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CERTIFICATION REPORT - CLASS II TYPE A2 BIOSAFETY CABINET

Certification Report #: 02163-20250724JS01
 Customer Name: Boothwyn Pharmacy, LLC.
 Customer Address: 221 Gale Lane Kennett Square, PA, 19348

Contact:	[REDACTED]		
Building / Floor:	Main / First	Test Completion Date:	24 Jul 2025
Room:	P172	Next Service Date:	January 2026
Manufacturer & Model:	[REDACTED]	Customer ID Number:	N/A
Serial Number:	240810123B	CEC Asset Number:	02163

Comments: N/A

Completed By: [REDACTED] Date: 24 Jul 2025

X [REDACTED]

Reviewed by Customer (if applicable):

X _____



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TEST RESULTS SUMMARY		
NSF/ANSI 49 N-5.2 & N-5.3: Airflow Velocity Results Refer to page 3 for details.	Downflow Velocity Test	PASS
	Inflow Velocity Test	PASS
NSF/ANSI 49 N-5.4: Airflow Smoke Pattern Tests Refer to page 4 for details.	Downflow Test	PASS
	Sash Retention Test	PASS
	Work Opening Edge Retention Test	PASS
	Sash/Window Seal Test	PASS
NSF/ANSI 49 N-5.5: HEPA/ULPA Filter Leak Tests Refer to page 5 for details.	As Found - Supply Filter	PASS
	As Found - Exhaust Filter	PASS
	Final - Supply Filter	PASS
	Final - Exhaust Filter	PASS
ISO 14644-1: Airborne Particle Count Tests Refer to page 6 for details.	At Rest Particle Counts	PASS
	Operational Particle Count	PASS
NSF/ANSI 49 N-5.7: Site Installation Tests Refer to page 7 for details.	Sash Alarm Test	PASS
	Airflow or Pressure Alarm Test	N/A
	Exhaust System Performance Test	N/A
CAG-014-2022: Airflow Visualization Test Refer to page 7 for details.		No Test
NSF/ANSI 49 N-5.9 & N-5.11: Lighting & Noise Level Tests Refer to page 8 for details.		*Noise Level and Lighting Intensity Tests are for information purposes only

Certified in accordance with the most current: NSF/ANSI 49, CAG-003, CAG-014, ISO 14644-1

Comments:	N/A
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NSF/ANSI 49 N-5.2.3.1: Uniform Downflow Velocity Test

Anemometer Mfg.:	TSI	Model:	966
S/N:	P23390019	Calibration Due:	14-Oct-2025
Number of Downflow Velocity Readings Taken:	24		
Diagram of Downflow Velocity Profile Taken at:	4" above sash height		

Data points reported in feet per minute (FPM)

	59	56	55	55	53	55	57	57		
	61	56	56	55	58	59	58	58		
	57	56	54	55	58	59	56	57		

Average Velocity

Acceptable Min (FPM):	50	Acceptable Max (FPM):	60
Average Velocity in FPM (calculated):	57		

Airflow Uniformity

Individual point readings shall not vary more than ±25% or ±16 FPM, whichever is greater, from average downflow velocity.

Minimum Allowed:	41	Actual Minimum:	53
Maximum Allowed:	73	Actual Maximum:	61

Pass Average Velocity
 Fail Average Velocity

Pass Average Velocity
 Fail Airflow Uniformity

NSF/ANSI 49 N-5.3.3.2: Direct Inflow Measurement (Velocity)

Balometer Mfg.:	Evergreen Telemetry	Model:	S-PVF-1
S/N:	2300668D	Calibration Due:	26-Sep-2025

Average Inflow Velocity (FPM) = $\frac{\text{Inflow Volume}}{\text{Inflow Area (FT}^2\text{)}}$		Inflow Volume Readings:	360
Acceptable Min:	100	The readings were measured directly	358
Acceptable Max:	110	in cubic feet per minute (CFM) by	360
Average Inflow Velocity (calculated):	108	sealing the capture hood to the face of	358
		the cabinet.	358
		Average Inflow Volume:	359
Inflow area (FT ²):	3.33	No. Intake Readings:	5
Sash Height:	10	Inflow Correction	1.00

PASS
 FAIL

Exhaust Damper Location:	N/A	Blower Speed Required:	No change
Velocity tested in accordance with:	NSF/ANSI 49 and Mfg Specs	Internal Damper:	No change
Exhaust Configuration:	Vented to room	Exhaust Damper:	N/A
Differential Pressure: Hood	N/A		

Comments: N/A



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NSF/ANSI 49 N-5.4: Airflow Smoke Pattern Tests

