

Latex Particle Challenge Final Report

Test Article: NanoFit Protect (White Label) Reusable and Washable Fabric Mask (after 125washes)
Purchase Order: TJ05135874
Study Number: 1323435-S01
Study Received Date: 22 Jul 2020
Testing Facility: Nelson Laboratories, LLC
6280 S. Redwood Rd.
Salt Lake City, UT 84123 U.S.A.
Test Procedure(s): Standard Test Protocol (STP) Number: STP0005 Rev 08
Deviation(s): None

Summary: This procedure was performed to evaluate the non-viable particle filtration efficiency (PFE) of the test article. Monodispersed polystyrene latex spheres (PSL) were nebulized (atomized), dried, and passed through the test article. The particles that passed through the test article were enumerated using a laser particle counter.

A one-minute count was performed, with the test article in the system. A one-minute control count was performed, without a test article in the system, before and after each test article. Control counts were performed to determine the average number of particles delivered to the test article. The filtration efficiency was calculated using the number of particles penetrating the test article compared to the average of the control values. During testing and controls, the air flow rate is maintained at 1 cubic foot per minute (CFM) \pm 5%.

The procedure employed the basic particle filtration method described in ASTM F2299, with some exceptions; notably the procedure incorporated a non-neutralized challenge. In real use, particles carry a charge, thus this challenge represents a more natural state. The non-neutralized aerosol is also specified in the FDA guidance document on surgical face masks. All test method acceptance criteria were met. Testing was performed in compliance with US FDA good manufacturing practice (GMP) regulations 21 CFR Parts 210, 211 and 820.

Test Side: Face Side
Area Tested: 91.5 cm²
Particle Size: 0.1 μ m
Laboratory Conditions: 21°C, 25% relative humidity (RH) at 1827; 21°C, 24% RH at 2013;
21°C, 24% RH at 2120; 21°C, 23% RH at 2212
Average Filtration Efficiency: 99.04%
Standard Deviation: 0.469



Trang Truong electronically approved for
Study Director

Curtis Gerow

21 Aug 2020 01:17 (+00:00)
Study Completion Date and Time

Results:

Test Article	Test Article Counts	Average Control Counts	Filtration Efficiency (%)
1-2 ^a	72	12,490	99.42
1-3 ^a	66	12,623	99.48
1-4 ^a	52	12,789	99.59
2-3 ^a	102	12,486	99.18
2-4 ^a	82	13,256	99.38
3-3 ^a	140	13,368	99.0
3-4 ^a	82	12,349	99.34
4 ^b	265	11,968	97.8
4-1 ^b	141	11,489	98.8
4-2 ^b	118	11,648	99.0
5 ^b	141	12,370	98.9
5-1 ^b	154	12,353	98.8
5-2 ^b	124	13,349	99.07

^a The original result for this test article was unexpected when compared to the other test articles. Investigational testing was performed on the same test article and it was determined that the original result was invalid. Only the valid test results from the investigational testing are reported.

^b The original result for this test article was unexpected when compared to the other test articles. Investigational testing was performed on the same test article in duplicate and it was determined that the original result was valid. All valid test results are reported.