

ASAP[®] 2020 SERIES

ACCELERATED SURFACE AREA AND POROSIMETRY SYSTEM



micromeritics[®]

**Effective Solutions for
Material Characterization**

ERROR MESSAGES

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CORPORATE PROFILE

Micromeritics Instrument Corporation is a leading global provider of solutions for material characterization with best-in-class instrumentation and application expertise in five core areas: density; surface area and porosity; particle size and shape; powder characterization; and catalyst characterization and process development. Founded in 1962, the company is headquartered in Norcross, Georgia, USA and has more than 300 employees worldwide. With a fully integrated operation that extends from a world class scientific knowledge base through to in-house manufacture, Micromeritics delivers an extensive range of high-performance products for academic research and industrial problem-solving. The implementation of tactical partnerships to incubate and deliver valuable new technologies exemplifies the company's holistic, customer-centric approach which extends to a cost-efficient contract testing laboratory – the Particle Testing Authority (PTA). The strategic acquisitions of Freeman Technology Ltd and Process Integral Development S.L. (PID Eng & Tech) reflect an ongoing commitment to optimized, integrated solutions in the industrially vital areas of powders and catalysis.

Freeman Technology (Tewkesbury, UK) brings market-leading powder characterization technology to Micromeritics' existing portfolio of particle characterization techniques. The result is a suite of products that directly supports efforts to understand and engineer particle properties to meet powder performance targets. With over 15 years of experience in powder testing, Freeman Technology specializes in systems for measuring the flow properties of powders. In combination with detailed application know-how these systems deliver unrivalled insight into powder behavior supporting development, formulation, scale-up, processing and manufacture across a wide range of industrial sectors.

PID Eng & Tech (Madrid, Spain) complements Micromeritics' renowned offering for catalyst characterization with technology for the measurement and optimization of catalytic activity, with a product range that extends to both standard and bespoke pilot scale equipment. Launched in 2003, PID Eng & Tech is a leading provider of automated, modular microreactor systems for the detailed investigation of reaction kinetics and yield. These products are supported by a highly skilled multidisciplinary team of engineers with in-depth expertise in the design, construction and operation of laboratory units and process scale-up.

The Particle Testing Authority (PTA) provides material characterization services for fine powders and solid materials using Micromeritics' instrumentation alongside complementary solutions from other vendors. With the certification and expertise to operate across a wide range of industries the PTA offering runs from single sample analysis to complex method development, method validation, new product assessment, and the analytical support required for large scale manufacturing projects. An experienced, highly trained team of scientists, engineers, and lab technicians works closely with every client to ensure that all analytical requirements are rapidly and responsively addressed.

Micromeritics has a strong global network with offices across the Americas, Asia, and Europe complemented by a dedicated team of distributors in additional locations. This ensures that local, knowledgeable support is available for every customer, in academia or industry. Micromeritics works across a truly diverse range of industries from oil processing, petrochemicals and catalysts, to food and pharmaceuticals, and at the forefront of characterization technology for next generation materials such as graphene, metal-organic-frameworks, nanocatalysts, and zeolites. Engineering solutions that work optimally for every user is a defining characteristic of the company.

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ERROR MESSAGES

If the *Action* response indicates to contact a Micromeritics service representative, record the error message, then make backup copies of any files involved in the operation.

1023 Preparation failed in primary data.

Cause: The data preparation failed for a report for either the selected sample file or an overlay used by the report

Action: If this message references an overlay file, the report may still be printed for the selected sample file.

1026 Calculations failed for [n] overlay data.

Cause: Calculations failed for overlays in the BJH report.

Action: Continue printing the report for the primary data.

1026 Calculations failed for [n] primary data.

Cause: Calculations failed for the selected sample file in the BJH report.

Action: Select a different sample file.

1043 Isotherm calculation called with no points available.

Cause: Not enough valid data points are available for the Isotherm report.

Action: Select a different sample file.

1043 Fewer than 2 points available for [n] calculations.

Cause: Calculations failed for overlays in the BJH report.

Action: Continue printing the report for the primary data.

1044 No [n] reports. Fewer than 2 points meet [n] criteria.

Cause: Not enough data points are found with pressures and volumes Adsorbed monotonically increasing (adsorption) or monotonically decreasing (desorption) for the BJH report.

Action: Select a different sample file.

2401 FATAL ERROR.

Cause: An internal processing and/or hardware error has occurred during communication with the analyzer.

Action: Contact your Micromeritics Service Representative.

2420 Invalid defaults. Program will terminate.

Cause: The application .ini file is missing or invalid.

Action: Re-install the application from the installation media.

2421 Invalid file subsystem. Program will terminate.

Cause: The application could not read the default method files.

Action: Delete the default method files and restart the application

2430 Error accessing file [n], error code = [n].

Cause A: Media may be damaged.

Action A: Clean the media drive. If this does not eliminate the problem, attempt operation using a backup copy of the file.

Cause B: Hard disk may be damaged.

Action B: Contact your Micromeritics Service Representative.

Cause C: An application error occurred when the file was accessed.

Action C: Contact your Micromeritics Service Representative.

Cause D: The file name specified contains one or more invalid characters.

Action D: Enter a valid file name. Do not use characters such as * or ?. Refer to the operating system manual.

2431 Error writing file [n], error code = [n].

Cause A: User logged onto a computer that does not have Write permissions.

Action A: Contact your IT department to change user permissions.

Cause B: Insufficient hard disk space to perform the operation.

Action B: Copy files not used regularly to an external media. Delete them from the hard disk, and then try the operation again.

2432 Invalid response from MMI 'FILE_READ' request.

Cause: An internal processing and/or hardware error has occurred.

Action: Contact a Micromeritics service representative if this error message continues.

2433 New entries have been found in this directory. Refresh the directory information?

Cause: Several analyzer files have been added to this directory by some function other than the analysis application.

Action: Click **Yes** to update the directory information with data from each new file. This operation may take a minute. Click **No** to locate the file manually. This option may be feasible if a large number of files have been copied into the directory and the file name is known.

2434 File [n] — Subset [n] wrote wrong [n] of data, expected [n] bytes.

Cause: An internal processing and/or hardware error has occurred.

Action: Contact your Micromeritics Service Representative.

2436 Path specification [n] is invalid.

Cause: An invalid path name and/or extension was entered.

Action: Enter a valid path name (including the proper extension), then press **Enter**.

2437 File name [n] does not exist.

2437 Overlay file [n] does not exist.

Cause: The file selected in the report option does not exist.

Action: Enter an existing file specification, or select a file name from the list box.

2438 Cannot open scheduling diagnostic data save file: [n].

Cause: The file necessary for **Unit [n] > Diagnostics > Schedule Diagnostic Test (...\\Hardware\\scheddiagtests.dat)** could not be read. It is likely corrupted.

Action: Exit the application. Delete or rename the file mentioned in the error message and restart the application. A new file will be created. Also ensure that the hardware directory is not write-protected.

2438 Disk drive [n] is inaccessible.

2439 Could not register file.

2440 Subset not found.

- 2441** Seek within file failed.
- 2442** Bad header in subset file.
- 2443** Subset owner denied access.
- 2444** Not a valid file format.
- 2445** Subset wrote the wrong amount of data.
- 2446** Error reading data.
- 2447** Error writing data.

Cause: An unexpected error occurred when trying to access a data file.

Action: Contact your Micromeritics Service Representative.

- 2448** The library directory [n] does not exist. Please re-install to make use of Windows libraries for file management.
- 2448** The library directory [n] cannot be used. Please re-install to make use of Windows libraries for file management.

Cause: The .INI file contains the directory specified in the error message, however, the directory has been moved or deleted.

Action: The installation directory will be substituted. The next time a file is opened, use the directories list to move to the correct directory.

- 2448** File directory [n] is invalid. Resetting to the installation directory.
- 2448** Default sample file directory [n] is invalid. Resetting to the installation directory.
- 2448** Default convert sample file directory [n] is invalid. Resetting to the installation directory.
- 2448** Default parameter file directory [n] is invalid. Resetting to the installation directory.
- 2448** Default Adsorptive Properties directory [n] is invalid. Resetting to the installation directory.
- 2448** Default report options directory [n] is invalid. Resetting to the installation directory.
- 2448** Basic-Mode default parameter file directory [n] is invalid. Resetting to the installation directory.
- 2448** The reference file directory [n] cannot be used. Resetting to the installation directory.
- 2448** The export data file directory [n] cannot be used. Resetting to the installation directory.

- 2448** The z-table file directory [n] cannot be used. Resetting to the installation directory.
- 2448** Problem diagnostic directory [n] is invalid. Resetting to the installation directory.
- 2448** User python script directory [n] is invalid. Resetting to the installation directory.
- 2448** Default script test file directory [n] is invalid. Resetting to the installation directory.
- 2448** Default mass spectrometer file directory [n] is invalid. Resetting to the installation directory.
- Cause:* A working directory specified in the .INI file is invalid, has been moved or deleted.
- Action:* The installation directory will be substituted. The next time a file is opened, use the directories list to move to the correct directory.
- 2449** This field does not contain a valid file specification.
- Cause:* An invalid file name was entered.
- Action:* See the description of file naming conventions in a Windows manual, then re-enter the name.
- 2450** Sample Defaults may not be edited while this operation is in progress. Do you wish to save and close the Sample Defaults edit session?
- Cause:* An automatic analysis (an analysis in which sample files are created using the defaults) was processing while editing the defaults.
- Action:* Finish the edit session of the defaults, close the window, then restart the automatic analysis.
- 2451** The specified folder does not exist.
- Cause:* Path entered in the file selector does not exist.
- Action:* Enter the correct file path, or browse for the correct file path.
- 2452** The instrument is busy performing an operation of which this application is unaware. Do you want to cancel?
- Cause:* The analyzer is performing an operation which is not recognized by the application.
- Action:* Click **Yes** to have the application cancel the operation. Click **No** to allow the operation to continue.