Test	Acceptance Criteria	Result	Comments
N-4.3.1 Downflow Test	Smoke shall be passed from one end of the cabinet to the other, along the centerline of the work surface, at a height of 4 inches (100mm) above the top of the access opening. The smoke shall show smooth downward flow with no dead spots or reflux (upward flow).	Pass	N/A
N-4.3.2 Sash Retention Test	Smoke shall be passed from one end of the cabinet to the other, 1 inch (25 mm) behind the viewscreen, at a height of 6 inches (150 mm) above the top of the access opening. The smoke shall show smooth downward flow with no dead spots or reflux. No smoke shall escape from the cabinet.	Pass	N/A
N-4.3.3 Work Opening Edge Retention Test	Smoke shall be passed along the entire perimeter of the work opening edges, approximately 1.5" (40 mm) outside the cabinet. Particular attention should be paid to corners and vertical edges. No smoke shall reflux out of the cabinet once drawn in, nor shall smoke billow over the work surface or penetrate onto it.	Pass	N/A
N-4.3.4 Sash Seal Test	Smoke shall be passed up the inside of the sash 2" (50 mm) from the sides and along the top of the work area. No smoke shall escape out of the cabinet.	Pass	N/A



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NSF/ANSI 49 N-5.5: HEPA/ULPA Filter Leak Tests

NSF/ANSI 49 N-5.5.3.1: Filters That Can Be Scanned

Introduce the aerosol upstream of the HEPA filters. With the nozzle of the probe held not more than 1 inch (25 mm) from the area being tested, scan the entire downstream side of the HEPA/ULPA filter(s) and the perimeter of each filter pack by passing the photometer probe in slightly overlapping strokes at a travers rate of no more than 2 in/s (50 mm/s). Separate passes shall be made around the entire periphery of the filter along the bond between the filter pack and frame, and around the seal between the filter and the device.

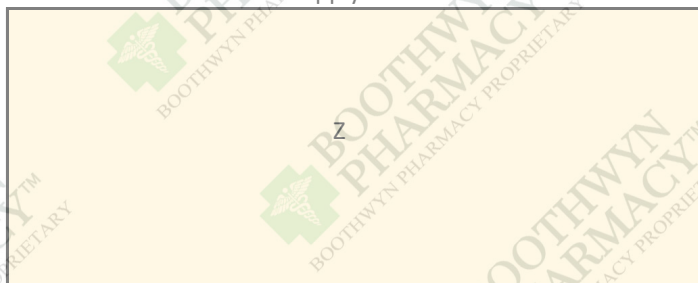
Photometer Mfg.:	Tec Services	Model:	PH-5
S/N:	4642	Calibration Due:	26-Sep-2025

Upstream Aerosol Challenge Concentration (calculated):	28 µg/l
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Diagram of filter leak test results:

Supply Filter

Exhaust Filter



Supply Filter Test Result:	
As Found:	Pass
Final:	Pass
Leaks Repaired:	N/A
Repaired With:	N/A

Exhaust Filter Test Result:	
As Found:	Pass
Final:	Pass
Leaks Repaired:	N/A
Repaired With:	N/A

Legend	
/	Media Leakage
X	Frame Leakage
BR	Before Repair
AR	After Repair
ZAR	Zero After Repair
Z	Zero Leakage

Comments:	N/A
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Supply HEPA Filter(s) Size:	(1) 18" x 48" x 3.06"
Exhaust HEPA Filter(s) Size:	(1) 18" x 26" x 5.88"
HEPA Filter(s) Replaced:	No



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ISO 14644-1: Airborne Particle Count Tests

Cleanroom or zone Cleanliness Classification:	ISO 5	Type of Test:	Verification
Particle Class Limit in Particles Per Cubic Meter:	3520	Type of Clean Zone:	Unidirectional
Measured Particle Size in Microns (and larger):	0.5		

At Rest Particle Counts

Particle Counter Mfg.:	Lighthouse	Model:	S3100
S/N:	240904160	Calibration Due:	27-Sep-2025
Occupancy State of Test:	Static	Sample Time (min):	1
Number of People in PEC:	0	Sample Volume (L):	28.3
Number of Particle Count Sample locations:	5		
Ambient room particle count (room ambient) ppcm:	105.9		
Sample locations are taken at (inches above the work surface):	12" above worksurface		

*Readings shown are in particles per cubic meter of air.

(1) 0	(2) 0
(4) 0	(3) 0
(5) 0	

Particle Count locations are identified with numbers (1) through (5). Room ambient count is identified as (Room Ambient). Readings are taken 6 inches away from cabinet walls and at geometric center, with probe oriented into the direction of airflow.

