

New Jersey Department of Health

# Biosafety Level 2 (BSL-2) Sprinter Van Laboratory



## SPRINTER Van Lab (BSL-2)

### Scope of Project

Germfree will design, engineer and manufacture a complete operational Biosafety Level 2 (BSL-2) installed within a Mercedes Benz High Roof Sprinter Van. The mobile laboratory will include a generator, and fresh and waste water tanks to support laboratory operations. The design will address efficient workflow and allow future upgrades to analytical instrumentation.

The laboratory will be provided as a comprehensive package including:

- BSL-2 laboratory with primary containment equipment for receiving and analyzing unknown infectious organisms
- Certification, validation and commissioning of laboratory
- Maintenance, training, and certification

Germfree will work with the customer to refine the preliminary design that has been provided for the space planning of the laboratory. This design will include the placement of the primary and secondary containment systems to best address analytical instrument selection, work flow requirements, and any platform constraints.

Germfree will conduct a Factory Acceptance Test (FAT) of all components, and conduct testing of integrated systems prior to shipping. Upon arrival at the destination, the platform will undergo an On Site Acceptance Test (OSAT) to demonstrate that it complies with specified operational parameters. Users (technicians, maintenance personnel, etc.) will be trained in operation and maintenance procedures upon delivery. With proper routine operation and maintenance, the laboratory will pass annual certification of primary and secondary containment equipment, and provide many years of reliable service.

# Technical Description

## Vehicle

Germfree will design, engineer and manufacture a mobile laboratory built within the cargo bay of a Mercedes-Benz Model 3500 High Roof Sprinter Van. The chassis, exterior lighting, fuel compatibility, and emissions will comply with the vehicle regulations of New Jersey.

The vehicle will feature:

- Van Chassis:
  - GVRW: 5,000 kg
  - Total payload capacity: 2,590 kg
  - Towing capacity: 2,410 kg
  - Poor Road Version
  - Power steering
  - 4- Wheel power disc brakes with ABS
  - Fuel capacity: 100 liters
  - Trailer ball hitch and wiring
- Engine and transmission:
  - 2,143 cm<sup>3</sup> V-4 engine (Diesel)
  - 150 Hp @ 3,800 rpm
  - Turbocharger
  - 220 amp alternator
  - Cruise control
  - 6-Speed automatic transmission
- Driver's cabin:
  - Seating for two passengers

### Interior Structure

- Laboratory floor:
  - Seamless Armstrong Medintech® vinyl flooring
  - Coved up the walls 100 mm to contain spills and facilitate cleaning
- Interior bulkheads, walls, and ceiling:
  - Covered with laboratory grade wall panel system

## **Mechanical, Electrical, and Plumbing (MEP) Systems**

### **Mechanical**

A heating, ventilation and air conditioning (HVAC) system will be installed in the laboratory. The system will be engineered to maintain a comfortable working temperature in the lab while operating in normal climatic conditions in Botswana. The system will be designed taking analytical equipment heat loads into account, with a minimum of two 13,500 Btu air conditioning units for the laboratory module.



## Electrical

A marine grade electrical distribution panel will be installed in the mechanical space. The use of secured marine grade fine strand wiring and circuit breakers creates a system designed to withstand frequent vibration and shocks that may occur while in transit. All electrical components and junction boxes will be placed for ease of maintenance.

A 14 to 16 kW diesel electric generator will be mounted in the mechanical space with isolation dampers to reduce noise and vibration in the lab. The generator will draw fuel from the Sprinter's fuel tank. A carbon monoxide (CO) detector will be provided in the laboratory.

Deep cycle AGM type batteries will power the DC emergency lighting system and start the generator. A battery charger suitable for AGM batteries will be provided.

Connections for public utility power and auxiliary generator inputs will be provided. One Uninterruptible Power Supply (UPS) will provide seamless power to the Biosafety Cabinet to provide 15 minutes to safely contain hazardous materials or restore power.