2456 Insufficient file handles available. Application cannot continue.

Cause: More than 50 files are open at the same time.

Action: Refer to a Windows operating system manual then set the limit for open files to 50 or greater. Alternatively, close any unused open files.

2458 An instrument is performing a critical operation. Wait a few moments before exiting the application.

Cause: An attempt was made to exit the application while the analyzer was performing a critical operation. This operation must be completed before the application can be exited.

Action: Wait a short time and attempt to exit the application again.

2459 An instrument is busy. A delay in restarting this application could result in loss of new data. Continue with program Exit?

Cause: An attempt was made to exit the application while an analysis was in progress. While this is possible, the data collected when the application is inactive will not be permanently recorded until the application is restarted. A power failure to the analyzer could cause some data to be lost. Continued data collection may also exhaust the memory of the controller.

Action: If not concerned with the potential for loss of data should a power failure occur, click **Yes** to continue; otherwise, click **No**.

2460 Fatal Communications error on [n].

Cause: There was a fatal error in communication between the application and the software in the analyzer. All displays for that analyzer will be closed.

Action: Ensure that the analyzer is connected to the computer on the communications port configured in the *Setup* program. Stop and restart the analyzer application. Contact your Micromeritics Service Representative.

2461 No instruments are in operation. This application will unconditionally terminate.

Cause: At least one analyzer must be active for the application to operate. The initialization of all analyzers configured with the *Setup* program has failed. The application stops.

Action A: Usually this message is preceded by another message giving the reason for the analyzer's failure to initialize. Refer to the instructions for that message.

Action B: Ensure that the analyzer is attached to the computer on the communications port configured with the *Setup* program. Verify that the analyzer's power switch is in the ON position and that the light on the front panel is illuminated. Contact a Micromeritics service representative if this error message continues.

2471 [n] has an invalid communications port specified. It cannot be initialized.

Cause: The communications port specified for this analyzer during installation (or configuration) is invalid.

Action: Use the *Setup* program to change the analyzer configuration.

2474 [n] communications port [n] specified in the program control files is already in use. Unit cannot initialize.

Cause: The communications port assigned to the indicated unit is in use by another program.

Action: End the program using the busy port or use the *Setup* program to change the communications port assigned to this program.

2475 [n] communications port [n] specified in the program control files cannot be accessed. Unit cannot initialize.

Cause: The operating system has prevented the application from accessing the communications port.

Action: Review the hardware configuration of the computer. Ensure no other application is using the port. Contact a Micromeritics service representative if this error message continues.

2476 [n] startup failed. Cannot initialize the communications port.

Cause: The communications port specified during installation is invalid.

Action: Use the *Setup* program to change the analyzer configuration. Contact a Micromeritics service representative if this error message continues.

2477 [n] did not properly initialize.

Cause: The application was unable to initialize this analyzer. This is usually caused by one of the conditions listed in the previous error messages.

Action A: Run the *Setup* program and ensure that a valid port is specified; if not, specify a valid one when prompted.

Action B: Reinstall the application, then restart the application.

Action C: Contact a Micromeritics service representative if this error message continues.

2478 Error copying sequential data segment.

Cause: An internal processing and/or hardware error occurred while accessing a portion of a sample file.

Action: Confirm that the media being accessed does not contain errors. Contact your Micromeritics Service Representative.

2479 Cannot open [n] because it is a [n] file.

Cause: The file cannot be opened because it came from a different Micromeritics application

Action: Select a different file.

2480 File [n] cannot be analyzed. It is currently being edited.

Cause: An attempt was made to start an analysis using a file that is open for editing.

Action: Finish editing the file, save and close it, then start the analysis.

2481 Error accessing the sample information file [n].

Cause A: An unexplained error prevented access to this file.

Action A: The hard disk drive may be corrupt. Run diagnostics.

Cause B: An attempt was made open a file that is already open, possibly minimized.

Action B: View the minimized icons, locate and maximize the file.

Cause C: A computer or network problem occurred.

Action C: Check the performance of the computer devices or network.

2482 File cannot be opened for writing.

Cause: An attempt was made to open a file currently being used.

Action: Locate the application using the file. In the Micromeritics application, use the *Window* menu item for a list of all open windows.

2483 An analysis cannot be performed on [n]. It is open for editing and contains errors.

Cause: An attempt was made to use a sample file containing errors that is currently open.

Action: Go to the window containing the file, correct the errors, then save it.

2484 The edit session for [n] must be saved before the analysis. Save changes and continue with the analysis?

Cause: An attempt was made to start an analysis using a file that contains unsaved changes and is open for editing.

Action: Click **Yes** to save the changes, then proceed with the analysis. Click **No** to cancel the analysis, then continue editing the sample file.

2485 **The sample file [n] has an invalid status and cannot be used for this operation.**

2485 **The service test file has an invalid status and cannot be used for this analysis.**

Cause: The selected file has a status other than *No Analysis*.

Action: Select a file, or create a new one and click **Replace All** to copy parameters from the file originally selected.

2486 **Could not construct [n] report type. Program will terminate.**

2487 **Could not start report generator. Error code [n]. Program will terminate.**

Cause A: Full rights to the application's folders and files is required.

Action A: Contact a system administrator to have full rights granted.

Cause B: An internal processing and/or hardware error has occurred.

Action B: Contact your Micromeritics Service Representative.

2488 **File [n] cannot be opened for editing.**

Cause: The specified file is open for editing.

Action: Check the *Window* menu item to locate the other edit session.

2489 **File [n] cannot be opened for writing.**

Cause: The specified file in a *Save As* operation is open.

Action: Select a different file for the *Save As* operation.

2490 **No '.INI' file present. Application will terminate.**

Cause: The ASCII .INI file containing initialization information and system options information used during program startup does not exist.

Action: Restore the .INI file from back-up, or re-install the application.

2491 **Highlighted fields contain errors. Please correct the errors before closing.**

Cause: The fields highlighted in red contain invalid entries. The window cannot be closed until all errors are corrected.

Action: Check the entries, correct the errors, then close the window.

2492 This field's entry is invalid.

2493 An entry is required for this field.

Cause: The highlighted field contains an invalid entry.

Action: Check the entry and correct the error.

2494 Value is out of the valid range.

2495 Enter a value between [n] and [n].

Cause: The entered value in the highlighted field is outside the valid range of values.

Action: Check the entry, then either enter or select an appropriate value. The valid range is shown in the information bar.

2496 Invalid number.

2497 This field contains an invalid character.

Cause: An invalid number (or character) was entered in the highlighted field.

Action: Check the entry, then either enter or select a valid number (or character).

2498 The requested change to the Sample's status is invalid at this time.

Cause: A request to change the file status, for example, from *automatically collected* to *manually entered* could not be done.

Action: Contact your Micromeritics Service Representative. Record the name of the same file in which the problem occurred.

2499 Sequence number must contain at least 3 digits.

Cause: An attempt was made to enter a sequence number that did not contain at least three digits.

Action: Enter a sequence number that contains at least three digits.

2500 All sample file names that can be created using the sequence number pattern already exist. You may want to modify the next sequence number.

Cause: No more sample files can be created using the currently entered file name sequence number.

Action: Go to **Options > Default Method**, then enter another sequence number.

2501 System resources have reached a dangerously low level. Please close some windows to avoid the loss of data.

Cause: A large number of windows are open and consuming the system resources.

Action: Close one or more windows. Contact a Micromeritics service representative if this error message continues.

2502 Error writing to file [n] during print. Error code [n].

Cause: An error occurred in the file being written to during a print operation.

Action: Ensure there is sufficient space on the drive containing the file.

2502 The file name must contain a \$ character.

Cause: The method sample file name field must contain a '\$' character.

Action: Ensure that the method sample file name field is compliant.

2505 Error logger cannot be initialized. Error code [n]. Program will exit.

Cause: An internal processing and/or hardware error has occurred.

Action: Contact your Micromeritics Service Representative.

2506 Sample file [n] has a *No Analysis* status and cannot be used for this operation.

Cause: The selected sample file does not have collected data and cannot be used for operations, for example, reporting.

Action: Enter the name of a file with a status of *Complete*, *Analyzing*, or *Entered*. Alternatively, select a sample file from the list box.

2507 The sample has an invalid status and cannot be used for degassing.

Cause: A sample file has been selected which does not have a *No Analysis* or *Prepared* status.

Action: Select a different file with a status of *No Analysis* or *Prepared*.

2508 The selected file [n] does not contain a valid script.

Cause: The selected service test file does not contain any steps or the file has become corrupted.

Action: If the service test file has no steps, open the service test file and add steps to the file using the *Service Test Script* tab.

2513 Unable to read the calibration file [n].

Cause: An invalid calibration file was selected or cannot be read.

Action: Ensure the media containing the calibration file has no problems.

2514 Unable to write the calibration file [n].

Cause: An attempt to save calibration data has failed due to possible media problems.

Action: Ensure the destination location has no problems or choose an alternate media to save the calibration data.