Particle Count Specification: ISO Class 5 (3,520 ppcm @ 0.5 um and larger) at rest per ISO 14644-1:2015

PASS

FAIL

Operational Particle Count ISO 14644-1: Total Particle Count Conditions of Test

Particle Counter Mfg.:	Lighthouse	Model:	S3100
S/N:	240904160	Calibration Due:	27-Sep-2025
Occupancy State of Test:	Dynamic	Sample Time (min):	1
Number of People in PEC:	1	Sample Volume (L):	28.3
Number of Particle Count Sample locations:	1		

Operational Particle Counts: The particle counter isokinetic probe is positioned within 6-12 inches of the product manipulation point. For unidirectional flow applications, the particle counter isokinetic probe shall be pointed into the airstream. The sampling point is positioned over each established "Direct Compounding Area" (DCA). The compounder shall simulate operations during the sampling period. Testing performed in Accordance with ISO Std 14644-1: 2015. Each reading must not exceed the particle count class limit.

Sample 1	0
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Particle Count Specification: ISO Class 5 (3,520 ppcm @ 0.5 um and larger) Operational per ISO 14644-1:2015

PASS

FAIL

No Test

Comments:	N/A
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NSF/ANSI 49 N-5.7: Site Installation Assessment Tests

Test	Acceptance Criteria	Result
N-5.7.3.1.1 Sash Alarm Test	Raise and lower sliding window above and below the recommended manufacturers height. Audible and visual alarm shall indicate window position above or below +/- 1".	Pass 1 in. Above/ Pass 1 in. Below
N-5.7.3.2 Exhaust Airflow Alarms	Whenever an alarm is present to monitor the exhaust airflow from the cabinet connection to the external system, its operation must be verified. Operation of the cabinet's alarm and interlock, if present, shall be verified at every field certification.	N/A
N-5.7.3.2.2 Exhaust Alarm System (Canopy Connection)	Introduce a visible medium source into the canopy air intake(s) while slowly reducing the exhaust volume until there is a loss of capture of the visible medium into the canopy air intake(s). The audible and visual canopy alarms shall respond within 15s, and the cabinet fan(s) will continue to operate.	N/A

CAG-014-2022 8.2: Airflow Visualization

This test is performed to verify that airflow smoke patterns demonstrate unidirectional airflow and sweeping action over and away from the product under dynamic (operational) conditions within the unidirectional flow device. The smoke illustrates the importance of proper use of "First Air" in the Direct Compounding Area (DCA).

ACCEPTANCE: The smoke must flow across the critical sites within the DCA with no turbulence or refluxing present. The airflow crossing the critical sites must be comprised of "First Air" only. Once the airflow exits the critical area it may not re-enter.

Under operational conditions, airflow smoke patterns should demonstrate unidirectional airflow and sweeping action over and away from the product under dynamic (operational) conditions within the unidirectional flow device. The smoke illustrates the importance of proper use of "First Air" in the DCA.

Results:	No Test
Smoke source used:	N/A
Comments:	N/A
Testing performed in accordance with most current:	CETA CAG-003-2022 and NSF/ANSI 49



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NSF/ANSI 49 N-5.9: Lighting Intensity Test

N-5.9.3 a & b: Measure the background lighting intensity along the side-to-side centerline of the work surface on a uniform linear pattern close to but no greater than 12 inches (300 mm) starting 6 inches (150 mm) from the sidewalls. Turn on lights and blower, and take readings at the same points again.

Light Meter Mfg.:	Extech	Model:	401025
S/N:	Z431973	Calibration Due:	13-Jun-2026

Cabinet Light Readings in Foot Candles (F.C.)	105
	123
	134
	120
No. of Cabinet Light Readings	4
Average Light Readings	121

Background Light Readings in Foot Candles (F.C.)	25
	30
	32
	30
No. of Background Light Readings	4
Average Background Light Readings	29

Difference Between Cabinet & Background:	
	92

Cabinet Light & Background Readings measured in foot candles (F.C.). Cabinet Light shall average ≥ 45 F.C. greater than Background when the Background Avg is a maximum of 15 F.C.

NSF/ANSI 49 N-5.11: Noise Level Tests

Noise readings are for informational purposes only.

N-5.11.3 b & c: Set the instrument to the "A" weighting mode. Measure the noise level 12 inches (300 mm) in front of the

Sound Meter Mfg.:	Extech	Model:	407732
S/N:	Z407978	Calibration Due:	16-Dec-2025

Cabinet On dBA:	70
Background (ambient) dBA:	62
Difference between Cabinet and Background dBA:	8

Corrected (net) dBA:	69
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Correction Factor	
Difference between Cabinet & Background dBA:	Subtract Correction Factor
0 to 2	Reduce background
3	3
4 to 5	2
6 to 10	1
>10	0

NSF Acceptance Criteria: <70dBA

Meets NSF acceptance criteria