

Viral Filtration Efficiency (VFE) at an Increased Challenge Level Final Report

Test Article: Spirometry filter 83-MG and series
Purchase Order: 26/2012
Laboratory Number: 630246
Study Received Date: 16 Apr 2012
Test Procedure(s): Standard Test Protocol (STP) Number: STP0010 Rev 04

Summary: This procedure was performed to evaluate the viral filtration efficiency (VFE) at an increased challenge level of the test article. A suspension of Φ X174 bacteriophage was delivered to the test article to determine filtration efficiency. A challenge level of greater than 10^6 plaque-forming units (PFU) was pumped through a nebulizer using a peristaltic pump at a controlled flow rate and a fixed air pressure. The aerosol droplets were generated in a glass aerosol chamber and drawn through the test article into all glass impingers (AGIs) in parallel. The challenge was delivered for a 1-minute interval and sampling through the AGIs was conducted for 2 minutes to clear the aerosol chamber.

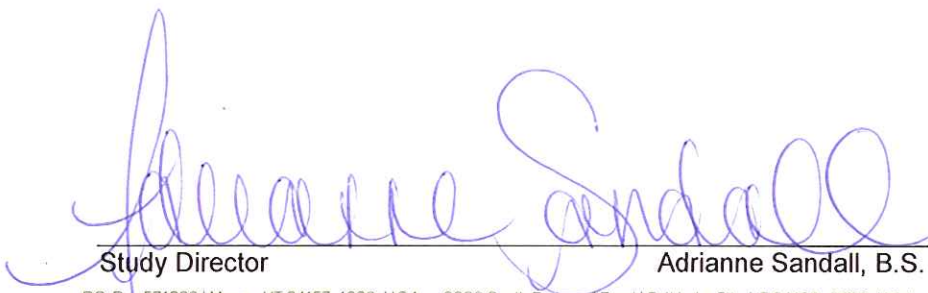
This test procedure was modified from Nelson Laboratories, Inc., standard VFE test in order to employ a more severe challenge than would be experienced in normal use. All test method acceptance criteria were met.

Challenge Flow Rate: 30 Liters per minute (LPM)
Sample Area Tested: Entire test article

Results:

Unit Number	Total PFU Recovered	Filtration Efficiency (%)
1	3.6×10^1	99.99926
2	4.5×10^1	99.99908
3	8.1×10^1	99.9983

Challenge Level: 4.9×10^6 PFU
Mean Particle Size (MPS): 3.3 μ m



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Study Completion Date