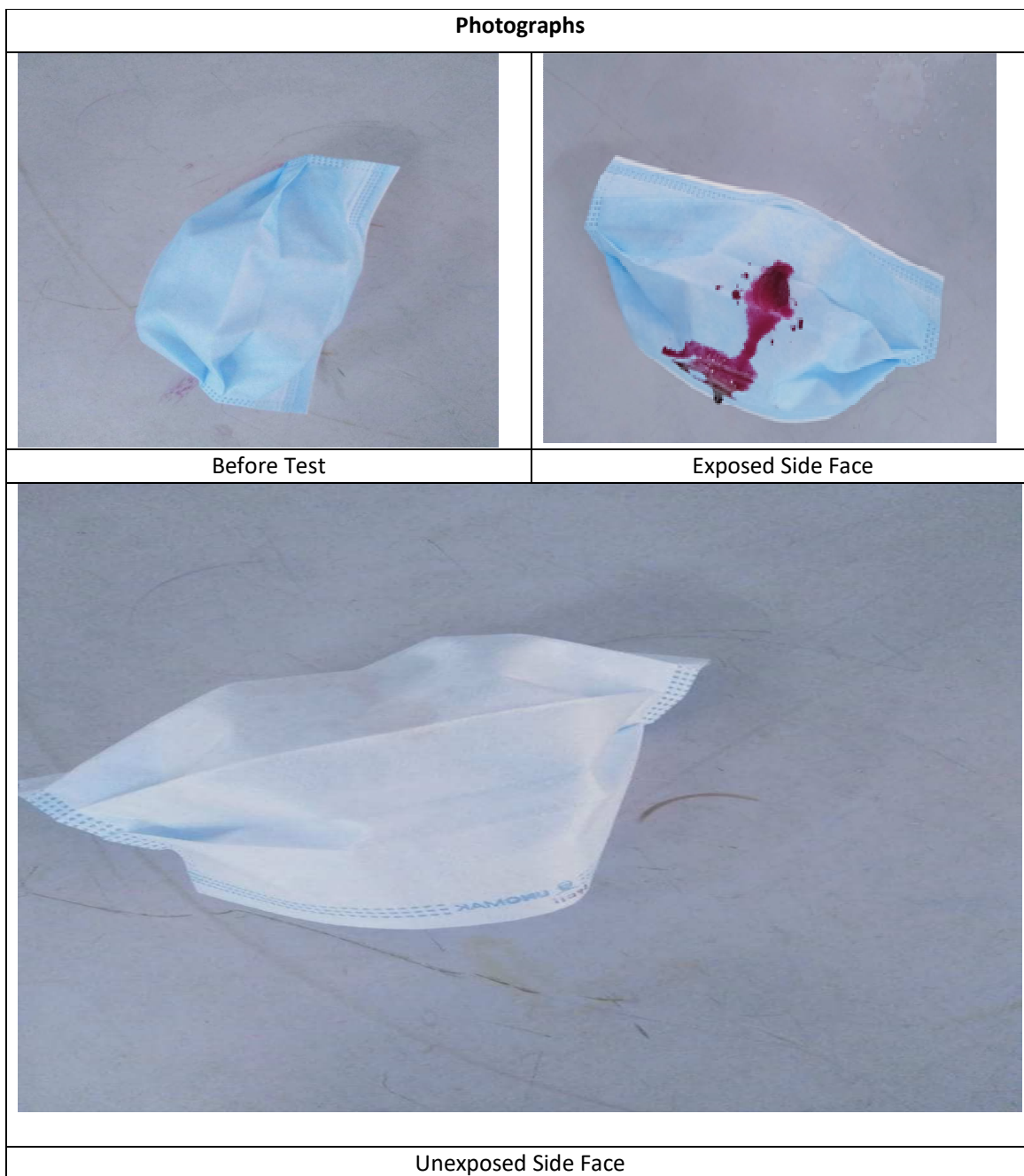
Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

TEST REPORT



[Handwritten Signature]

Analyst Signature



Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

TEST REPORT FOR DETERMINATION OF BREATHABILITY (DIFFERENTIAL PRESSURE)

1. Name of Product

UNOMAK- GNL-99 DISPOSABLE FACE MASK

2. Test Method

ASTM F2100-19: Standard specification for performance of materials used in medical face mask.

