

FLEXTM SERIES

SURFACE AND CATALYST CHARACTERIZATION ANALYZER



This Operator Training Checklist was reviewed and approved by:


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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.

DOCUMENT REVISION HISTORY

REV	ECN #	Description of Change	Checked By	Date
-	130001	Formal Release	E. Schreter	04/02/2013
A	130595	Revised and Redrawn	M. Austin	04/04/2015
B	150381	Added 3Flex Share	E. Schreter	07/29/2015
C	160111	Added TCD support	E. Schreter	05/30/2016
D	180262	Added 21CFR11 support	M. Austin	10/01/2018
E	210085	Revised per portfolio review. Removed 3Flex Share	<i>M. GA</i>	5/21/2021

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1. OVERVIEW

This document contains a checklist to be used for training of Flex 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.

Sections	Standard Users	Confirm Users
Overview	✓	✓
Orientation - Standard and 21 CFR Part 11 Users on page 2	✓	✓
Orientation - Gemini 2390 Keypad on page 1		
Confirm Administrators on page 8		✓
Verification on page 10	✓	✓

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

PHYSISORPTION

- _____ 1. Sample loaded onto degasser and degassing started
- _____ 2. Degassed sample unloading
- _____ 3. In situ degassing
- _____ 4. Sample tube installation
- _____ 5. Starting and viewing analysis
- _____ 6. Indicators, prompts, and valves
- _____ 7. Effect of alternative analysis conditions
- _____ 8. Adsorption dosing and equilibration
- _____ 9. Screen reporting of analysis in progress
- _____ 10. Vapor analysis

STATIC CHEMISORPTION

- _____ 1. Sample tube installation
- _____ 2. Install chemisorption hardware components
- _____ 3. Starting and viewing analysis
- _____ 4. Indicators, prompts, and valves
- _____ 5. Effect of alternative analysis conditions
- _____ 6. Adsorption dosing and equilibration
- _____ 7. Screen reporting of analysis in progress

DYNAMIC CHEMISORPTION

- _____ 1. Cold trap installation
- _____ 2. Starting and viewing analysis
- _____ 3. Indicators, prompts, and valves
- _____ 4. Effect of alternative analysis conditions

- _____ 5. Screen reporting of analysis in progress
- _____ 6. Overlay Experiment View, Stacked Experiment View, and Peak Editor

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

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.

3. 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

4. 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: _____