

SURFACE AND CATALYST CHARACTERIZATION ANALYZER



This Operator Training Checklist was reviewed and approved by:

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OPERATOR TRAINING CHECKLIST



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
Α	130595	Revised and Redrawn	M. Austin	04/04/2015
В	150381	Added 3Flex Share	E. Schreter	07/29/2015
С	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	m. ak	5/21/2021
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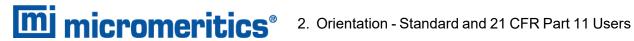
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1. OVERVIEW

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
МЕТНОД	S 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 A	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 C	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
Analysi	s R EPORTS
	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)
O PTIONS	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
TROUBLE	ESHOOTING AND MAINTENANCE
	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 calibration7. Diagnostics		
RETURNE	ED 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 AN	TO UNLOCK THE APPLICATION 1. Lock and unlock the application				
P ASSWO	RD ADMINISTRATION				



QUESTIONS				
All questions on operation resolved? (Enter Yes or No .)				
f No , use the available space to document the question, then forward to the appropriate personnel at Micromeritics for resolution.				



4. VERIFICATION

All items or	n the Operator T	raining Check	dist completed	d? (Enter Yes d	or No)
Name of trainer:					
Date of training:					
Company address:					
Analyzer name:					
Analyzer serial number:					
The following section is to Please complete to acknowledge.			-	-	
Operator verifying comple	etion of training:				
Date signed:					
Operator's title:					
Operator's phone number	r:				