

GEMINI[®] VII 2390

SURFACE AREA ANALYZER

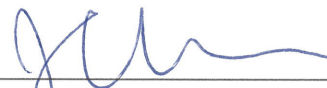


This Operator Training Checklist was reviewed and approved by:


Senior QC Auditor


Director, Marketing


Director, Global Service


Technical Director

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OPERATOR TRAINING CHECKLIST

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CORPORATE PROFILE

Micromeritics Instrument Corporation is the world's leading supplier of high-performance systems to characterize particles, powders and porous materials with a focus on physical properties, chemical activity, and flow properties. Our technology portfolio includes: pycnometry, adsorption, dynamic chemisorption, particle size and shape, intrusion porosimetry, powder rheology, and activity testing of catalysts. The company has R&D and manufacturing sites in the USA, UK, and Spain, and direct sales and service operations throughout the Americas, Europe, and Asia. Micromeritics systems are the instruments-of-choice in more than 10,000 laboratories of the world's most innovative companies, prestigious government, and academic institutions. Our world-class scientists and responsive support teams enable customer success by applying Micromeritics technology to the most demanding applications. For more information, please visit www.Micromeritics.com.

CONTACT US

Micromeritics Instrument Corporation

4356 Communications Drive
Norcross, GA / USA / 30093-2901
Phone: 1-770-662-3636
Fax: 1-770-662-3696
www.Micromeritics.com

Instrument Service or Repair

Phone: 1-770-662-3666
International — contact your local distributor or call 1-770-662-3666
Service.Helpdesk@Micromeritics.com

Micromeritics Learning Center

Phone: 1-770-662-3607
www.Micro.edu

1. OVERVIEW

This document contains a checklist to be used for training of Gemini VII system operators in standard and 21 CFR Part 11 (Confirm) environments. In each of the sections, place a check mark next to the items that were shown and discussed.

Standard and 21 Cfr Part 11 Users Only

Sections	Standard Users	Confirm Users
Overview	✓	✓
Orientation - Standard and 21 CFR Part 11 Users on page 2	✓	✓
Confirm Administrators on page 10		✓
Verification on page 12	✓	✓

Keypad Only Users

Sections
Overview
Orientation - Gemini 2390 Keypad on page 7
Verification on page 12

2. ORIENTATION - STANDARD AND 21 CFR PART 11 USERS

- _____ 1. General safety
- _____ 2. Table of contents and appendices
- _____ 3. Manual organization and conventions
- _____ 4. Equipment description
- _____ 5. Power up and power down sequence
- _____ 6. Analyzer and cable connections
- _____ 7. Purging of gas lines
- _____ 8. Sample tube choice, cleaning, handling, and assembly
- _____ 9. Trainee prepared sample tube
- _____ 10. Degasser connection (if applicable)
- _____ 11. Degas system
- _____ 12. Loading samples onto degas system
- _____ 13. Trainee allowed to load sample
- _____ 14. Menu structure
- _____ 15. Mouse and keyboard usage
- _____ 16. Trainee allowed time to become familiar with software operation
- _____ 17. Unit configuration
- _____ 18. Help menu
- _____ 19. Libraries

METHODS CREATION

- _____ 1. Methods creation
- _____ 2. Methods used in sample information files

SAMPLE FILE AND PARAMETER FILE CREATION

Standard Environments and Confirm Developers

- _____ 1. File menu and sample information file structure
- _____ 2. Sample information file
- _____ 3. Sample tube file
- _____ 4. Degas conditions file
- _____ 5. Analysis conditions file
- _____ 6. Adsorptive properties file
- _____ 7. Report options file
- _____ 8. Available reports

Confirm Analysts

- _____ 1. File menu and sample information file structure in Basic option presentation
- _____ 2. Sample information file
- _____ 3. Sample tube file
- _____ 4. Degas conditions file
- _____ 5. Analysis conditions file
- _____ 6. Adsorptive properties file
- _____ 7. Report options file
- _____ 8. Available reports

SAMPLE ANALYSIS

- _____ 1. Sample loaded onto degasser and degassing started
- _____ 2. Degassed sample unloading
- _____ 3. Sample tube installation
- _____ 4. Starting and viewing analysis
- _____ 5. Indicators, prompts, and valves
- _____ 6. Effect of alternative analysis conditions
- _____ 7. Adsorption dosing and equilibration
- _____ 8. Screen reporting of analysis in progress