2515 Warning: Changing the calibration information will affect the performance of the instrument. Only qualified service personnel should do this. Do you wish to proceed?

Cause: The process of performing a calibration operation was started.

Action: Calibration operations should only be done by or under the direction of qualified service personnel.

2516 Warning: Keeping a backup copy of the calibration data is recommended by Micromeritics. Would you like to do so now?

Cause: A calibration operation was performed and a backup copy is recommended.

Action: Save the calibration data to a file.

2517 Canceling this dialog will reset the calibration state to what it was when this dialog was first opened. Are you sure you want to cancel?

Cause: The calibration has not been accepted upon the completion of the calibration operation.

Action: If the calibration operation was successful, click [Accept](#).

2520 No data points available for reporting.

Cause: The selected sample file does not have collected data and cannot be used for reporting.

Action: Select a different sample file.

2521 Unable to program controller.

Cause: A hardware malfunction has occurred.

Action: Contact your Micromeritics Service Representative.

2522 Invalid controller application file.

Cause: The application's control file has been corrupted or deleted.

Action: Reinstall the analysis program.

2523 Programming controller failed.

2524 CRC check failed on programming controller.

2525 Unknown error programming controller.

2526 Controller download was not successful.

2527 Controller CRC error on boot block.

2528 Controller DRAM error.

2529 Controller Com 1: error.

2530 Controller Com 2: error.

2531 Controller debug port error.

Cause: An internal processing and/or hardware error has occurred.

Action: Contact a Micromeritics service representative if this error message continues.

2532 The instrument contains a different software version. Do you want to reset it?

Cause: The application has discovered a different version of application operating in the analyzer.

Action: If there are no analyzers other than the one connected to the computer, click **Yes**, then allow the updated application to load.

2533 Analyzer initialization failed.

Cause: An internal processing and/or hardware error has occurred.

Action: Contact your Micromeritics Service Representative.

2534 Unable to establish the TCP connection with [n].

2534 Unable to establish the TCP connection with the instrument.

Cause: There was a problem establishing communication with the analyzer.

Action: Ensure that the communications cable is seated firmly in the Ethernet slot at the analyzer connection and the computer connection.

Ensure that no other Micromeritics application is initializing another analyzer. If there is another Micromeritics application open and initializing an analyzer, wait until the analyzer initialization completes or is canceled.

Contact a Micromeritics service representative if this error message continues.

2542 The file [n] could not be written. Check that the directory permissions are correct.

Cause: The person logged into the computer does not have write access to the program and/or data directory.

Action: Contact your system administrator set up proper privileges for all users

2548 System status [n].

Cause: There was a problem establishing communication with the analyzer.

Action: Ensure that the communications cable is seated firmly in the Ethernet slot at the analyzer connection and the computer connection. Contact your Micromeritics Service Representative.

2549 Error accessing online manual file [n].

Cause: The operator's manual file could not be located.

Action A: Reinstall the application.

Action B: Copy the contents of the manual folder from the setup media to the application directory.

2550 Attempts to acquire the instrument's status timed out.

Cause: There was a problem establishing communication with the analyzer.

Action: Ensure that the communications cable is seated firmly in the Ethernet slot at the analyzer connection and the computer connection. Contact your Micromeritics Service Representative.

2551 Cannot access web page [n].

Cause: The Micromeritics web page for DFT models cannot be accessed. This could be caused by an ISP problem of high internet traffic.

Action: Try the operation later.

2552 Configured serial number does not match instrument.

Cause: An analyzer was substituted without properly changing the analyzer serial number.

Action: Use the installation program to add or move devices as necessary.

2553 Dialog ID [n] can not be created!

Cause: A required window could not be found by the application.

Action: Re-install the application.

2554 File [n] does not contain any report data.

Cause: The selected sample file has no reports selected for printing.

Action: Edit the sample file and select reports to print in Report Options.

2556 File [n] cannot be opened. It is currently selected for an analysis.

Cause: The sample file is currently selected and is undergoing a critical operation.

Action: Open the sample file after the critical operation has completed.

2557 Directory [n] does not exist.

Cause: The directory entered in a file selector is not valid.

Action: Enter a valid directory.

2558 The instrument is busy. The requested operation cannot be executed.

Cause: The analyzer is analyzing and cannot be interrupted.

Action: Try the operation later.

2559 SPC directory [n] does not exist.

Cause: A directory in one or more of the files selected in a SPC Report is invalid.

Action: Click [Samples](#) in the SPC report and verify the locations of all sample files.

2560 File [n] cannot be created or opened. It has an unrecognized extension.**2560 File [n] cannot be created. It has an unrecognized extension.**

Cause: The extension specified in the file you are trying to create is not one which is recognized by the application.

Action: Change the extension of the file in the file name field of the file selector.

2563 Cannot write. File or directory [n] read only.

Cause: The specified file name is marked as read-only

Action: Select a different file name.

2564 Directory database [n] error [n].

Cause: There is a problem creating the directory file used in file selectors.

Action: Verify the directory specified in this message is not marked read-only.

2570 Instrument log database could not be opened: [n]

2571 Instrument log database [n] error [n].

Cause: There is a problem opening the analyzer log file [SN.LOG].

Action: Exit the application. Go to the \HARDWARE subdirectory of the analyzer 's program directory and rename the [SN.LOG] file where SN is the serial number of the analyzer . A new log file will be created.

2572 File [n] already selected for the analysis.

Cause: The file selected for analysis on one port has already been specified for another port.

Action: Choose a different sample file for each port.

2573 A maximum of [n] files may be selected.

2573 A maximum of [n] files may be selected for analysis.

Cause: When using one file selector to select samples for all ports, the number of samples selected exceeds the number of ports on the analyzer.

Action: Choose the proper number of samples or pick the sample for each port individually.

2574 No samples, entered samples, or completed samples selected.

Cause: When using one file selector to select samples for all ports, either no samples were selected or a file with *Complete* status was selected.

Action: Select samples that do not have a *Complete* status.

2575 The application is running an analysis of which the instrument is unaware. The

analysis will be restarted and canceled to ensure that the instrument is in a safe state.

Cause: The analyzer was power cycled or rebooted during an analysis.

Action: Allow the termination to complete and run the analysis again.

2576 The instrument [n] is not calibrated.

Cause: The analyzer application is in the process of initializing the analyzer and is unable to locate the calibration files.

Action A: Click **OK**. Go to **Unit [n] > Calibration > Load from File**, then select a file containing calibration data.

Action B: Click **OK**. Close the application, then use the *Setup* program to reinstall calibration files.

2577 The python directory is missing or some of its contents have been removed.

Cause: When using Advanced reports, a necessary component is missing.

Action: Re-install the application.

2578 Not enough available resources. Application will have reduced functionality. Reduce the number of open files or report windows.

Cause: There is not enough memory available to open the requested window.

Action: .Close any unnecessary applications, then try the operation again.

2579 The selected file has a status that is not compatible with the operation requested.

Cause: The selected sample file cannot be used for the selected operation. For example, a sample file with a *Complete* status cannot be used for analysis.

Action: Select a different sample file.

2580 Problem encountered trying to load dbghelp.dll.

2581 Problem encountered trying to create the trace file.

2582 Bad MiniDumpWrite function found in dbghelp.dll.

2583 Error writing trace.

2584 The application encountered an unexpected error and will be halted.

Cause: Files necessary for the application are missing or have been corrupted.

Action: Re-install the application.

2585 Please re-install to make use of Windows libraries for file management. The following libraries are missing: [n]

Cause: This message is triggered on application start up if any of the library files used by an application, do not exist on disk.

Action: Add the library into the libraries folder.

2586 Sample file [n] has no pressure table entries.

Cause: Trying to analyze a sample file with no pressure entries in *Analysis Conditions*.

Action: Either edit the *Analysis Conditions* and enter the pressure points to be used for analysis, or choose a sample file that already has the pressure points entered.

2587 Sample file [n] has no dose incremental table entries.

Cause: An attempt was made to start an analysis with an empty dose increment table.

Action: Add dose increment entries to the dose increment table in the analysis conditions.

2588 Sample file [n] is a [n] file and can not be analyzed on this instrument.

Cause: The specified sample file is from another Micromeritics application which is not usable with this application.

Action: Select a different sample file.

2589 Sample file [n] can not be analyzed on this instrument.

Cause: The file specified for analysis cannot be used.

Action: Select a different file.

2590 The default sample file [n] cannot be selected.

2590 The default sample file [n] can not be overwritten.

2590 An error occurred accessing file or directory [n].

Cause: The default sample file (default method) cannot be used in this operation (e.g., as a sample file for analysis).

Action: Select a different sample file from the data directory.

- 2591** **Cannot open problem diagnostic data save file: [n].**
Cause: The file necessary for **Unit [n] > Diagnostics > Schedule Diagnostic Test** (\Hardware\probdiag.dat) could not be read. It is likely corrupted.
Action: Exit the application. Delete or rename the file mentioned in the error message and restart the application. A new file will be created.
- 2592** **The selected file has an extension that is not supported by this operation.**
Cause: The selected file does not have a supported file extension.
Action: Open the adsorptive properties file. Open the .FPI file selector and select another file with a supported file extension.
- 2593** **Warning: The selected file uses Unicode (UTF-8 or UTF-16LE) encoding with non-ASCII characters.**
- 2594** **The selected file uses Unicode [UTF-16BE or UTF-32) encoding and could not be read.**
Cause: The Advanced report is not saved in ASCII format, which is required by Python.
Action: Edit the file and save it in ASCII (ANSI) format.
- 2595** **The selected file is too large (maximum allowed size is [n]).**
Cause: The *Advanced* report is too large.
Action: Edit the file and reduce the size.
- 2596** **Can not find a file selected for analysis: [n]**
Cause: A sample file for a currently running analysis was moved or deleted while the application was closed.
Action: The analysis may not complete correctly. If this occurs, close the application and cycle power on the analyzer using the analyzer power switch. Contact a Micromeritics service representative if this error message continues.
- 2607** **The fluid property file [n] is obsolete. Contact Micromeritics for the current FPI file for the adsorptive.**
Cause: An old FPI which may be missing important information was loaded.
Action: Contact Micromeritics to get an updated FPI file for that adsorptive.