Electrical wiring and cables for communication and data will be run in wire chases. Any penetrations for utilities, lighting fixtures, pipes, conduit, duct interfaces, and joints (i.e. wall-floor joints) will be sealed.

High output fluorescent lighting will illuminate the interior of the lab and the work areas inside biosafety cabinets.



## Plumbing

The plumbing system includes a 38 liter on-board fresh water tank and an on-demand electric water pump to provide running water for a sink with eyewash/emergency shower. The laboratory water tank is filled through a connection fitting for a garden hose attached to a water utility tap. A 49 liter gray water tank is designed to be gravity drained. Bleach or other appropriate chemical can be added to decontaminate waste water in the holding tank. The laboratory module will arrive completely plumbed, ready for connection to water supply and drain lines.



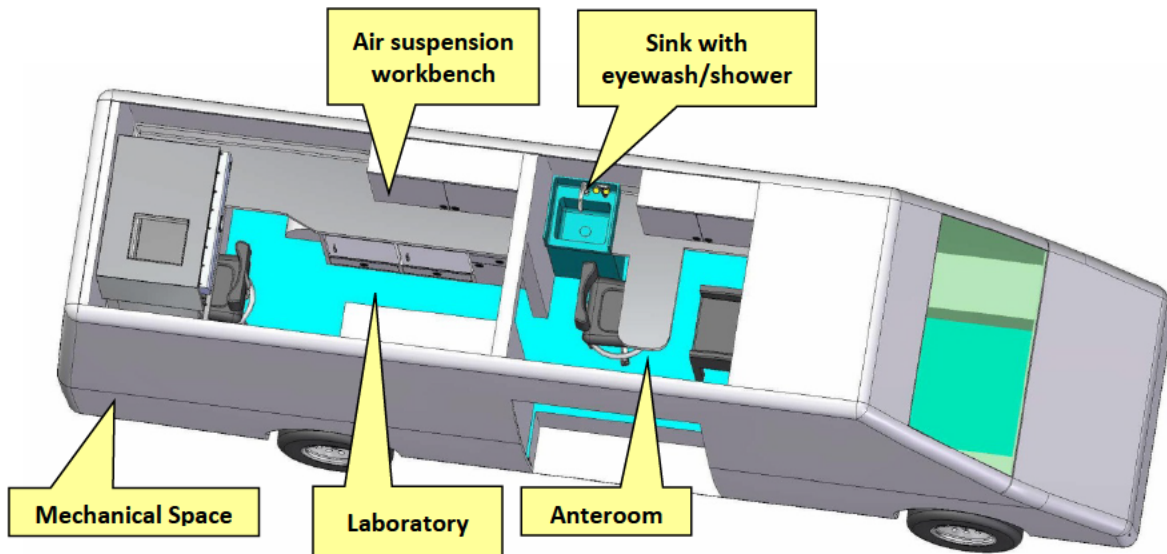
## Casework



**Stainless steel air suspension workbench with utility chase above**

All casework base units will be powder coated aluminum to minimize weight. All work surfaces are seamless stainless steel which is non-porous, durable, and resistant to corrosive laboratory chemicals. All casework is designed and coved for easy spill cleanup and sanitization. Workbenches with adjustable air suspension and load locks will be provided to protect analytical equipment from shock and vibration while in transit. Edges are rounded and polished to avoid snagging Personal Protection Equipment (PPE). Underneath will be general use storage bins, a refrigerator, and a freezer.