ANALYSIS REPORTS

- _____ 1. Interactive reports
- _____ 2. Starting default reports
- _____ 3. Changing sample file report options
- _____ 4. Surface area and t-plot calculation adjustment
- _____ 5. User-defined reports
- _____ 6. Printed reports
- _____ 7. Example reports
- _____ 8. Calculations (internet location)

OPTIONS MENU

- _____ 1. *Options* menu
- _____ 2. Presentation display options
- _____ 3. Default method
- _____ 4. Manage libraries
- _____ 5. Units of measurement selections
- _____ 6. Graph options
- _____ 7. Service mode

TROUBLESHOOTING AND MAINTENANCE

- _____ 1. Error messages (internet location)
- _____ 2. Preventive maintenance procedures
- _____ 3. Analysis port filter replacement
- _____ 4. Reference material analysis details and analysis frequency
- _____ 5. Connecting gas cylinders
- _____ 6. Instrument calibration
- _____ 7. Diagnostics

RETURNED GOODS AND PARTS ORDERING

- _____ 1. Returned goods policy
- _____ 2. Parts and accessories

WARRANTY STATEMENT

- _____ 1. Warranty policy

3. ***ORIENTATION - GEMINI 2390 KEYPAD***

- _____ 1. General safety
- _____ 2. Table of contents and appendices
- _____ 3. Manual organization and conventions
- _____ 4. Equipment description
- _____ 5. Power up and power down sequence
- _____ 6. Analyzer and cable connections
- _____ 7. Purging of gas lines
- _____ 8. Sample tube choice, cleaning, handling, and assembly
- _____ 9. Trainee prepared sample tube
- _____ 10. Degasser connection (if applicable)
- _____ 11. Degas system
- _____ 12. Loading samples onto degas system
- _____ 13. Trainee allowed to load sample
- _____ 14. Keypad usage
- _____ 15. Trainee allowed time to become familiar with keypad operation

OPERATIONAL PROCEDURES

- _____ 1. Set Up groups
- _____ 2. Prepare for analysis
- _____ 3. Start analysis
- _____ 4. Analysis results
- _____ 5. Measure saturation pressure
- _____ 6. Cancel automatic operation
- _____ 7. Data results

COMMAND PROMPTS

- _____ 1. Set up commands
- _____ 2. Analyze functions
- _____ 3. QuickStart
- _____ 4. Review functions
- _____ 5. P₀ command
- _____ 6. Print and transmit
- _____ 7. Manual operations

DIAGNOSTICS

- _____ 1. Unit configuration
- _____ 2. Adsorptive line test and helium line test
- _____ 3. System check
- _____ 4. Zero test

TROUBLESHOOTING

- _____ 1. Parts and accessories
- _____ 2. Power
- _____ 3. Safe servicing
- _____ 4. Connecting gases
- _____ 5. Reference analysis
- _____ 6. Preventive maintenance

QUESTIONS

_____ All questions on operation resolved? (Enter **Yes** or **No**.)

If **No**, use the available space to document the question, then forward to the appropriate personnel at Micromeritics for resolution.

4. CONFIRM ADMINISTRATORS

GROUPS AND USER ACCOUNTS

- _____ 1. Enter Confirm user accounts
- _____ 2. Modify Confirm user accounts
- _____ 3. Create Confirm groups
- _____ 4. Add Confirm members to groups

LOCK AND UNLOCK THE APPLICATION

- _____ 1. Lock and unlock the application

PASSWORD ADMINISTRATION

- _____ 1. Change password settings

QUESTIONS

_____ All questions on operation resolved? (Enter **Yes** or **No**.)

If **No**, use the available space to document the question, then forward to the appropriate personnel at Micromeritics for resolution.

5. VERIFICATION

_____ All items on the Operator Training Checklist completed? (Enter **Yes** or **No**)

Name of trainer: _____

Date of training: _____

Company address: _____

Analyzer name: _____

Analyzer serial number: _____

The following section is to be completed by the primary operator trained during this session.
Please complete to acknowledge that installation training has been carried out to your satisfaction.

Operator verifying completion of training: _____

Date signed: _____

Operator's title: _____

Operator's phone number: _____