2610 Failed to create directory [n].

Cause: Bad permissions for selected directory.

Action: Ensure that permissions on the parent directory of the selected folder match the permissions of the installation directory. If they do, contact your Micromeritics service representative.

2611 Browsing outside of the configured location is not allowed.

Cause: File browsing is limited to the application directory and custom repository location if one was specified during installation.

Action: Restrict file browsing to the allowed locations. No user should be able to browse outside the installation directory or custom repository location when using the application.

2612 File [n] cannot be created by operator [n]. It is a restricted file type.**2613 File [n] cannot be modified by operator [n]. It is a restricted file type.**

Cause: Confirm Analyst accounts cannot open, create, or modify parameter files.

Action: Use a Confirm Developer account to open, create, or modify parameter files.

2614 File [n] cannot be modified by [n]. An error in the audit trail occurred. Changes cannot be saved.

Cause: The Confirm sample audit trail could not be written, preventing changes to the sample file.

Action: Contact your Micromeritics Service Representative.

2615 [n] cannot belong to both the analyst and developer group in order to run this application. Program will terminate.

Cause: The user attempting to log on to the Confirm application cannot be a member of both the Confirm developer group and the Confirm analyst group.

Action: In Windows Users and Groups, verify that the user does not belong to both groups.

2616 [n] must belong to the analyst or developer group in order to run this application. Program will terminate.

Cause: The user attempting to log on to the Confirm application must be a member of either the Confirm developer group or the Confirm analyst group.

Action: In Windows Users and Groups, verify that the user belongs to one of the groups.

- 2617** [n] has been locked out. Please contact your system administrator.
Cause: The user has attempted to log in to the Confirm application too many times and the user account has been locked.
Action: Contact your system administrator to unlock the user account.
- 2618** Application will be terminated due to an error [n] during a password update for [n]. Please contact the system administrator to change the password manually.
- 2619** Failed to automatically update password for [n]. Please contact the system administrator to change the password manually.
Cause: An unsuccessful attempt was made to update the password for the specified user.
Action: Contact the system administrator to change the password manually in Windows Users and Groups.
- 2620** Too many environment variables in use. Reduce the number of Windows environment variables.
Cause: An attempt was made to use too many Windows environment variables.
Action: Ensure the total number of characters in the Windows environment does not exceed 5120 characters.
- 2621** Large environment variables found. Remove any environment variables exceeding 2048 characters.
Cause: Environment variables are too large.
Action: Ensure there are no long environment variables.
- 2622** Critical error [n] encountered. The application may not work as expected.
Cause: An attempt was made to run the Confirm application in a Windows environment other than Windows 10 Professional or Windows 10 Enterprise or higher.
Action: Run the Confirm application in a Windows 10 Professional or Windows 10 Enterprise or higher environment only. If you are already running the required operating system, contact your Micromeritics service representative.
- 2623** Application will be terminated due to an error [n] in acquiring a windows cryptographic context.
Cause: An attempt was made to acquire a Windows cryptographic context and the process failed.

Action: Contact your Micromeritics Service Representative.

2624 Application will be terminated due to an error [n] in generating a random password.

Cause: The Confirm application failed to generate a random password for the specified user.

Action: Manually create a password in Windows Users and Groups.

2625 Application will be terminated due to an error [n] in acquiring a windows cryptographic service context.

Cause: An attempt was made to acquire a Windows cryptographic service context and the process failed.

Action: Contact your Micromeritics Service Representative.

2626 Could not retrieve logged in username or domain.

Cause: The installation process failed.

Action: Reinstall the Confirm application by using the default installer options. Contact a Micromeritics service representative if this error message continues.

2628 Incorrect password for [n].

Cause: An incorrect password was entered when an attempt was made to start an analysis.

Action: Re-enter the correct password.

2630 Failed to get user account information [n].

2631 Failed to acquire credentials handle [n].

2632 Failed to initialize security context [n].

2633 Failed to complete authorizing token [n].

2634 Unsupported operation to authorize token [n].

2635 Failed to accept security context [n].

Cause: Refer to the error code provided.

Action: Contact your Micromeritics Service Representative.

2636 Cannot log in as a guest.

Cause: Guest account was used as a login.

Action: Use a valid user account that's not a guest account.

2637 Application will be terminated due to an error [n] in decryption.

2638 Error handling new user credentials [n].

2639 Error handling password expiration [n].

Cause: Refer to the error code provided.

Action: Contact your Micromeritics Service Representative.

2640 Timeout error [n].

Cause: Refer to the error code provided.

Action: Contact your Micromeritics Service Representative.

2644 Application will be terminated due to an error [n] in initializing the controller process.

Cause: Refer to the error code provided.

Action: Contact your Micromeritics Service Representative.

4002 Thermal Transpiration correction had no effect.

Cause: The *Thermal transpiration correction* option was selected on the *Report Options* window; however, the correction did not change any pressure by more than one percent.

Action: Deselect this option to disable this message. This correction is only meaningful for very low pressures

4003 Error obtaining relative pressures. Check Po setting.

4004 Error computing quantity adsorbed.

Cause: An internal processing and/or hardware error occurred during report generation.

Action: Contact your Micromeritics Service Representative.

4005 Pressures were not smoothed. Not enough pressures below 0.10 [n].

Cause: The *Smooth pressures below 0.10 P/P₀* option was selected on the *Report Options* window. There must be at least 10 pressures within this range for smoothing to occur.

Action: Deselect this option to disable this message.

4011 Analysis gas in sample file does not match analysis gas in unit.

Cause: An attempt was made to start an analysis using a sample file in which the analysis gas specified does not match the analysis gas entered in the unit configuration.

Action A: If the wrong adsorptive was selected in the sample file, change the adsorptive in the file.

Action B: If necessary, attach the appropriate gas cylinder, then enter the gas in *Unit Configuration*.

4012 Psat gas in sample file does not match any gas in the unit.

Cause: If using *Measure psat of a gas in P_0 and T* options in *Analysis Conditions*, the selected gas is not one of the selected gases in *Unit Configuration*.

Action A: If the incorrect psat was selected, change the psat gas.

Action B: If the gas was recently connected to the analyzer, update the *Unit Configuration*.

4013 The Incremental Dosing option is not available on the selected unit.

Cause: The MicroPore option was selected but the analyzer does not have the micropore option.

Action: Install the MicroPore option before starting the analysis.

4014 File [n] is not a valid file for conversion.

Cause: The file selected for conversion is not a valid file.

Action: Select only files that have been created by the proper program.

4015 Error creating export file for sample [n].

Cause: A file error occurred during creation of an export output file.

Action: The output file name may be invalid. Ensure that the target directory exists and is not full or write protected. The target disk drive may be damaged or inoperative. Verify that other files may be created on the same drive. Contact your Micromeritics Service Representative.

4016 Sample [n] has no data for export.

Cause: The file selected for export has a status of *No Analysis*. No export file will be created.

Action: Select a file which contains analysis data.

- 4017** **Damage to the instrument will result if the sample [n] has not been manually evacuated. Have you evacuated the sample?**
- 4020** **Disabling this option may damage the instrument. Are you sure that the sample should not be backfilled?**
- Cause:* *Backfill sample at start of analysis* was not selected on the *Sample Backfill Options* window. The sample tube is normally at atmospheric pressure when an analysis is started; it must be backfilled before the analysis begins to prevent sample material from being drawn into the manifold.
- Action:* To manually evacuate the sample prior to the start of the analysis, click **Yes**. Otherwise, click **No**, go to the *Sample Backfill Options* window, then select *Backfill sample at start of analysis*.
- 4021** **The entered [n] value ([n] and Temperature Option of the Analysis Conditions is outside the range of the pressures listed in the Psat vs Temperature Table (Adsorptive Properties)).**
- Cause:* The entered P_0 value is not within the range of pressures selected for analysis.
- Action A:* Enter a new P_0 value.
- Action B:* Add more pressures and corresponding temperatures to the *Analysis Conditions* pressure table to include the presently selected P_0 value.
- 4022** **The entered bath temperature value ([n] and Temperature Options of the Analysis Conditions) is outside the range of the temperatures listed in the Psat vs Temperature Table (Adsorptive Properties).**
- Cause:* The entered bath temperature is outside of the range of temperatures specified in the *Adsorptive Properties*.
- Action A:* Change the entered temperature.
- Action B:* Change the adsorptive.
- Action C:* Add more temperatures and corresponding pressures to *Adsorptive Properties*.
- 4023** **The file [n] cannot be prepared for analysis. It is open for editing and contains errors.**
- Cause:* An attempt was made to start an analysis using a file that contains errors and is open for editing.
- Action:* Finish editing this file, save and close it, then start the analysis.
- 4024** **Backfill gas in sample file does not match any gas in the unit.**

Cause: The backfill gas specified in the sample file does not match the analysis gas entered in the *Unit Configuration*.

