CHEMISORB AUTO

PRE-INSTALLATION INSTRUCTIONS AND CHECKLIST

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(Rev A)

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MICROMERITICS CORPORATE PROFILE

Micromeritics is the global leader in analytical instrumentation for the physical characterization of particles, powders, and porous materials. Our advanced technologies provide precise measurement of density, surface area, porosity, activity, and powder flow, supporting research, product development, and quality control. Serving industries like materials science, chemicals, energy, and natural resources, our instruments enable critical advancements in fields such as battery materials, hydrogen economy, and carbon capture. Founded in 1962, Micromeritics operates globally with over 15,000 instruments in daily use, delivering expert support and cutting-edge solutions from our U.S. headquarters and international locations.For more information, please visit www.micromeritics.com.

PATENTS

For patent information, visit www.Micromeritics.com/patents.

CONTACT US

Micromeritics Instrument Corporation
4356 Communications Drive
Norcross, GA 30093-2901 USA
Phone: 1-770-662-3636
www.Micromeritics.com

Instrument Service or Repair
Phone: 1-770-662-3636
International: Contact your local distributor or call 1-770-662-3636
Service.Helpdesk@MalvernPanalytical.com

Micromeritics Application Support
Micromeritics.Support@MalvernPanalytical.com

ABOUT THIS MANUAL

The following symbols or icons indicate safety precautions and/or supplemental information and may appear in this manual:

NOTE — Notes contain important information applicable to the topic.

CAUTION — Cautions contain information to help prevent actions that may damage the instrument or components.

WARNING — Warnings contain information to help prevent actions that may cause personal injury.

GENERAL SAFETY

Do not service or modify this instrument without authorization from Micromeritics Service Personnel. It does not include any user-serviceable parts.

If closed-cell silicone foam pipe insulation is used in this instrument, it is REACH non-compliant.

Chemical Abstract Service and numbers:

- Octamethylcyclotetrasiloxane (D4) – CAS 556-67-2
- Decamethylcyclopentasiloxane (D5) – CAS 541-02-6
- Dodecamethylcyclohexasiloxane (D6) – CAS 540-97-6

Any laboratory equipment can pose a risk to personnel if not operated or maintained correctly. All employees who operate and maintain instruments should be well-familiar with their operation and receive proper safety training and instruction.

- Read the operator manual for any special operational instructions for the instrument.
- Know how the instrument functions and understand the operating processes.

- Ensure that personnel use the appropriate personal protective equipment (PPE) when removing, handling, or repairing equipment. This may include gloves, safety glasses, or other items specific to the equipment or environment.
- When lifting or relocating the instrument, use appropriate lifting and transporting devices designed for heavy equipment. Ensure that enough personnel are available to assist with the movement of the instrument.
  The ChemiSorb Auto weighs approximately 59 - 63.5 kg (130-140 lb).
- Always follow the safety instructions on the labels affixed to the instrument, and never alter or remove them. During inspections, verify that the safety labels are intact and not worn or damaged.
- Regular maintenance is essential for ensuring personnel safety and the efficient operation of instruments. Consistent upkeep helps enhance safety, ensures optimal test results, and minimizes costly downtime. Neglecting proper maintenance procedures can create unsafe conditions and reduce the lifespan of the instrument.
- Improper handling, disposal, or transportation of potentially hazardous materials can result in serious injury or damage to the instrument. Always consult the SDS when working with hazardous substances. Safe operation and handling of the instrument, supplies, and accessories are the responsibility of the operator.

EQUIPMENT REMOVAL AND REPLACEMENT PROCEDURES

Follow these procedures to safely remove equipment from service for repair or disposal and to ensure safety is maintained when new equipment is put into service.

