

 QUALITY ASSURANCE & BIOSAFETY COMPLIANCE DIVISION

Microbiology Culture Safety Audit

Facility: Meridian BioLabs Central Containment Hub (Building C)

98.4%

OVERALL COMPLIANCE

ZERO

CRITICAL DEFICIENCIES

2 ITEMS

ACTION ITEMS PENDING

142

LOGGED CULTURES

Audit Purpose & Scope: This audit evaluates microbiological safety, containment protocols, pathogen storage logs, and equipment validation for Meridian BioLabs' BSL-2 and BSL-3 suites in accordance with CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories* (BMBL 6th Edition) and ISO 15189 standards.

1. Biosafety Containment & Facility Operations Checklist

ID	Inspection Criteria & Standard Ref.	Suite	Status	Auditor Observations & Notes
C-01	Negative Pressure Differential (≥ 30 Pa relative to hallway)	BSL-3	✓ COMPLIANT	Continuous pressure monitoring active. Digital sensors calibrated June 2026.
C-02	Class II Type A2 Biosafety Cabinet Laminar Velocity (100 fpm)	BSL-2	✓ COMPLIANT	All 6 cabinets certified by Vertex Air Systems. Next service due Jan 2027.
C-03	Autoclave Efficacy Validation (<i>Geobacillus stearothermophilus</i>)	Shared	✓ COMPLIANT	Weekly spore strip tests verified clear. Sterilization logs complete.
C-04	Emergency Eyewash & Safety Shower Weekly Flush Logs	BSL-2/3	! ACTION REQUIRED	Eyewash unit #3 in Room B3-102 missing 2 signature entries for early July.
C-05	High-Efficiency Particulate Air (HEPA) Exhaust Filter Integrity	BSL-3	✓ COMPLIANT	DOP smoke test passed with 99.997% efficiency on primary filter bank.
C-06	Access Control & Bio-containment Key-card Security Logs	BSL-3	✓ COMPLIANT	Dual-factor biometric entry log reconciled. Zero unauthorized attempts.
C-07	Chemical & Biological Hazard Emergency Spill Kit Readiness	BSL-2/3	! ACTION REQUIRED	BSL-2 main lab spill kit missing fresh 10% bleach concentrate solution.
C-08	Waste Segregation & Sharps Containment Disposal Protocol	BSL-2	✓ COMPLIANT	Biohazard bins properly color-coded and sealed prior to incineration.

2. Microorganism Culture Repository Inventory Log (Sample Audit)

Strain ID	Microorganism Species	/	Risk	Storage Location	Vials	State	Authorized Custodian	
MB-ECOLI-01	<i>Escherichia coli</i> K-12		RG1	Cryo-Freezer (−80°C)	A1	24	Frozen	Dr. Marcus Vance
MB-STAPH-04	<i>Staphylococcus aureus</i> ATCC 25923		RG2	Cryo-Freezer (−80°C)	B2	12	Frozen	Dr. Sarah Jenkins
MB-PSEUD-09	<i>Pseudomonas aeruginosa</i> PAO1		RG2	Liquid N2 Tank 01		8	Cryo	Dr. Marcus Vance
MB-CANDI-02	<i>Candida albicans</i> SC5314		RG2	Incubator 3 (37°C)		4	Slant	Tech. David Miller
MB-ASPER-01	<i>Aspergillus fumigatus</i> Af293		RG2	Cryo-Freezer (−80°C)	B1	6	Spore	Dr. Sarah Jenkins
MB-MYCO-03	<i>Mycobacterium smegmatis</i> MC2 155		RG1	Cryo-Freezer (−80°C)	A2	15	Frozen	Tech. Elena Rostova
MB-SALM-11	<i>Salmonella enterica</i> ser. Typhimurium		RG2	Liquid N2 Tank 02		10	Cryo	Dr. Marcus Vance
MB-BACIL-02	<i>Bacillus subtilis</i> 168		RG1	Storage Cabinet C		30	Dry	Tech. David Miller
MB-BRUCL-01	<i>Brucella abortus</i> RB51 (Vaccine)		RG3	BSL-3 Vault-Freezer 01		4	Cryo	Dr. Eleanor Vance
MB-VIBRI-05	<i>Vibrio cholerae</i> O1 El Tor		RG2	Cryo-Freezer (−80°C)	B3	6	Frozen	Dr. Sarah Jenkins

