

Latex Particle Challenge Final Report

Test Article: M4B-20080101
M4B-20080102
M4B-20080103
M4B-20080104
M4B-20080105
Purchase Order: PO-2020081101
Study Number: 1333586-
Study Received Date: 21 Aug 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: Inside
Area Tested: 91.5 cm²
Particle Size: 0.1 μ m
Laboratory Conditions: 20°C, 28% relative humidity (RH) at 2110; 20°C, 28% RH at 2204
Average Filtration Efficiency: 99.945%
Standard Deviation: 0.0203



Jessica Davidson electronically approved for
Study Director

Curtis Gerow

21 Sep 2020 18:19 (+00:00)
Study Completion Date and Time

Results:

Test Article	Test Article Counts	Average Control Counts	Filtration Efficiency (%)
M4B-20080101	5	13,645	99.963
M4B-20080102	5	13,981	99.964
M4B-20080103	8	13,716	99.942
M4B-20080104	8	13,255	99.940
M4B-20080105	11	12,938	99.915