Action A: If the wrong backfill gas was selected in the sample file, change the backfill gas in the file.

Action B: If necessary, attach the appropriate gas cylinder, then enter the gas in the *Unit Configuration*.

4025 There is no [n] attached to the unit.

Cause: The gas shown in the error message is specified in Analysis Conditions but is not connected to the unit.

Action: Go to **Unit [n] > Unit Configuration**, then enter the gas.

4026 Cannot calculate Dubinin-Astkhov: bad least squares data.

Cause: Less than two selected data points are within the fitted pressure range.

Action: Edit the selection of data points on the Dubinin interactive editor or on the *Dubinin Pressures* window.

4027 Fewer than two sample files have data suitable for heat of adsorption reports.

Cause: Less than two of the selected sample files for heat of adsorption reports contain appropriate data.

Action: Edit the *Quantity Adsorbed* table, or select other sample files.

4028 Dubinin calculations cannot be performed because the affinity coefficient of the analysis gas is zero.

Cause: Dubinin values could not be calculated because the affinity coefficient of the analysis gas is zero.

Action: Access the *Dubinin Report Adsorptive* options in the sample file, then enter an appropriate value for the analysis gas.

4029 At least two fitted data points are needed for Alpha-S calculations.

Cause: Fewer than two data points fall within the selected Alpha-s range.

Action: Edit either the calculation pressure in the fitted Alpha-s range, or use a different reference curve.

4030 Preparations failed in primary data.

Cause: Appropriate data were not available to generate the report.

Action: This message was preceded by a different error message. Refer to the cause/action of the preceding message.

4030 P₀ cannot be measured at intervals when dosing from the Psat tube.

Cause: The dosing option in *Adsorptive Properties* conflicts with the P₀ option.

Action: Either edit *Adsorptive Properties* and change the dosing option, or edit the P₀ option in *Analysis Conditions*.

4031 Not enough points with a relative pressure in the range [n].

Cause: Fewer than two data points selected for the Dubinin report fall within the selected relative pressure range.

Action: Edit the calculation pressure range or the fitted relative pressure range.

4032 The Psat tube cannot be for dosing or for measuring saturation pressure when the cryostat is used.

Cause: The dosing option in *Adsorptive Properties* cannot be used in conjunction with the cryostat.

Action: Edit *Adsorptive Properties* and change the dosing option.

4033 Not enough points to generate Dubinin Tabular Report.

Cause: There are fewer than two valid data points available for the Dubinin tabular reports.

Action: At least two micropore pressures must be selected for inclusion in the Dubinin report. Edit the selection of data points on the Dubinin interactive editor or on the *Dubinin Pressures* window.

4034 Fewer than 2 points available for Dubinin calculations.

Cause: There are fewer than two valid data points available for Dubinin reports in one of the sample files selected for overlaying.

Action: At least two micropore pressures must be selected for inclusion in the Dubinin report. Edit the selection of data points on the Dubinin interactive editor or on the *Dubinin Pressures* window.

4035 Cannot calculate optimized Astakhov exponent.

Cause: There are fewer than two valid data points in the relative pressure range specified.

Astakhov reports will not be produced.

Action: At least two pressures must be selected for inclusion in the Astakhov report. Edit the selection of data points on the Astakhov interactive editor or on the *Astakhov Pressures* window.

4036 Fewer than 2 points available for Horvath-Kawazoe calculations.

Cause: At least two data points must be selected for inclusion in the Horvath-Kawazoe analysis. No report will be produced.

Action: Edit the selection of points on the Horvath-Kawazoe interactive editor or on the *Horvath-Kawazoe* window.

4037 Computations failed while processing the primary data set. No reports will be produced.

Cause: The preparation of data for reporting could not be successfully completed. No Horvath-Kawazoe reports will be produced. This message will always be preceded with another one containing additional information.

Action: Refer to the error message number which preceded this one for an explanation.

4038 Fewer than 2 points available for the Langmuir Qm computation.

Cause: The Cheng/Yang correction to the Horvath-Kawazoe equation requires the value of the monolayer volume as calculated from the Langmuir equation. The isotherm must include at least two points above 0.02 relative pressure for the Langmuir equation to be applied.

Action: The analysis will be performed without the Cheng/Yang correction. Deselect Apply Cheng/Yang correction on the *Horvath-Kawazoe Report Options* window to prevent this message from appearing on future reports.

4039 The isotherm does not meet the constraints of the Cheng/Yang assumption.

Cause: The Cheng/Yang correction to the Horvath-Kawazoe equation requires the value of the monolayer volume as calculated from the Langmuir equation. The isotherm does not correlate to the Langmuir assumption with a coefficient of 0.98 or more. The correction is not applicable to this isotherm or to the range of the data points selected.

Action A: The analysis will be performed without the Cheng/Yang correction. Deselect Apply Cheng/Yang correction on the *Horvath-Kawazoe Report Options* window to prevent this message from appearing on future reports.

Action B: Generate the Langmuir report for the same data points selected for the Horvath-

Kawazoe report. If the Langmuir correlation coefficient can be brought above 0.98 by removing some points at high relative pressure, remove them, then reproduce the Horvath-Kawazoe reports.

4040 The value of Qm computed from the Langmuir equation is too low.

Cause: The Cheng/Yang correction to the Horvath-Kawazoe equation requires the value of the monolayer volume as calculated from the Langmuir equation. The computed value is less than the volume adsorbed at the largest relative pressure included in the analysis. The correction is not applicable to this isotherm or to the range of the data points selected.

Action: The analysis will be performed and the Cheng/Yang correction will be applied to all points with a volume adsorbed less than the value of V_m . The pore size will not be calculated for data points with an invalid volume adsorbed. Deselect Apply Cheng/Yang correction on the *Horvath-Kawazoe Report Options* window to clear this message.

4041 Cheng/Yang correction is inappropriate for some $[n]$.

Cause: The Cheng/Yang correction is usually inappropriate for any P/P_0 above the isotherm knee. In some instances, the computed pore sizes may decrease above the knee. While it is possible to include these relative pressures (usually above $0.1 P/P_0$) in the analysis, the computed pore sizes for these pressures are usually meaningless.

Action: Change the data points selected for the Horvath-Kawazoe report to include only relative pressures at or below the knee of the isotherm, or change the Horvath-Kawazoe report options so that the Cheng/Yang correction is not applied.

4042 0.0 cannot be a starting or ending pressure for a geometric progression from low pressure.

4043 1.0 cannot be a starting or ending pressure for a geometric progression toward saturation.

Cause: An attempt was made to generate a pressure table from a geometrically progressing range.

Action: Change the specified entered value.

4044 Points in the Langmuir report pressure table lie outside the collected data.

4045 Points in the report pressure table lie outside the collected data.

Cause: Calculation pressure range is not being used. More than one of the report pressure table points is above the range of the collected data and more than one is below.

Action: Change the report pressure table to be more consistent with the collected data.

4046 [n] could not be opened for reading.

Cause: A thickness curve file could not be opened.

Action: If the problem persists, restart the computer, then optionally perform a media integrity check.

4047 Warning: An error occurred while reading [n].

Cause: An error happened during a read operation of a thickness curve file.

Action: If the problem persists, restart the computer, then optionally perform a media integrity check.

4048 Warning: An error occurred while restoring the heat of adsorption report editor.

Cause: The state of the heat of adsorption report editor could not be restored. Default settings will be used.

Action: No action.

4049 The sample [n] does not have enough data. A minimum of two adsorption points is required.

Cause: A sample file has been included in the Heat of Adsorption report that does not have enough data.

Action: Remove the file from the selected file list.

4050 None of the requested quantities adsorbed is within the range of the collected data of more than one sample file.

Cause: The *Heat of Adsorption* report failed because the specified quantities are not within the range of the collected data.

Action: Edit the quantities adsorbed so that they are within the range of the collected data, or select other sample files.

4051 The sample [n] does not have any data in the range of the requested quantities adsorbed.

Cause: The sample data cannot be interpolated to any of the quantities adsorbed.

Action: Edit the quantities adsorbed so that they are within the range of the collected data.

4052 Fewer than two points are selected for this report.

4052 Fewer than three points provided to the interpolation table.

4052 Fewer than three points are selected for this report.

Cause: At least two (or three) points are required for the BET calculations.

Action: Edit the calculation range in the BET report.

4053 At least two data points must be selected for t-Plot calculations.

Cause: At least two points are required for the t-Plot calculations.

Action: Edit the calculation range for the t-Plot report.

4054 Fewer than two data points are inside the fitted thickness range.

Cause: At least two points must be within the fitted thickness range for the t-Plot calculations.

Action A: Edit the calculation range for the t-Plot report.

Action B: Edit the fitted thickness range in the t-Plot report editor.

4055 A positive BET surface area was not calculated. Please check your BET Report.

4056 A positive Langmuir surface area was not calculated. Please check your Langmuir report.

Cause: Fewer than two points were assigned to the requested surface area calculation in the collected data table.

Action A: Assign more points to the surface area calculation.

Action B: Select a different surface area in the t-Plot report editor.

4057 At least two data points are needed for Freundlich calculations.

4058 At least two data points are needed for Temkin calculations.

Cause: Less than two data points have been selected for the specified report; at least two are required.

Action: Edit the selection of points on the report's interactive editor or on the *Pressures* window for the specified report.