## Laboratory Layout

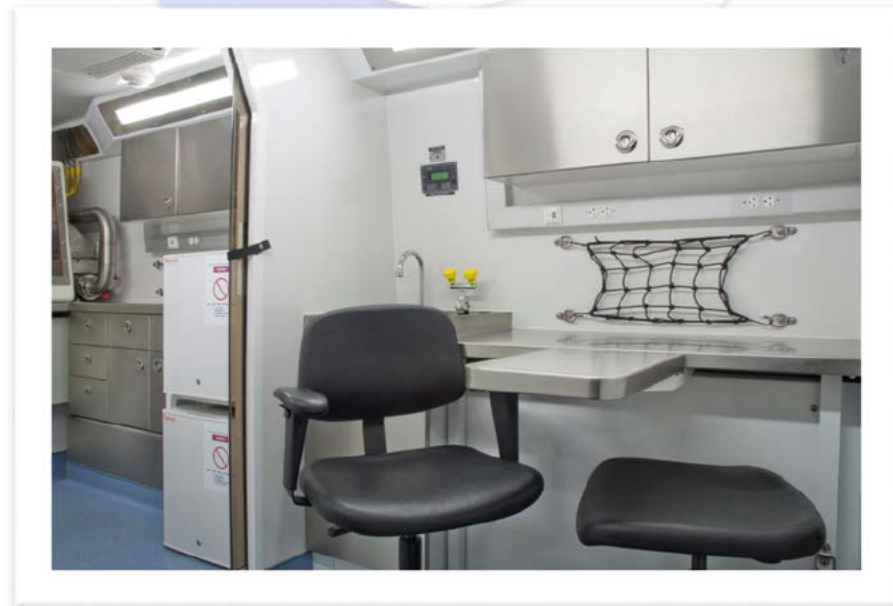


Layout of Sprinter van laboratory equipped with a patient sample collection area

## General Layout

The mobile laboratory interior will consist of two interior rooms and a mechanical room. The first room is the anteroom; the second room is the laboratory itself. A mechanical space is located behind the rear wall of the laboratory and is accessed through the rear doors.

## Anteroom



Anteroom Equipped for Patient Sample Collection (Phlebotomy Station)

This room will serve as an antechamber, which is the entry air break into the lab, and as a changing area for crew to don their Personal Protective Equipment (PPE). This room will be equipped with lockers for storing PPE and regular clothing, and a hand washing sink with eyewash/emergency shower. This room will also be fitted as an area where blood, sputum, or other samples can be collected from patients in a private setting. This space will be well ventilated with multiple air changes per hour.

