

# TRISTAR<sup>®</sup> II PLUS


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SURFACE AREA AND POROSITY 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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(Rev C)

## ***CORPORATE PROFILE***

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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](http://www.Micromeritics.com).

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**DOCUMENT REVISION HISTORY**

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<b>REV</b>	<b>ECN #</b>	<b>Description of Change</b>	<b>Checked By</b>	<b>Date</b>
-	130001	Formal Release	E. Schreter	10/08/2013
A	180221	Revised and Redrawn	M. Austin	08/20/2018
B	200184	Added General Safety. Removed references to MicroActive	M. Austin	02/08/2021
C	210187	Removed references to chemisorption	<i>M. Austin</i>	11/4/2021

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## ***CONTACT US***

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### **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](http://www.Micro.edu)

## 1. OVERVIEW

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This document contains a checklist to be used for training of TriStar II Plus 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	✓	✓
<a href="#"><u>Orientation - Standard and 21 CFR Part 11 Users on page 2</u></a>	✓	✓
<a href="#"><u>Orientation - Gemini 2390 Keypad on page 1</u></a>		
<a href="#"><u>Confirm Administrators on page 7</u></a>		✓
<a href="#"><u>Verification on page 9</u></a>	✓	✓

## ***2. ORIENTATION - STANDARD AND 21 CFR PART 11 USERS***

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- \_\_\_\_\_ 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

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## ***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

**PHYSISORPTION**

- \_\_\_\_\_ 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
- \_\_\_\_\_ 9. Vapor analysis

**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 test 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.

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### **3. CONFIRM ADMINISTRATORS**

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#### **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

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\_\_\_\_\_ 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: \_\_\_\_\_