- Before removing equipment from use for repair or disposal, ensure that all power sources are disconnected and all stored energy sources have been discharged to prevent accidental injury to personnel. Refer to the “Power Instrument On and Off” guidelines for more information.
- Only qualified personnel should perform repairs or dispose of the equipment. This ensures that the work is done safely and that the equipment is properly disposed of in accordance with local regulations.
- When removing equipment for repair, clearly label it with the reason for removal and the date it was taken out of service. This helps ensure that the equipment is not put back into service until it has been properly repaired and tested.
- Depending on the type of equipment being handled, it may be necessary to address environmental safety, such as preventing spills or leaks of hazardous substances during removal or transport.
- When moving an instrument to another location (e.g., by car, truck, or plane), the following is recommended:
  - Pack the instrument in the original shipping materials. If such materials are no longer available, use packaging material (such as a sturdy box with bubble wrap or foam) that will keep the instrument safe from damage during transport.
  - Identify any special handling the package requires (e.g., "Fragile," "This Side Up," or "Do Not Stack Heavy Items on Top").
  - Strap or anchor the package so that it will not tip or fall during transport.
  - Inspect the package on arrival to ensure no damage has occurred. If damage has occurred, contact the responsible party (such as the shipping carrier) for the next steps.

- Follow local regulations and guidelines when disposing of electrical and electronic equipment, especially if classified as hazardous waste. This may include specific requirements for removal, transportation, recycling, or other disposal methods.
- Keep records of all equipment removed from service, including the reason for removal and any repair or disposal actions taken. This helps ensure that the equipment is properly tracked and that safety issues are addressed in a timely manner.
- Ensure that all replacement equipment meets the same safety standards as the equipment being replaced. This helps ensure that safety is not compromised when new equipment is put into service.
- After replacing or repairing equipment, re-calibration or verification may be necessary to ensure the equipment functions correctly and meets operational standards.
- Before returning equipment to service, ensure that it has been properly repaired and tested to ensure that it meets all safety requirements. Only qualified personnel should perform this work.

INTENDED USE

The **ChemiSorb Auto** a highly automated catalyst characterization system that can perform the following experiments individually or in various sequences:

- BET Surface Area
- BET User Calibration
- Loop Calibration for TCD Analyzers
- Loop Volume
- Pulse Chemisorption
- Temperature-Programmed Desorption Analysis (TPD)
- Temperature-Programmed Oxidation Analysis (TPO)
- Temperature-Programmed Reduction Analysis (TPR)
- Gas Concentration Calibration

The instrument is intended to be operated by trained personnel familiar with the proper operation of the equipment recommended by the manufacturer and as well as relevant hazards involved and prevention methods. Other than what is described in this manual, all use is seen as unintended use and can cause a safety hazard.

The instrument is intended to be used as per applicable local and national regulations.

TRAINING

It is the customer's responsibility to ensure that all personnel operating or maintaining the equipment participate in training and instruction sessions. All personnel operating, inspecting, servicing, or cleaning this instrument must be properly trained in operation and machine safety before operating this instrument.

ENVIRONMENTALLY FRIENDLY USE PERIOD

Hazardous Substances Table

Part Name	Hazardous Substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Cover	o	o	o	o	o	o
Power Supplies	o	o	o	o	o	o
Printed Circuit Boards	x	o	o	o	o	o
Cables, Connectors & Transducers	x	o	o	o	o	o

o Hazardous substance is below the specified limits as described in SJ/T11363-2006.

x Hazardous substance is above the specified limits as described in SJ/T11363-2006.

The Environmentally Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here unless otherwise marked. Certain parts may have a different EFUP (for example, battery modules) and are marked to reflect such. The Environmentally Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.

SYMBOLS THAT MAY APPEAR ON THE INSTRUMENT

The following symbols or icons indicate safety precautions and/or supplemental information and may appear on your instrument:

Use extreme caution when working on the instrument where one of these symbols may be displayed. These symbols indicate the part may be hot and cause serious burns.

Use the cotton gloves provided in the accessory kit when handling heated surfaces. These cotton gloves are not intended to protect hands when heated surfaces are above 60 °C.

When working on an instrument where this symbol is displayed, refer to the corresponding Operator Manual for additional information.

When this symbol is displayed, toxic or flammable gases require proper venting of exhaust.

This symbol can also indicate the instrument uses mercury which is an extremely toxic substance. Read the Safety Data Sheet (SDS) and be aware of the hazards of mercury and know what to do in the event of a spill or an exposure incident.