## Laboratory

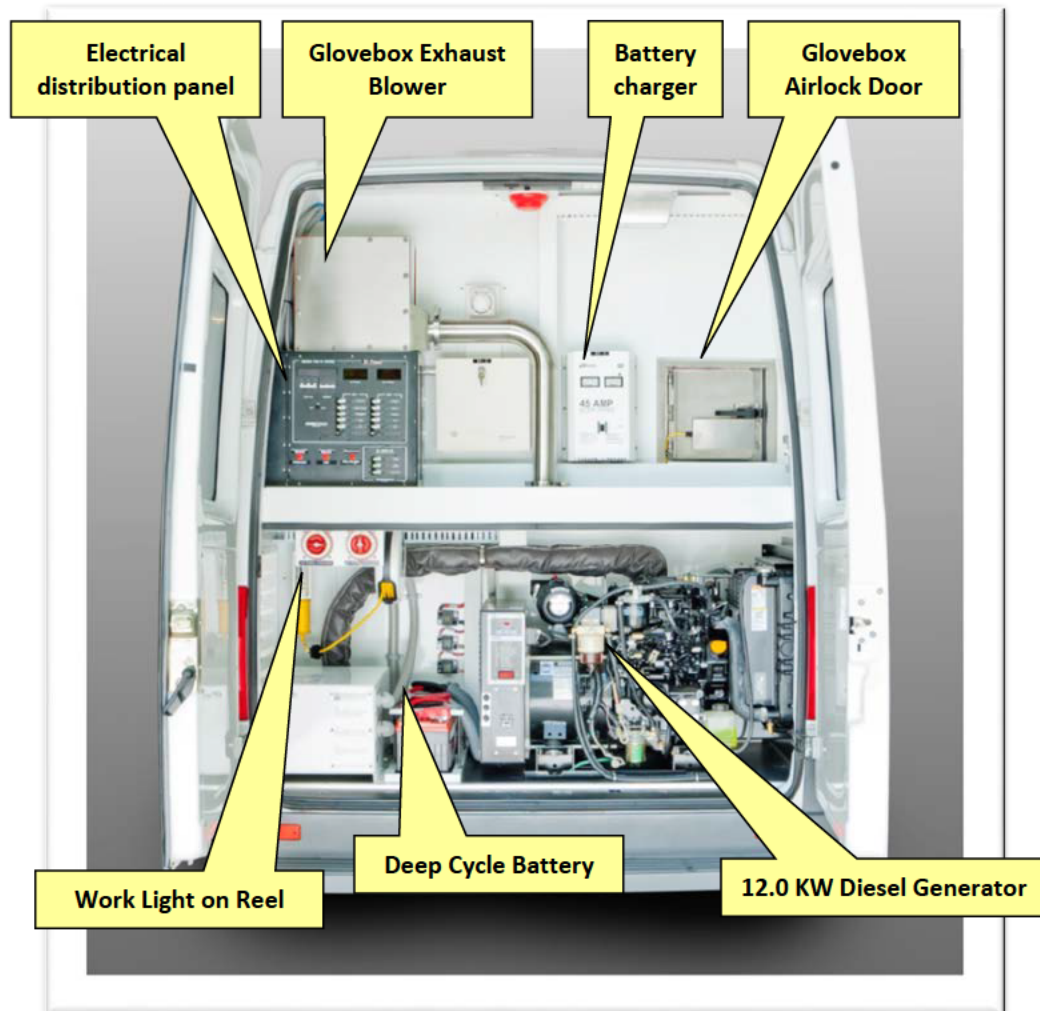


**Class II Type A2 Biological Safety Cabinet (PCR/Media Prep hood) and top-load autoclave at lab exit  
(For display only)**

The main room of the unit is a laboratory specifically designed and equipped for its particular mission.

A workstation will be provided with network data port connections for use with instruments, computer workstation, and printer. Communication connections between the lab, anteroom, and land lines will also be available at the workstation.