3. Scope

To determine the breathing resistance or Breathability of Mask as per cl no. 9.2 of ASTM F2100-19 which further refers to annex- C given in **BS EN 14683: 2019**; Medical face Mask - Requirements and test method.

4. Testing Laboratory

Name: **Spectro Analytical Labs Limited**

Address: E-41, Okhla Phase-2

New Delhi, Pin Code: 110020

5. Date of Test

Test Date - 19.10.2020

6. Specimen Verification

Fabric - Non Woven

GSM - 25gsm2

7. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

8. Conditioning

Each test specimen was placed for 5 Hours at a temperature of 23 °C and a relative humidity of 80 %.



Analyst Signature



Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

8. Observations, Requirements & Test Result:

1. Pre test parameters

Sr. No.	Parameter		Test Method
1	Flow rate	8 Lit/min	BS EN 14683: 2019
2	Specimen area	4.9 cm ²	BS EN 14683: 2019

Sr. No.	Specimen	Pressure (mm H ₂ O)	Area (cm ²)	Differential Pressure (mm H ₂ O/cm ²)	Average (mm H ₂ O/cm ²)
1	A	23.7	4.9	4.84	4.83
2	B	23.4	4.9	4.78	
3	C	23.1	4.9	4.71	
4	D	23.9	4.9	4.88	
5	E	24.2	4.9	4.94	

2. Requirement of Material

Sr. No.	Type of medical mask	Differential Pressure (H ₂ O/cm ²)
1	Level 1 barrier	<5
2	Level 2 barrier	<6
3	Level 3 barrier	<6

3. Test Result: 4.83 H₂O /cm²

4. Conclusion: Pass in all level

[Signature]

Analyst Signature



Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

TEST REPORT FOR DETERMINATION OF FLAMMABILITY OF CLOTHING TEXTILE

5. Name of Product

UNOMAK- GNL-99 DISPOSABLE FACE MASK

6. Test Method

16 CFR PART 1610 – Standard for the flammability of clothing textile

7. Scope

To perform the flammability test on medical face mask for Class 1 (Normal Flammability) as per procedure given in 16 CFR PART 1610 – Standard for the flammability of clothing textile

8. Testing Laboratory

Name: **Spectro Analytical Labs Limited**

Address: E-41, Okhla Phase -2, New Delhi-110020

5. Date of Test

Test Date – 19.10.2020

6. Specimen Verification

Fabric – Non Woven

GSM – 25gsm²

7. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

8. Conditioning

Each test specimens were placed in oven At $105.2 \pm 3^\circ\text{C}$ for 30 ± 2 minute and kept in desiccator for 15 minute.

Analyst Signature



Testing(TC-5492)

ULR-TC549220000018091F



Authorised Signatory

9. Observations, Requirements & Test Result:

Type of Fabric – Plain surface Fabric

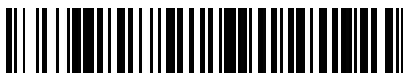
1. Observations

Sr. no.	Specimen	Burn time in second
1	Specimen 1	Do not Ignite
2	Specimen 2	Do not Ignite
3	Specimen 3	Do not Ignite
4	Specimen 4	Do not Ignite
5	Specimen 5	Do not Ignite
6	Specimen 6	Do not Ignite
7	Specimen 7	Do not Ignite
8	Specimen 8	Do not Ignite
9	Specimen 9	Do not Ignite
10	Specimen 10	Do not Ignite

10. Test Result: Passes Class 1

-- End of Test Report --

ULR-TC549220000018091F



Analyst Signature



Testing(TC-5492)

Authorised Signatory