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Table of Contents

1 Pre-installation Document Overview

Micromeritics Installed Instruments Only

Application Related Issues

To ensure a thorough installation, it will be helpful for Micromeritics to know which types of samples will be tested. If known, list them in *Application Related Issues Checklist on page 3 - 6*.

Please advise Micromeritics if samples require any pretreatment. If required, do you have the proper equipment to pretreat your samples? Micromeritics offers application assistance through our materials analysis laboratory (Micromeritics Particle Testing Authority).

Hazards and Precautions

Inform Micromeritics of any on-site conditions that may present hazards to Micromeritics employees or equipment. Advise Micromeritics of any precautions that need to be taken.

Safety Measures

Inform Micromeritics of any safety equipment, requirements, or procedures necessary for Micromeritics employees to enter and install the system at your facility.

Personnel Security Clearance

If security clearances, insurance certificates, or any other special arrangements are required for Micromeritics employees to enter your facility, see *Personnel Security Clearance Checklist on page 3 - 7* to explain. Inform Micromeritics how much advance notice you require to obtain clearance.

Projected Installation Date

Read this entire document carefully. Complete all checklists in this document. Sign and return all checklists and the *Dates and Signatures on page 4 - 1* to Micromeritics. Micromeritics will contact you to confirm an installation date.

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2 PRE-INSTALLATION INSTRUCTIONS

UNPACKING AND INSPECTION

When the equipment is received, unpack and inspect the contents of the shipping container(s). Use the packing list to verify that all products, accessories, software (if applicable), and documentation are received intact and in the correct quantity. The shipping container(s) and contents should be inspected within a few days of receipt in the event damage or loss has occurred. Sort through all packing material before declaring missing equipment or parts.

Micromeritics recommends saving all shipping containers until installation of the equipment is complete. All shipping containers where equipment is to be declared as damaged or lost must be examined by the claims investigator prior to completion of the inspection report.

SHIPPING DAMAGE

If equipment is damaged or lost in transit, you are required to make note of the damage or loss on the freight bill. The freight carrier, not Micromeritics, is responsible for all damage or loss occurring during shipment. If damage or loss of equipment is discovered during shipment, report the condition to the carrier immediately. Insurance claims **must** be made with the freight carrier, **not** Micromeritics.

- Keep all software, manuals, and accessories with the equipment.
- Report any shipping damage immediately to the carrier and follow their directions.
- Report missing or wrong parts to Micromeritics, in addition to any shipping damage, only after filing a claim with the carrier.
- Micromeritics will *not* file a claim for shipping damage.
- Do not discard shipping boxes and containers until installation is complete. If space is available, it is recommended that shipping containers be saved for future use in the event of return to factory for repair.

ENVIRONMENTAL FACTORS

POWER

The **ChemiSorb Auto** is designed to operate with a universal input power supply (100 - 240 VAC) at 50/60 Hz. Noise-free power of the correct voltage and frequency, with a safety earth ground, should be available through a standard wall receptacle. The power outlet should be able to supply 15 amps @ 100 or 120 VAC ±10% or 7.5 amps @ 230 VAC ±10%. These requirements can be checked by using a circuit analyzer (available at most hardware or electronic supply houses) or a multimeter. There should also be sufficient outlets for the computer, monitor, printer, and any other peripheral devices.

The instrument should be connected to a switch which meets relevant requirements of IEC 60947-3 or a circuit breaker which meets the relevant requirements of IEC 60947-2.

The analyzer and peripheral devices **must** be installed on their own dedicated power line. Other devices — such as motors, generators, or ovens — **should not** be placed on the same power line.

Replacement power supply cords must be rated for the specifications stated above.

The instrument should be placed so that the power switch and jack are easily accessible. It should not be necessary to move the instrument to make a power connection. The wall outlet should not be blocked, and there should be sufficient space around the outlet and in the immediate area so the instrument can establish a safe and secure power connection and is easily accessible to disconnect the equipment from the AC main power supply.