4059 Fewer than 2 points available for MP-Method calculations.

Cause: At least two points are required for the MP-Method calculations.

Action: Edit the calculation range for the MP-Method report.

4060 Sample [n] contains no data points.

Cause: An attempt was made to save a sample without collected data as a t-curve or alpha-S curve.

Action: Repeat the *Save As t-curve* or *Save As alpha-S* operation after opening a sample that has collected data.

4061 The t-curve must contain at least 2 points.

Cause: At least two points are required in a thickness curve definition.

Action: Edit the thickness curve.

4062 Error during report preparation.

Cause: An internal processing error has occurred.

Action: Contact your Micromeritics Service Representative.

4063 No subreports selected.

Cause: A report (e.g. BJH) comprised of several reports has no subreport selected.

Action: Edit the report in Report Options and select at least one subreport.

4067 No data points are within the range of pressures in the reference isotherm.

Cause: There are no collected data points within the range of pressures in the reference isotherm.

Action: Select data points in the range of the reference isotherm, or select a more appropriate reference isotherm.

4068 No points were selected for the f-Ratio report.

Cause: The *f-Ratio*-report does not have any points selected.

Action: Edit the selection of data points on the *f-Ratio* window.

4069 Dosing method choice is invalid - the Analysis Conditions choice of Absolute pressure dosing requires that the Adsorptive Properties Dosing Method is set to Normal.

Cause: There is an incompatibility between the analysis conditions choice of Absolute pressure dosing and the adsorptive properties dosing method.

Action: Edit one of the choices.

4070 Unable to load deconvolution model [n].

Cause: The list of available models was corrupted; therefore, the model selected could not be loaded for the deconvolution.

Action: Exit the application. Reinstall the application, then try again.

4071 The selected pressures points do not form a valid set for deconvolution.

Cause: The data points selected for analysis do not contain enough information to allow a DFT data reduction.

Action: At least two points with strictly increasing pressures and volumes adsorbed are required for a DFT Plus data reduction. Edit the selection of data points on the DFT interactive editor or on the *DFT Pressures* window.

4072 The range of pressures selected is too small to deconvolute using this model.

Cause: A null result was found using the selected model.

Action: At least two points with strictly increasing pressures and volumes adsorbed are required for a DFT Plus data reduction. Edit the selection of data points on the DFT interactive editor or on the *DFT Pressures* window.

4073 The analysis gas [n] does not match the model gas [n].

Cause: The model assumes a specific gas, and the sample file uses a different one.

Action: Select a model that assumes the same gas.

4074 The analysis temperature [n] does not match the model temperature [n].

Cause: The temperature for the selected model did not match the analysis temperature.

Action: Select a different model.

4075 The models cannot be located in the models folder. Reinstall the software.

Cause: The models could not be located. They may have been inadvertently deleted or moved.

Action: Reinstall the application.

4076 Invalid sample file - Adsorptive Properties *Non-condensing adsorptive* cannot be used unless Analysis Conditions *Absolute pressure dosing* is selected.

Cause: *Non-condensing adsorptive* is selected in Analysis Conditions / Adsorptive Properties

and the *Absolute pressure dosing* check box is not selected in Analysis Conditions.

Action: If *Absolute pressure dosing* is needed, select *Absolute pressure dosing* on the Analysis Conditions window. Otherwise, edit the Analysis Conditions / Adsorptive Properties and deselect *Non-condensing adsorptive*.

4077 Cannot get surface area for [n].

Cause: The Isotherm report for the named overlay file has *Per gram* selected for the *Volume Adsorbed*, and the Isotherm report for the primary file has a surface area option selected for the *Volume Adsorbed*.

Action A: Edit the Isotherm report for the named overlay file, then select a surface area option for *Volume Adsorbed*.

Action B: Click **Overlays** on the *Report Options* window of the primary file, then remove the named overlay file from the list.

4078 Slope and Y-Intercept cannot be determined from the selected points.

Cause: The Langmuir report cannot be generated from the selected points.

Action: Edit the calculation pressure range in the Langmuir report pressure window.

4080 The compressibility factor table has [n] pressure entries. Only [n] are allowed.

Cause: The fluid property information file has too many rows of compressibility information.

Action: Delete rows for pressures that are not likely to be encountered in the analysis.

4081 In the compressibility factor table for [n], the 4 temperatures below [n] and 7 temperatures above must span at least 10 [n].

Cause: The fluid property information file does not have enough columns of compressibility information for temperatures near the analysis temperature.

Action: Add rows for temperatures near the analysis temperature.

4082 Compressibility factors must be greater than zero for temperatures near ambient and pressures up to the maximum manifold pressure.

Cause: Fluid property information indicates that the analysis gas will condense.

Action A: Check that the correct fluid properties are being used.

Action B: Change the pressure or temperature range for the analysis.

4083 All rows of [n] do not have the same number of entries. Some rows will be filled or truncated.

Cause: The compressibility table does not have the same number of temperature entries for each pressure.

Action: Check the fluid property file for errors.

4084 [n] does not have the correct format. Please load a fluid property information file.

Cause: The selected file was not a fluid property file.

Action: Select a file with fluid property information.

4085 The temperatures of [n] are not strictly ascending.

Cause: The temperatures for the columns of compressibility factors are not in increasing order.

Action: Order the columns of compressibility factors by increasing temperature.

4086 The pressures of [n] are not strictly ascending.

Cause: The pressures for the rows of compressibility factors are not in increasing order.

Action: Order the rows of compressibility factors by increasing pressure.

4087 Error reading [n].

Cause: An error occurred while reading the selected fluid property file.

Action: The file is likely corrupted. Restore the file from backups if possible. If the file was one provided with the application, re-install the application.

4088 Error writing [n].

Cause: An error occurred while writing the selected fluid property file.

Action: Check the disk and ensure there is plenty of unused space. Scan the disk for bad sectors, then retry the operation.

4089 Can not open [n] for reading.

Cause: The selected fluid property information file could not be opened.

Action: The file is likely corrupted. Restore the file from backups if possible. If the file was one provided with the application, re-install the application.

4090 The compressibility factor table for [n] is empty.

Cause: The fluid property information in the file selected for analysis does not have any compressibility factors.

Action: Update the adsorptive properties files using a different fluid properties file.

4090 Can not open [n] for writing.

Cause: The selected fluid property information file could not be opened.

Action: Check the disk and ensure there is plenty of unused space. Verify if the file has been marked as read-only. Restore the file from backups if possible. If the file was one provided with the application, re-install the application.

4091 Can not load [n] because the fluid property table is too large.

Cause: The fluid property information file is too large to be stored in a sample file.

Action A: Verify that the selected file is really a fluid property information file.

Action B: Delete unneeded rows and columns from the compressibility factor table.

4093 Pressure targets at or above [n] will be excluded to prevent condensation in the manifold. Continue with the analysis?

Cause: The pressure table contains some points that would require dosing above the adsorptive's saturation pressure.

Action: Click **No** and modify the pressure table before restarting the analysis. Click **Yes** and perform the analysis omitting the points that would cause condensation.

4094 All pressure targets were excluded. Analysis canceled.

Cause: All target pressures would require dosing above the adsorptive's saturation pressure.

Action A: Verify that the saturation pressures for the adsorptive are correct.

Action B: Use lower target pressures in the pressure table.

4095 The compressibility file [n] is obsolete. Please load the fluid property information file (.FPI) for the adsorptive.

Cause: The sample file includes obsolete compressibility information from a *.DAT file.

Action: Load the *.FPI file for the adsorptive.

4096 The Analysis Conditions dosing option Low pressure incremental dose mode cannot

- be used with the *Adsorptive Properties* dosing method *Selective Adsorption*.
- 4097** The *Analysis Conditions* dosing option *Maximum volume increment* cannot be used with the *Adsorptive Properties* dosing method *Selective Adsorption*.
- 4098** The *Analysis Conditions* dosing option *First pressure fixed dose* cannot be used with the *Adsorptive Properties* dosing method *Selective Adsorption*.
- 4099** The *Analysis Conditions* dosing option *Selective Adsorption* requires the *Analysis Conditions* choice of *Absolute pressure dosing*.
- 4100** The *Analysis Conditions* choice of *Absolute pressure dosing* requires that the *Adsorptive Properties* dosing method is set to *Normal* or *Selective Adsorption*.
- Cause:* There is a conflict between *Analysis Conditions* selections and *Adsorptive Properties* selections.
- Action:* Change the *Analysis Conditions* dosing option or do not use selective adsorption.
- 4112** Hard-sphere diameter, molecular weight, and mass flow constant have been updated from the fluid property information.
- Cause:* A new fluid property information file was loaded. The indicated fields have been updated with values from the file.
- Action:* This message is informational; no action is required.
- 4113** An old version of the fluid property information was read. Please upgrade.
- Cause:* An older version of a fluid property information file was detected.
- Action:* Newer versions of the fluid property information files were installed with the application. Locate a newer file in the *Param* directory.
- 4114** The backfill gas [n] in sample file [n] does not match any gas in the unit.
- Cause:* The selected backfill gas for the *Analysis Conditions* is not one of the gases connected to the analyzer. Go to **Unit [n] > Unit Configuration** and verify the gas.
- Action:* Edit the *Analysis Conditions* backfill gas and change the gas to one which is connected to the analyzer.
- 4115** The P_0 [n] in sample file [n] does not match any gas in the unit.
- Cause:* The selected gas for the P_0 and T for the *Analysis Conditions* is not one of the gases connected to the analyzer. Go to **Unit [n] > Unit Configuration** and verify the gas.
- Action:* Edit the *Analysis Conditions* P_0 and T and change the gas to one which is connected to the analyzer.

