

Microbial Cleanliness (Bioburden) of Medical Masks Final Report

Test Article: Product Name: Non-woven Face mask
LOT #CMA4714
Study Number: 1111909-S01
Study Received Date: 22 Oct 2018
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: STP0036 Rev 14
Customer Specification Sheet (CSS) Number: 201805306 Rev 01
Deviation(s): None

Summary: The testing was conducted in accordance with EN 14683:2014, with the exception of approximate volumes of eluent used when performing the extraction procedure and a temperature range of 30-35°C used for aerobic incubation.

When bioburden results are calculated using a software program, manual calculations may differ slightly due to rounding. The counts determined on products are colony forming units and may not always reflect individual microorganisms. The sponsor performs any statistical analysis and determines the acceptable limits. Testing was performed in compliance with US FDA good manufacturing practice (GMP) regulations 21 CFR Parts 210, 211 and 820.

Results:

Unit Number	Weight (g)	Aerobic	Fungal	Total Bioburden (CFU/mask)	Total Bioburden (CFU/g)
1	3.3	<3	<3	<6.3	<1.9
2	3.3	<3	<3	<6.1	<1.8
3	3.5	<3	<3	<6.4	<1.8
4	3.5	<3	<3	<6.1	<1.7
5	3.4	<3	<3	<6.0	<1.8
Recovery Efficiency		UTD ^a			

< = No Organisms Detected

UTD = Unable to determine

Note: Sample positive testing was performed using *Bacillus atrophaeus*. The test article was not inhibitory using this test method.

Note: The results are reported as colony forming units (CFU) per mask.

^a UTD due to zero count on the first rinse. An alternate method or inoculated product recovery efficiency is recommended.



Robert Putnam electronically approved
Study Director

Robert Putnam

13 Nov 2018 18:39 (+00:00)
Study Completion Date and Time

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Test Method Acceptance Criteria: If applicable, anaerobic controls are acceptable for the bioburden test results. The number of masks to be tested shall be a minimum of 5 or more to meet an acceptable quality level of 4%. The bioburden of the medical mask shall be < 30 cfu/g tested.

Procedure:

Positive Controls/Monitors: *Bacillus atrophaeus*
Extract Fluid: Peptone Tween® with Sodium Chloride
Extract Fluid Volume: ~300 mL
Extract Method: Orbital Shaking for 5 minutes at 250 rpm
Plating Method: Membrane Filtration
Agar Medium: Tryptic Soy Agar
Sabouraud Dextrose Agar with Chloramphenicol
Recovery Efficiency: Exhaustive Rinse Method
Aerobic Bacteria: Plates were incubated 3 days at 30-35°C, then enumerated.
Fungal: Plates were incubated 7 days at 20-25°C, then enumerated.

