

Sodium Chloride (NaCl) Aerosol Test Final Report

Test Article: HEPA melt-blown / Model: MH11
Purchase Order: 21-086N
Study Number: 1433704-S01
Study Received Date: 12 Jul 2021
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: STP0014 Rev 09
Deviation(s): None

Summary: This procedure was performed to evaluate the particle penetration and airflow resistance properties of filtration materials. A neutralized, poly-dispersed aerosol of sodium chloride (NaCl) was generated and passed through the test article. The performance of the test article was assessed by measuring the concentration of salt particles penetrating the test article compared to the challenge concentration entering the test article. The filtration performance and airflow resistance of each test article were calculated.

The filter tester used in testing was a TSI® CERTITEST® Model 8130 Automated Filter Tester that is capable of efficiency measurements of up to 99.999%. It produced a particle size distribution with a count median diameter of 0.075 ± 0.020 microns (μm) and a geometric standard deviation not exceeding 1.86 μm . The mass median diameter was approximately 0.26 μm , which is generally accepted as the most penetrating aerosol size. 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.

Area Tested: 100 cm²
Airflow Rate: 32 \pm 2 liters per minute (L/min)
Test Side: Either Side
Test Type: Instantaneous Penetration (10 sec. FILTER Test)



Cameron Brierley electronically approved for
Study Director

Curtis Gerow

02 Aug 2021 17:56 (+00:00)
Study Completion Date and Time

Results:

Test Article Number	Airflow Resistance (mm H ₂ O)	Particle Penetration (%)	Filtration Efficiency (%)
1	1.5	1.81	98.19
2	1.7	1.41	98.59
3	1.7	1.52	98.48
4	1.6	2.02	97.98
5	1.7	1.46	98.54
6	1.6	1.85	98.15
7	1.7	1.73	98.27
8	1.5	2.33	97.67
9	1.6	1.03	98.97
10	1.7	1.47	98.53
11	1.6	1.51	98.49
12	1.5	1.62	98.38
13	1.6	2.30	97.70
14	1.7	1.36	98.64
15	1.7	1.98	98.02
16	1.6	2.29	97.71
17	1.7	1.41	98.59
18	1.6	1.32	98.68
19	1.6	1.64	98.36
20	1.6	1.86	98.14