3. Critical Equipment Certification & Environmental Monitoring

The table below summarizes technical certifications and operational parameters for critical containment and decontamination hardware within the BSL-2 and BSL-3 suites.

Equipment ID	Model / Type	Location	Airflow / Temp	Last Cert	Next Due	Status
BSC-BSL3-01	Class III Glove Box	Room B3-101	112 fpm	15-May-2026	15-Nov-2026	✓ COMPLIANT
BSC-BSL2-01	Class II Type A2	Room B2-104	104 fpm	10-Jan-2026	10-Jan-2027	✓ COMPLIANT
BSC-BSL2-02	Class II Type A2	Room B2-105	98 fpm	10-Jan-2026	10-Jan-2027	✓ COMPLIANT
AUT-CENT-01	Pass-Through Autoclave	BSL-3 Wall 2	121.5°C / 15 psi	02-Jul-2026	02-Aug-2026	✓ COMPLIANT
INC-CO2-03	Thermo Scientific CO2	Room B2-102	37.0°C / 5% CO2	18-Jun-2026	18-Dec-2026	✓ COMPLIANT
FREEZ-ULT-01	Thermo Revco -80°C	Hall A	-81.2°C	11-Apr-2026	11-Oct-2026	✓ COMPLIANT

4. Emergency Spill Kits, Decontamination & Incident Preparedness

⚠ Biological Spill Kit Inventory Check • Disinfectants: Sodium Hypochlorite (10% dilution), Peracetic Acid (0.2%), Surface Wipes. • Absorbents: Spill-X-B Agent, Biohazard pads (20 units/kit). • Personal Protection: PAPR Hoods (BSL-3), Nitrile Gloves (Double layer), Tyvek Suits (Size L/XL). • Status: Fully stocked in BSL-3. BSL-2 kit bleach bottle replacement requested (CAR-02).	⬆ Safety Drill & Training Compliance • BSL-3 Spill Drill: Conducted June 14, 2026. Evacuation and VHP decontamination simulated successfully. • Staff Biosafety Refresher: 28 of 29 lab personnel completed annual retraining (96.5%). • Autoclave Safety Check: All operators certified on high-pressure steam vessel protocols. • Medical Surveillance: Blood draw and health clearance up-to-date for all active handlers.
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5. Corrective Action Requests (CAR) & Remediation Schedule

CAR ID	Priority	Description of Deficiency	Required Remediation	Assignee	Target Date
CAR-01	Medium	Eyewash unit #3 weekly flush log missing 2 signatures.	Perform immediate flow test and update logbook.	Tech. D. Miller	26-Jul-2026
CAR-02	Low	BSL-2 biological spill kit disinfectant near expiration.	Replace 10% bleach concentrate with fresh stock.	Dr. S. Jenkins	28-Jul-2026

6. Audit Attestation & Authorized Sign-Off

Auditor Statement: Based on physical inspection, protocol review, and bio-inventory sampling, Meridian BioLabs Central Containment Hub complies with CDC/NIH BSL-2 and BSL-3 biosafety standards. Minor corrective actions detailed in Section 5 must be completed by the target dates specified.		
Lead Biosafety Auditor	Biosafety Officer (RSO)	Laboratory Safety Director
Dr. Eleanor Vance, PhD, RSO Lead Auditor, Meridian Safety	Marcus Sterling, MS Radiation & Bio Safety Officer	Dr. Julian Thorne, PhD Executive Director, Meridian Bio-Labs
Date: July 22, 2026	Date: July 22, 2026	Date: July 23, 2026