GAS SUPPLY

GAS CYLINDERS AND GAS SUPPLY LINES

Gas lines not supplied by Micromeritics will not be installed by Micromeritics Service Personnel.

- **Do not** use gas cylinders with less than 500 psig (3549 kPag) pressure.
- **Do not** use any other gas lines to connect the gas supply to the analyzer except those supplied in the accessories kit.
- **Do not** use gas purifiers; they can cause operational problems. Oxygen traps are preferred.

GAS SUPPLY HARDWARE

Micromeritics recommends the gas regulators to be used with the analyzer be purchased from Micromeritics. The regulators Micromeritics provides have been carefully evaluated and tested to provide superior performance.

If purchased from a source other than Micromeritics, please keep in mind that many commercially available gas regulators lack key features which are required for gas adsorption measurements. These vital criteria must be met:

- **Cleanliness**. Clean regulators designed specifically for high-vacuum service are required. Other regulators often contain elastomeric material or oils which can contaminate the gas.
- **High stability**. Excess pressure at the gas inlet ports to the analyzer can interfere with accurate gas dosing and flow rates. The combined change in the outlet pressure from the gas regulator, as the gas cylinder pressure decreases or as the flow rate stops, should not change more than 5 psig (34.4 kPag) from the selected setting. When the analyzer is idle for an extended period of time, such as 8 to 10 hours, this same stability of gas delivery pressures should be achieved.
- **Suitable sub-assemblies.** The regulator must have a shutoff or outlet isolation valve compatible with 1/8 in. or 1/4 in. Swagelok compression fittings.

To purchase regulators from Micromeritics, contact your local Micromeritics Sales Representative.

REGULATOR EXPANSION KITS

It is sometimes beneficial to attach more than one analyzer, and/or accessory device, or different inlet ports to a single gas supply. Any time this is done, it is critically important that there be a means of isolating, or shutting-off, each device attached to the gas supply regulator. Micromeritics recommends the use of a vacuum rated shutoff/isolation valve for this purpose.

This shutoff/isolation valve is required in order to prevent problems when changing gas cylinders or servicing any of the devices attached to the gas supply.

If the need to attach more than one inlet or one analyzer and/or accessory device is anticipated, one or more of the following regulator expansion kits must be acquired:

Regulator Expansion Kits

Part Number	Description
004-33601-00	Regulator Expansion Kit (2 outlet, 1000 psi maximum). This kit contains one T fitting, two vacuum rated shutoff valves, and other necessary hardware. This expansion kit allows gas to be provided to two inlets.
004-33601-01	Regulator Expansion Kit (3 outlet, 1000 psi maximum). This kit contains one cross fitting, three vacuum rated shutoff valves, and other necessary hardware. This expansion kit allows gas to be provided to three inlets.

LABORATORY EQUIPMENT AND SUPPLIES

ANALYSIS EQUIPMENT AND SUPPLIES

Since the analysis results are expressed in units of surface area per gram of sample, the true mass of the sample must be known. This requires an analytical balance with the capability of 100 grams measurement and 0.1 mg readability.

In order to obtain accurate analysis results, the sample tubes must be clean. The following items are suggested for cleaning sample tubes:

- Alconox or similar laboratory detergent
- Balance for weighing sample
- Brush
- Clean, dry compressed air or dry nitrogen
- Drying oven
- Isopropyl alcohol
- Sink
- Small plastic tub for detergent solution
- Ultrasonic bath

For chemisorption units, a separate supply of dry, clean, oil-free compressed air should be available for furnace cooling.

3 PRE-INSTALLATION CHECKLISTS

For each question, circle **Y** if the condition applies to your laboratory or **N** if it does not. When this *Pre-installation Checklist* has been completed, see *Dates and Signatures on page 4 - 1*. Sign and date the form, then send it along with all completed checklists to Micromeritics.

