

# ITS LABORATORY

(An ISO 9001: 2015, ISO 14001:2015, ISO 45001:2018 Certified Laboratory)  
Laboratory: A-91, Sector 80, Phase-2, Noida-201301, (U.P)  
M.: 09911659800, 09958849764, 07210888634

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## TEST REPORT

### Face Mask Analysis

Report Code: MS-270320-01

Issue Date: 31/03/2020

Issued To

: M/s NIRVANA INDIA PVT. LTD.  
B1 EXTENSION, A-41, MOHAN COOPERATIVE  
ESTATE MATHURA ROAD, NEW DELHI-110044

### PART A: Particulars of Sample submitted

A.	Sample Description	:	AIRIFIC FACE MASK
B.	Date of Sample Received	:	27/03/2020
C.	Date of Commencement of Testing	:	27/03/2020
D.	Date of completion of Testing	:	31/03/2020
E.	Test Method	:	NIOSH & IS:9473:2002
F.	Sample submitted By	:	Customer
G.	Instrument Used	:	Laminar Air Flow Cabinet, Aerosol Generator, Pressure Probe etc. Flame Photometer

### TEST RESULT

#### 1. Filter Efficiency as per NIOSH Standard

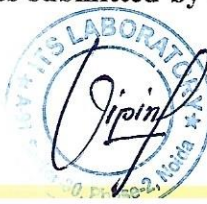
Summary: This procedure was performed to evaluate particulate filter penetration as specified in 42 CFR Part 84 for requirements on a N95 respirator. Respirators were conditioned then tested for particle penetration against a polydispersed, sodium chloride (NaCl) particulate aerosol. The challenge aerosol was dried, neutralized, and passed through the test article at a concentration not exceeding 200 mg/m<sup>3</sup> the initial airflow resistance and particle penetration for each respirator was determined.

According to 42 CFR Part 84.64, pretesting must be performed by all applicants as part of the application process with NIOSH. Results seen below are part of that pretesting and must be submitted to and accepted by NIOSH for respirator approval.

### TEST RESULT

Article Number	Initial Airflow Resistance (mm H <sub>2</sub> O)	Particle Penetration (%)	Filtration Efficiency (%)
1	16.1	2.84	97.16
2	15.7	3.21	96.79
3	15.0	2.84	97.16
4	15.9	2.85	97.15
5	16.4	3.56	96.44

**Results:** The NIOSH N95 filter efficiency as stated in 42 CFR Part 84.181 is a minimum efficiency of filter is 95.0 %. The test articles submitted by the customer meets the NIOSH N95 and FFP2 criteria for filter efficiency.





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## 2. Bacterial Filtration Efficiency (BFE)

S.No.	Name of test Bacteria	Recovered Bacteria After Filtration	Bacterial Before Filtration Through Mask	Percent Reduction compared to Control Sample
1.	<i>Pseudomonas aeruginosa</i> (MTCC 424)	$1.2 \times 10^3$	$2.43 \times 10^5$	99.50
2.	<i>E.Coli</i> (MTCC 443)	$2.41 \times 10^3$	$3.62 \times 10^5$	99.33
3.	<i>Aspergillus niger</i> (MTCC 282)	$2.61 \times 10^3$	$2.82 \times 10^5$	99.07

NOTES : Test Method: ASTM F 2101  
Flow rate: 28.3 LPM  
Area Tested: 36 cm<sup>2</sup>  
Side Tested: Both Side

**Remarks:** On the basis of above tested parameter it is concluded that sample having Anti bacterial Filtration Efficiency compared to control sample. So removes bacteria & fungi during process of filtration with >99% filtration efficiency.

### Notes:

1. The results given above are related to the tested sample, as received & mentioned Parameters.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written Permission of the laboratory.

V.K.P.  
Checked by