- 4116** **The adsorptive [n] in sample [n] is different from port [n] adsorptive [n].**
Cause: The adsorptive selected for one analysis port is different from the adsorptive that is in the sample file selected for another port. All ports must use the same adsorptive.
Action: Edit the *Analysis Conditions* and change the adsorptive to match the other ports.
- 4117** **Gas [n] in sample file [n] does not match any gas in the unit.**
Cause: The adsorptive selected for the analysis is not one of the gases connected to the analyzer.
Action A: Go to **Unit [n] > Unit Configuration** and verify the gas.
Action B: Edit the *Analysis Conditions* and change the adsorptive to one which is connected to the analyzer.
- 4118** **The pre-analysis backfill gases differ. Each port must use the same backfill gas.**
- 4119** **The post-analysis backfill gases differ. Each port must use the same backfill gas.**
- 4120** **The analysis gases differ. Each port must use the same analysis gas.**
- 4121** **The Psat gases differ. Each port must use the same gas for P₀ or Psat measurements.**
Cause: The type of gas(specified in the error message) selected for one port in the analysis is different from the adsorptive that is in the sample file selected for another port. All ports must use the same adsorptive.
Action: Edit the *Analysis Conditions* and change the gas to match the other port(s).
- 4122** **The dosing source gases differ. When dosing from a sample port or the Psat tube and the dosing source is charged from a gas inlet, each port must use the same dosing source gas.**
Cause: An incompatibility exists between the dosing method and the analysis gases in the sample files for the selected ports.
Action: When dosing from a sample port or the Psat tube and the dosing source is charged from a gas inlet, the sample files selected for all ports must use the same dosing source gas. Check the analysis adsorptive and analysis adsorptive properties in the analysis conditions of the selected sample files.
- 4123** **Helium adsorptive properties could not be found in the adsorptive properties library.**
Cause: There is no *Adsorptive Properties* file for helium available to the application.

Action: An *Adsorptive Properties* file for helium was installed with the application. It was likely deleted. Either re-install the application, or create an *Adsorptive Properties* file for helium.

4124 Dosing from port [n] cannot be done because a sample is selected for analysis on that port.

Cause: The *Analysis Conditions* of a sample file calls for dosing from a port which has a sample file assigned to it for analysis.

Action: If the *Analysis Conditions* are correct for the currently selected sample file, clear the sample file selection from the port used for dosing. Otherwise, select a different sample file.

4125 Determination of P_0 from the dosing source can only be done if dosing is done from the Psat tube, sample port, or vapor source.

Cause: If measuring Psat over the source, one of the dosing options listed in the error message must be selected.

Action: Select one of the dosing options from the error message.

4126 Warning: Measured ambient temperature is not available for calculating the maximum manifold pressure. Analysis will continue using [n].

Cause: Measured ambient temperature is not available. Analysis will continue with a reasonable room temperature

Action: Displayed as a warning. Continue the analysis.

4127 The compressibility factor table has [n] temperature entries. Only [n] are allowed.

Cause: The fluid property information file has too many columns of compressibility information.

Action: Delete columns for temperatures that are not likely to be encountered in the analysis.

4128 Error reading from [n].

Cause: There was an error importing data from the Clipboard using copy/paste.

Action: Retry the operation.

4132 Unable to read model data from directory: [n].

4133 Unable to open model file: [n].

Cause: A DFT model file is either missing from the *Models* subdirectory or has become corrupted.

Action: Restore models from a backup or re-install the application to provide the DFT models.

4135 HOA file [n] does not exist.

Cause: The sample file in the *Heat of Adsorption* report list does not exist.

Action: Go to **Report > Heat of Adsorption**. Click **Add Samples**, then select the sample file.

4136 HOA file [n] is corrupt.

Cause: The sample file in the *Heat of Adsorption* report list is corrupt.

Action: Go to **Report > Heat of Adsorption**. Select the corrupt sample file, then click **Remove Sample**. Rerun the *Heat of Adsorption* report.

4137 Measured P₀ is not allowed with a cryostat.

Cause: In an analysis using a cryostat, Measured P₀ was specified in *Analysis Conditions*.

Action: Edit the P₀ and T options in *Analysis Conditions* and choose a different option.

4138 Only entered temperature is allowed with a cryostat.

Cause: In an analysis using a cryostat, the analysis conditions specify something other than entered temperature in the P₀ and T options.

Action: Edit the existing file and change the P₀ and T options, or choose a different sample file.

4139 Dosing from Psat tube is not allowed with cryostat.

Cause: In an analysis using a cryostat, dosing from Psat tube was specified in the *Adsorptive Properties* in *Analysis Conditions*.

Action: Edit *Analysis Conditions / Adsorptive Properties* and choose a different option.

4143 NIST REFPROP not available.

Cause: The *AppDir/refprop.dll* file or the *AppDir/fluids* file has been renamed or removed from the application directory.

Action: Reinstall the analysis application.

4144 Horvath-Kawazoe calculations failed. The bath temperature is zero.

Cause: The sample analysis temperature could not be calculated (and returns zero), or the analysis temperature was entered as zero.

Action: Check the Sample's *Po* and *T* options.

4400 The computer does not have the communications port specified for the SmartPrep(s). Cannot initialize.

Cause: The communications port associated with this unit was not valid.

Action: Run the setup program and set up the unit on a valid port.

4401 The communications port specified for the SmartPrep(s) is already in use. Cannot initialize.

Cause: The communications port associated with this analyzer is in use by some other program in the system.

Action: Close the other program to release the port. Restart the analysis application.

4402 The communications port specified for the SmartPrep cannot be accessed. Cannot initialize.**4403 Cannot communicate with SmartPrep Unit [n].**

Cause: The communications port associated with this unit was not valid.

Action: Run the setup program and set up the unit on a valid port.

4404 The application version of the SmartPrep Unit [n] is invalid.

Cause: The controller application running on the designated analyzer is invalid.

Action: Use the SmartPrep setup program to download the proper controller application to the analyzer, or if unavailable, contact a Micromeritics service representative.

4405 Fatal communications error with SmartPrep Unit [n].

Cause: There was a fatal error in the serial communications between the application and the SmartPrep Instrument Controller. All displays for that SmartPrep will be closed.

Action: Ensure that the SmartPrep is properly chained to the computer on the communications port configured in the Setup program. Stop and restart the application. Contact a Micromeritics service representative if this error message continues.

4406 A maximum of [n] files may be selected.

Cause: Too many files were selected for the SmartPrep start degas operation.

Action: Retry the operation with the proper number of files (1 per port).

4407 Error searching for installed Smart VacPreps. The registry could not be read.

Cause: The application was not installed properly.

Action: Reinstall the application. Contact a Micromeritics service representative if this error message continues.

4408 The [n] in [n] already has Smart VacPrep S/N [n]. The Smart VacPrep must be removed from the [n] before it can be added.

Cause: The Smart VacPrep was already installed for another application / unit.

Action: Remove the Smart VacPrep from the installed unit before adding it to the preferred unit.

4409 A free IP address on the same subnet as [n] could not be found.

Cause: All IP addresses on the network for the Ethernet card specified during installation are in use by other Micromeritics applications on this computer.

Action A: Uninstall unused Micromeritics applications.

Action B: Configure a different Ethernet card for use by the application using the application installer.

4410 The .INI file could not be updated with configuration for Smart VacPrep S/N [n].

Cause: The application .INI file is opened by another application and could not be updated.

Action: Close all open applications and add the Smart VacPrep again using the Smart VacPrep menu.

4411 Error dosing.

Cause: The backfill timed out.

Action: Ensure there is gas available and the pressure regulator is set to the appropriate pressure. Also ensure that the gas supply regulator shutoff valve is open.

4412 Error calibrating the servo.

Cause: Calibration results are out of range.

Action: Follow standard calibration procedures and try again. Contact a Micromeritics service representative if this error message continues.

4413 Error overheating on port [n]. Current = [n], Target = [n], Limit = [n].

Cause: The temperature of the indicated mantle exceeded the maximum allowed value.

Action: Ensure the power and thermocouple connectors for the mantle are properly installed. Contact a Micromeritics service representative if this error message continues.

4414 Error thermocouple unplugged on port [n]. Target = [n].

Cause: The thermocouple is unplugged or has malfunctioned.

Action: Ensure the thermocouple is plugged in. Contact a Micromeritics service representative if this error message continues.

4415 Degas transducer zero calibration failed. Current Offset = [n] counts, Current Pressure = [n], New Offset = [n] counts, Nominal = [n] counts.

Cause: The pressure transducer offset exceeds the recommended limit.

Action: Ensure that the vacuum pump is on. Repeat the pressure offset calibration. Contact a Micromeritics service representative if this error message continues.

4416 Degas transducer scale calibration failed. Reference = [n], Current = [n], New Scale = [n] / count, Nominal = [n] / count.

4417 Degas vacuum gauge low point calibration failed. Reference = [n] / count, Current = [0] counts.

Cause: The transducer offset calibration was rejected.

Action: Contact your Micromeritics Service Representative.

4418 Degas vacuum gauge high point calibration failed. Reference = [n], Current = [0] counts.

Cause: The vacuum gauge calibration was rejected.