UNPACKING AND INSPECTION CHECKLIST

Unpacking and Inspection			Initial / Date
Have the shipping cartons been unpacked and their contents inspected?	**Y**	**N**	
Was there any shipping damage?	**Y**	**N**	
▪ If **Yes**, has a claim been filed with the freight carrier?	**Y**	**N**	
Were all items on the packing list received?	**Y**	**N**	
▪ If **No**, has Micromeritics been notified?	**Y**	**N**	

INSTRUMENT SPACE CHECKLIST

Analyzer Space			Initial / Date
Will there be adequate space to easily access the gas lines, power supply lines, and sufficient clearance for maintenance and inspection?	**Y**	**N**	

INSTALLATION CONFIGURATION CHECKLIST

Gas and Gas Supply Lines			Initial / Date
Will 1/8 in. copper gas supply lines (supplied with the analyzer for standard installation) be used?	**Y**	**N**	
■ If **No**, have 1/8 in. stainless steel gas supply lines been ordered and received from Micromeritics?	**Y**	**N**	

ENVIRONMENTAL FACTORS CHECKLIST

Environmental Factors			Initial / Date
Is power available with the correct voltage and frequency, and a safety earth ground?	**Y**	**N**	
Are temperature and humidity controlled within specifications?	**Y**	**N**	
Are hazards present or precautions necessary in area of installation?	**Y**	**N**	
■ If **Yes**, please explain:			
Are safety measures required?	**Y**	**N**	
■ If **Yes**, please explain:			

GAS SUPPLY CHECKLIST

Gas Supply			Initial / Date
Are gas cylinders located within 6 ft (2 m) of where the instrument will be installed?	**Y**	**N**	
Were gas regulators purchased from Micromeritics?	**Y**	**N**	
■ If **No**, do your gas regulators meet Micromeritics' specifications?	**Y**	**N**	

Required Gases			Initial / Date
Are the following **required** gases available? The installation will not be scheduled until these gases are available:			
(CGA 580) H_2 99.999%	**Y**	**N**	
(CGA 580) He 99.999%	**Y**	**N**	
(CGA 580) Ar 99.999%	**Y**	**N**	

Pulse Chemisorption				Initial / Date
(CGA 350) 10% H_2 in Argon	99.999%	**Y**	**N**	
(CGA 350) 10% CO in Helium	99.999%	**Y**	**N**	

Optional Gases				Initial / Date
(CGA 540) 10% O_2 in Helium	99.999% for TPO analysis	**Y**	**N**	
(CGA 580) 30% N_2 in Helium	99.999% for BET analysis	**Y**	**N**	

Additional Gases	
Additional gases for use after installation can be connected by the Micromeritics Service Representative. Please list any gases that will be available for connection during installation.	
Initial / Date	

COMPUTER SYSTEM CHECKLIST

			Initial / Date
Was the computer purchased from Micromeritics?	**Y**	**N**	
■ If **No**, does the computer meet Micromeritics' minimum requirements?	**Y**	**N**	
Will the computer be connected to the local network?	**Y**	**N**	
■ If **Yes**, will two Ethernet ports be available during the installation?	**Y**	**N**	
Will there be more than one Micromeritics Ethernet based analyzers connected to this computer?	**Y**	**N**	
■ If **Yes**, will an Ethernet switch be available during the installation?	**Y**	**N**	
Will the Micromeritics Service Engineer have Administrator rights to the computer?	**Y**	**N**	
■ If **No**, will an IT representative be available?	**Y**	**N**	
All application users are required to have read/write permission to all directories and subdirectories where the application is installed. Will these permissions be set prior to installation?	**Y**	**N**	

Laboratory Equipment and Supplies Checklist

Laboratory Equipment and Supplies			Initial / Date
Are sufficient quantities of liquid nitrogen available?	Y	N	
Are sufficient quantities of isopropyl alcohol available?	Y	N	
Is a balance available for weighing samples?	Y	N	
Is a drying oven or sample degasser available?	Y	N	
Is oil and moisture free house compressed air available, regulated at pressures of approximately 20 psig?	Y	N	

Application Related Issues Checklist

Application Related Issues			Initial / Date
What types of samples will be tested?			
Initial / Date:			
Will these samples require pretreatment?	Y	N	
Will any application assistance from Micromeritics Particle Testing Authority be required?	Y	N	

PERSONNEL SECURITY CLEARANCE CHECKLIST

Security Clearance		
Are there any special arrangements required concerning security clearance?	**Y**	**N**
■ If **Yes**, please explain:		
Initial / Date:		

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4 DATES AND SIGNATURES

All checklists and this completed form should be returned only if Micromeritics will be performing this installation.