## Mechanical Space



**Mechanical Space and Components**

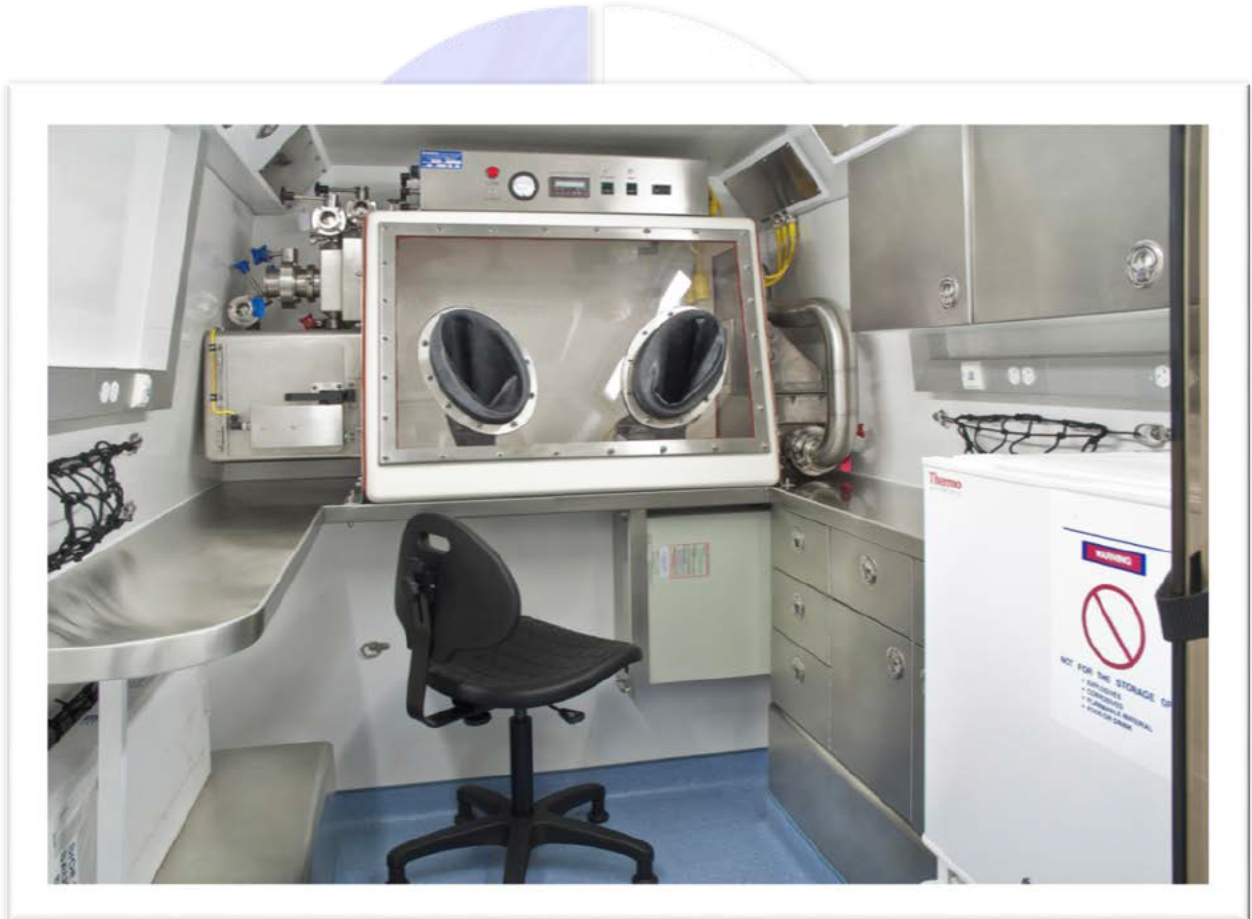
This area houses the generator, battery, and electrical distribution panel that provide utility support for the laboratory. All of the mechanical components are easily accessed for maintenance. An overhead light fixture and a hand-held lamp on a cord reel are provided for night operations. The exhaust blower for the glovebox will also be located in the mechanical room to help keep the laboratory quieter.

## Laboratory Equipment - Germfree Class III, BSC/Glovbox Laboratory Equipment

- One Class III Biological Safety Cabinet (BSC)
  - 914 mm wide
  - All stainless steel construction
  - Ruggedized for use in a mobile laboratory

## Primary Containment Systems

Primary containment equipment is the first line of defense in protecting personnel and the immediate laboratory environment from exposure to infectious or toxic materials. It is designed to provide a barrier that separates the hazardous material from the workers and laboratory. Primary containment equipment in the laboratory includes one Class III Biological Safety Cabinet.



Sprinter Van Laboratory Equipped with Glovebox



Germfree Laboratories, Inc.  
4 Sunshine Blvd  
Ormond Beach, FL 32174  
Phone: +1.386.265.4300  
Email: INFO@Germfree.com

**QUOTATION**

TO:

NEW JERSEY DOH  
TRENTON, NJ 08608  
(-)

SHIP TO:

NEW JERSEY DOH  
TRENTON, NJ 08608  
(-)

ATTN:

ATTN: Richard Siderits

Quote No.		Date	Cust No	Salesperson	Ship Via	Terms	F.O.B.	Expiration
0009870		7/2/2020	114747	MATT HENRY	GF INCLUDED	MILESTONES	DESTINATION	90 DAYS
Qty	UM	Part	Description				Price	Total Price
3.00	EA	MOB-SPRT	BSL-2 MOBILE INTEGRATED  LABORATORY FACILITY  See specifications*  EXCLUDES: - Any required local permitting required at the site. - Any additional means of ingress/egress for ADA compliance. - Any and all required reviews, stamping or sealing of drawings beyond the standard as-built drawing package Germfree will provide. - Semi-annual on site recertification of the mobile lab and equipment - Personal Protective Equipment (PPE) - Computers, printers, software & consumables  NOTE:The unit quoted is AS-IS and any additional engineering requests or changes beyond the as-built package provided will be billed at \$180/hr with a 4hr minimum, in addition to required parts and labor for requested changes.				449,783.00	1,349,349.00
1.00	EA	MPCT-FIAE	FIELD INSTALLATION ASSISTANCE  Field Installation Assistance for Germfree's Mobile BSL-2 Lab (FOR QTY.3 VANS)  INCLUDES: - Dedicated trailer transit from Germfree to clients destination site (CONUS) - Costs for one (1) Germfree Technician to meet the lab upon arrival and remain on site for up to 4 days - While on site GF technician will unpack the lab, start-up the lab, provide an initial cleaning service and operator training in the start-up and daily operations of the lab (not SOPs for lab work).  EXCLUDES: - Certification of the Lab - Certification of Equipment - Certification or approvals from the state - Any seismic strapping or bracing required by the client				12,783.00	12,783.00
Lead Time: SEE FOOTER								



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ATTN: [REDACTED]

ATTN: Richard Siderits

Quote No.	Date	Cust No	Salesperson	Ship Via	Terms	F.O.B.	Expiration
0009870	7/2/2020	114747	MATT HENRY	GF INCLUDED	MILESTONES	DESTINATION	90 DAYS
Qty	UM	Part	Description	Price	Total Price		
1.00	EA	12-WARRANT	12 MONTH WARRANTY				
1.00	EA	CANCEL-RETURN	Cancel PO - Return  CANCELLATION FEE'S (STANDARD EQUIPMENT): 1.) A fee equal to 30% of the Purchase Order (PO) Total (minus services) will be levied if the Customer cancels an order after receipt, acknowledgement and execution of a Purchase Order (PO). 2.) A fee equal to 50% of the Purchase Order Total (plus all applicable shipping and handling fee's) will be levied if the Customer cancels an order after the equipment has left the Germfree Facility.				
					<b>Total for Quote:</b>	<b>\$ 1,362,132.00</b>	

**Leadtime:**

1st BSL-2 Van Lab - Germfree anticipates 45 days ARO to account for delays due to Covid19  
2nd BSL-2 Van Lab - 16 Weeks ARO  
3rd BSL-2 Van Lab - 16 Weeks ARO

For quantity orders of 3 or more labs as a single purchase:

Quantity price - \$449,783.00

Payment Terms (NET 30):

\*PRICING AND LEAD TIME PROVIDED IS CONTINGENT ON AN ORDER BEING PLACED BY COB 7/8/20\*

40% Invoiced upon execution of a contract  
40% Invoiced upon successful completion of Factory Acceptance Testing (FAT)  
20% Invoiced upon completion of installation assistance and training

**Lead Time: SEE FOOTER**

**State of New Jersey Standard Terms and Conditions**

(Rev: 4/27/2021)

I HEREBY ACCEPT THE TERMS AND CONDITIONS OF THIS CONTRACT

Signature

Jon Reed VP Finance

Print Name and Title

Germfree Laboratories Inc.


Print Name of Contractor

Date

7/13/2021

WAIVERED CONTRACTS SUPPLEMENT TO THE  
STATE OF NEW JERSEY STANDARD TERMS AND CONDITIONS  
(Rev. 6/14/2018)

I HEREBY ACCEPT THE TERMS AND CONDITIONS  
OF THIS CONTRACT

  
\_\_\_\_\_  
Signature

7/13/2021  
\_\_\_\_\_  
Date

Jon Reed VP Finance  
\_\_\_\_\_  
Print Name and Title

Germfree Laboratories Inc  
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Print Name of Contractor