

**Test Method: ASTM F2299/F2299M-03 (reapproved 2017) Determining the Initial Efficiency of Materials Used in Medical Face Masks to Penetration by Particulates Using Latex Spheres**

**Testing parameters per ASTM F2100-19 Standard Specification for Performance of Materials Used in Medical Face Masks**

**IBR JN: 21959D**

 Performed for: Novo Textiles Co  
 Location: British Columbia, Canada  
 Contact: Julie Zanatta

Date: 02 July 2020

**Description of Samples: Pleated disposable face masks**

 Test Area: 45.22 cm<sup>2</sup>

Source: Novo Textiles Co

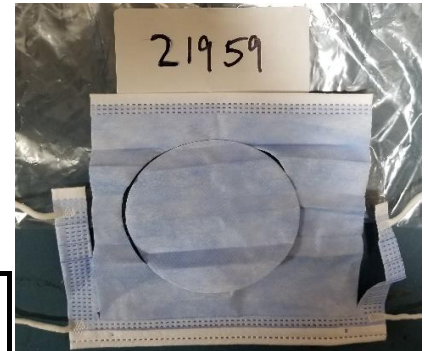
Date Samples Received: 18 June 2020

Fluid: Air

Flow Rate: 28.3 lpm

Face Velocity: 10.4 cm/s

Challenge: 0.1µm (±15% CV) Latex Microspheres (Neutralized)



| Filter ID | Differential Pressure (mmH <sub>2</sub> O) | Port                  | Particles / 2 ft <sup>3</sup> |               |
|-----------|--|-----------------------|-------------------------------|---------------|
| 21959-1   | 15.2                                       | Upstream              | 7854275                       | Temp: 22.0 °C |
|           |  | Downstream            | 115021                        | RH: 48.9 %    |
|           |  | <b>Efficiency (%)</b> | <b>98.5</b>                   | BP: 735 mmHg  |
| 21959-2   | 13.0                                       | Upstream              | 7449325                       | Temp: 22.0 °C |
|           |  | Downstream            | 148836                        | RH: 49.5 %    |
|           |  | <b>Efficiency (%)</b> | <b>98.0</b>                   | BP: 735 mmHg  |
| 21959-3   | 16.0                                       | Upstream              | 7421275                       | Temp: 22.2 °C |
|           |  | Downstream            | 96647                         | RH: 49.8 %    |
|           |  | <b>Efficiency (%)</b> | <b>98.7</b>                   | BP: 735 mmHg  |
| 21959-4   | 14.2                                       | Upstream              | 6777300                       | Temp: 22.2 °C |
|           |  | Downstream            | 108684                        | RH: 48.8 %    |
|           |  | <b>Efficiency (%)</b> | <b>98.4</b>                   | BP: 735 mmHg  |
| 21959-5   | 14.5                                       | Upstream              | 6739125                       | Temp: 22.2 °C |
|           |  | Downstream            | 116365                        | RH: 49.6 %    |
|           |  | <b>Efficiency (%)</b> | <b>98.3</b>                   | BP: 735 mmHg  |

Notice: These data relate only to the samples tested. This report may be copied only in its entirety.

Performed By: DN

Data Location: DN261

| Manufacturer      | Model Number   | Serial Number   | IBR ID | Range of Use                | Cal Due    |
|-------------------|----------------|-----------------|--------|-----------------------------|------------|
| Alicat Scientific | M-50SLPM-D/5M  | 99929           | AF-113 | 5-45 SLPM                   | 9/3/2020   |
| Dwyer             | DHII-007       | Date Code: A31X | MAN-31 | 0.1-10.0 inH <sub>2</sub> O | 2/17/2021  |
| Vaisala           | HMT330         | L5220038        | RH-206 | 12-75%RH/16-27C             | 1/9/2021   |
| Testo             | 511            | 39111389/505    | MAN-51 | 300-1200 hPa                | 8/29/2020  |
| PMS               | Lasair III 110 | 116514          | N/A    | 0.1-5.0 µm                  | 12/17/2020 |
| PMS               | Lasair III 110 | 102709          | N/A    | 0.1-5.0 µm                  | 9/1/2020   |

Reviewed By:

Daniel R. Miller, Air Labs Manager

| Revision | Editorial / Technical | Description     | Approved By | Release Date |
|----------|-----------------------|-----------------|-------------|--------------|
|          |                       | Initial release | DRM         | 7/3/2020     |
|          |                       |                 |             |              |
|          |                       |                 |             |              |