PROJECTED INSTALLATION DATE

This is not a commitment for a specific installation date. After reading the site preparation requirements in this document, enter a date your site will be prepared and a preferred date for installation. After returning the checklist and signed form to Micromeritics, your Micromeritics representative will contact you to confirm an installation date.

When would installation be most convenient? Date: _____/_____/_____

COMMITMENT STATEMENT AND SIGNATURE FORM

I have read this document and understand my responsibilities regarding preparations for the installation of our analysis system. I believe this site is ready for the system to be installed.

Signature:		Date:
Name (Printed):		
Title (Printed):		
Company:		
City / State / Zip:		
Phone Number:		Fax Number:
E-mail:		
Analyzer:	Model:	Serial No.:

Is the Customer Representative also the End User? **Yes** _____ **No** _____

RETURN THE COMPLETED CHECKLIST AND FORMS TO:

Micromeritics Instrument Corporation
ATTN: Service
4356 Communications Drive
Norcross, GA / USA / 30093-2901

Email: Service.Helpdesk@MalvernPanalytical.com

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EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Micromeritics Instrument Corporation
4356 Communications Drive
Norcross, GA 30093, USA

Hereby declares that the product:

ChemiSorb Auto

is in conformity with the following **EU harmonization legislation**:

2014/35/EU - LVD Directive
2014/30/EU - EMC Directive
2011/65/EU - RoHS Directive

and that the equipment is in conformity with the following harmonized and other appropriate standards;

2014/35/EU (LVD)
IEC 61010-1:2010/A1:2016 - *Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements.*
IEC 61010-2-010:2019 - *Particular requirements for laboratory equipment for the heating of materials.*
IEC 61010-2-081:2019 - *Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes*

2014/30/EU (EMC)
IEC 61326-1:2020 Ed.3 - *Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements*
IEC 61000-3-2:2018 /AMD1:2020 - *Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*
IEC 61000-3-3:2013 - *Part 3-3: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection*

2011/65/EU (RoHS)
EN 63000:2018 - *Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances*

Name: John McCaffrey, Ph.D.

Title: Vice President, R & D

Signature: _____

Date of issue: 10/22/2025

Location: Norcross, GA USA

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UK DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Micromeritics Instrument Corporation
4356 Communications Drive
Norcross, GA 30093, USA

Hereby declares that the product:

ChemiSorb Auto

is in conformity with the following UK legislation:

Electrical Equipment (Safety) Regulations 2016
Electromagnetic Compatibility Regulations 2016
Restriction of the Use of Certain Hazardous Substances in E&E Equipment Regulations 2012

and that the equipment is in conformity with the following designated and other appropriate standards;

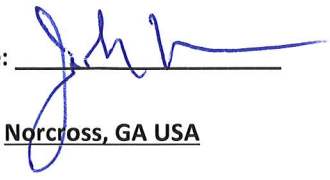
Electrical Equipment (Safety) Regulations 2016
IEC 61010-1:2010//AMD1:2016 - *Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements.*
IEC 61010-2-010:2019 - *Particular requirements for laboratory equipment for the heating of materials.*
IEC 61010-2-081:2019 - *Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes*

Electromagnetic Compatibility Regulations 2016
IEC 61326-1:2020 - *Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements*
IEC 61000-3-2:2019 - *Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*
IEC 61000-3-3:2013 - *Part 3-3: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection*

Restriction of the Use of Certain Hazardous Substances in E&E Equipment Regulations 2012
EN 63000:2018 - *Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances*

Name: John McCaffrey, Ph.D.

Title: Vice President, R & D

Signature: 

Date of issue: 10/22/2025

Location: Norcross, GA USA