Action: Contact your Micromeritics Service Representative.

4419 Error reading servo DAC.

Cause: There is a problem with the servo DAC timing out.

Action: Contact your Micromeritics Service Representative.

4420 Communications error.

Cause: The application failed to connect to the Smart VacPrep.

Action: Ensure the unit is powered and properly connected to the network specified during installation. Check the power cable, power switch, and Ethernet cable, then reconnect to the Smart VacPrep either through the Smart VacPrep menu for this analyzer or by restarting the application. Contact a Micromeritics service representative if this error message continues.

4421 Smart VacPrep S/N [n] is busy and could not be removed.

Cause: The Smart VacPrep cannot be removed because it is currently performing an operation.

Action: Wait until the Smart VacPrep completes the current operation and try again.

4422 The file [n] does not exist.

Cause: The selected file does not exist on the media drive.

Action: Select an existing file. Ensure that the file has been created before use.

4423 The sample [n] is already selected on port [n].

Cause: The selected sample file is already selected for use on a different port.

Action: Select another sample file for this port.

4424 The file [n] on port [n] could not be opened. Check if the sample file is already in use for editing or analysis.

Cause: The selected sample file is already open by this or another application.

Action A: The selected sample file is damaged.

Action B: Select another sample file.

4425 The sample [n] on port [n] has an invalid status and cannot be used for degassing.

Cause: The status of the file is not consistent with the current operation.

Action: Select a sample file that has not been used for an analysis. Only sample files with a status of *No Analysis* or *Prepared* may be selected.

4426 Port [n] is currently in use. Operation cannot be started.

Cause: The current operation cannot be completed because the port is already in use.

Action: Wait for port to terminate operation or perform the desired operation on an unused port.

4429 Smart VacPrep vacuum level is out of range [n].

Cause: The current vacuum level shown is outside the normal limits of the Smart VacPrep degas unit.

Action: A Service Test Mode password is required to perform this calibration. Go to **Options > Service Test Mode** and enter the password. Then go to **Unit [n] > Degas > Calibrate Vacuum Gauge** to recalibrate the Smart VacPrep.

4430 Smart VacPrep pressure level is out of range [n].

Cause: The current pressure level shown is outside the normal limits of the Smart VacPrep degas unit.

Action: A Service Test Mode password is required to perform this calibration. Go to **Options > Service Test Mode** and enter the password. Then go to **Unit [n] > Degas > Calibrate Pressure Scale** to recalibrate the Smart VacPrep.

6000 An error occurred while loading the application control information. Data entry cannot be performed. (Code [n]).

Cause: An error occurred accessing the control information disk file required by this application.

Action: The disk drive may have failed or be corrupt. Run diagnostics on the disk drive.

6210 Error waiting for pressure to drop.

Cause: There was a problem reading the file used for blank correction. The file is likely corrupt.

Action: Use a different file for blank correction.

6211 The gas selected for this task is different from the gases selected for the neighboring tasks. An evacuation task must be added to add this task. Add evacuation and proceed?

Cause: A new task was entered and the gas does not match the gas in the previous task. Mixing gases may be dangerous.

Action: Select **Yes** to automatically insert the evacuation task. Select **No** to continue editing the task options.

6211 You cannot delete the only evacuation task between two tasks with different gases.

Cause: An evacuation task is required between two tasks with different gases in the preparation options in-situ-activation task list of a chemical adsorption sample file.

Action: Enter an evacuation task between the two tasks.

6212 Adding this leak test will require a preceding evacuation. Do you wish to add both tasks?

Cause: By inserting or deleting a task in the *Selected Tasks* list on the Analysis Conditions window, a leak test task was entered without a preceding evacuation task. The leak test will fail if the sample pressure exceeds 0.5 mmHg.

Action: Click **Yes** to evacuate the sample between the two tasks. Click **No** to exclude evacuation

6213 The maximum allowed number of tasks is selected. Delete some tasks before proceeding.

Cause: An attempt was made to insert more than twenty tasks.

Action: No more than twenty tasks may be specified in one sample file. If additional preparation steps are required, use two sample files. The first sample file should contain only preparation tasks; the second file should contain any remaining preparation tasks and an analysis task.

6214 The [n] task must have a preceding evacuation.

Cause: An evacuation task must precede a leak test task in the preparation options in-situ-activation task list of a chemical adsorption sample file.

Action: Choose **OK** to insert both tasks. Otherwise choose **Cancel**.

6215 The dosing method must be *normal* or *vapor*.

Cause: The dosing method for a chemi analysis must be set to normal or vapor.

Action: Check the analysis adsorptive properties in the analysis conditions of the sample file.

6216 The vapor source heating mantle and the sample furnace cannot both be con-

trolled during analysis. Either Adsorptive Vapor Source Temperature heating mantle control or Temperature Options Furnace temperature control must be disabled.

Cause: When the dosing mode for a chemical analysis is set to vapor, simultaneous vapor and furnace temperature control is not allowed.

Action: Disable either the vapor source temperature heating mantle in the analysis adsorptive properties or the furnace temperature control in the temperature options.

6222 [n] required by task [n] is not configured on the selected unit.

Cause: Either no gas was selected for the 2020 chemical adsorption analysis or the selected gas is invalid.

Action: Choose another gas in *Analysis Conditions*.

6223 Sample has no Analysis Task entry. Do you wish to proceed with the analysis?

Cause: An attempt is being made to analyze a sample file with no analysis task entry.

Action: Click **Yes** to proceed with the analysis; all preparation tasks are performed but no data points are collected. Click **No** to cancel the analysis.

6224 Sample has no pressure table entries. Do you wish to proceed with the analysis?

Cause: An attempt is being made to start an analysis using a sample file for which no pressure table was specified.

Action: Click **Yes** to proceed with the analysis; all preparation tasks and the free space measurement are performed, but no data points are collected. Click **No** to cancel the analysis; enter a pressure table for the sample.

6226 [n] required for backfilling the sample at the end of the analysis is not configured on the selected unit.

Cause: The gas specified for use in backfilling the sample at the end of the experiment is not configured on the analyzer.

Action: Go to **Unit > Unit Configuration**. Click **Gas** to select the gas inlet port to which the required gas is connected.

6230 The Active Metal Table Options dialog box does not specify a stoichiometry factor for the adsorptive [n] of the element [n]. One (1.0) was substituted for this value in the calculations.

Cause: A non-zero percent of sample weight for an element was specified in the *Active Metals Table* of the sample report options but a stoichiometry factor for the adsorptive used in the analysis was not selected.

Action: The calculation proceeds with the default value and the program produces a report. Edit the sample file to include the correct value and run the report again.

6231 No element in the Active Metals Table Options has a [n] of Sample Weight value greater than zero. Surface areas will not be calculated.

6231 No element in the Active Metals Table Options has a [n] of Sample Weight value greater than zero. Metallic Dispersion and Metallic Surface Area will not be calculated.

Cause: The active metals table for the sample does not contain any selected metals.

Action: Edit the active metals table to contain one or more metals with a non-zero percent of sample weight.

6232 [n] cannot be produced: No data points were selected for inclusion in the calculations.

Cause: Fewer than two points were selected for the Difference or Sinfelt report calculation.

Action: Select two or more data points for the line fit.

6233 [n] not compatible with the MFC seals. Kalrez seals are recommended for use with this fluid.

Cause: Kalrez seals are indicated for the fluid specified in a flow task in the preparation options in-situ-activation task list of a chemical adsorption sample file.

Action: Contact your Micromeritics Service Representative.

6234 Leak test failure - the observed outgas rate of [n] exceeds the limit of [n].

Cause: The outgas rate specified in the leak test criteria was exceeded.

Action: Check sample tube fitting to ensure that it is securely attached to the port. Then start the analysis again.

6234 [n] is in the liquid phase at ambient [n] temperature and pressure and cannot be used with this MFC.

Cause: Fluids selected for flow tasks in the preparation options in-situ-activation task list of a chemical adsorption sample file must be in the gas phase at ambient temperature and pressure.

Action: Select another fluid for the flow task.

6236 Pressure exceeded [n] while flowing [n].

Cause: The pressure in the manifold exceeded the indicated maximum, while flowing gas over the sample.

Action: Verify that the exhaust line is not plugged or restricted. Reduce the pressure of the flowing gas at the tank regulator. Resume the experiment while monitoring the manifold pressure and flow rate. Adjust the regulator pressure to achieve the desired flow rate with a manifold pressure of less than the indicated maximum.

6237 Time limit exceeded while attempting to reach temperature [n].

Cause: The maximum time allotted for the heating operation in a 2020 chemical adsorption analysis was exceeded.

Action: Contact your Micromeritics Service Representative.

6238 Furnace is not in the raised position. This is not the recommended operating configuration. Do you wish to proceed with the analysis?

Cause: The elevator holding the furnace is not in the fully raised position. Unless a custom furnace or dewar is being used, it is not the correct operating position.

Action: Click **No** to stop the analysis initialization; then correctly position the furnace. Click **Yes** if you are using custom equipment and are certain it is installed correctly.

6240 Leak test failed on port [n].

Cause: With the sample port valve closed, the sample pressure increased by 0.15 mmHg before the leak test duration was completed.

Action: Check sample tube fitting and ensure that it is securely attached to the port. Then restart the analysis.

6241 Maximum time limit exceeded before the port [n] elevator reached the UP position.

Cause A: The maximum time for the analysis was exceeded before the elevator reached the UP position. Ice may be present in the bottom or the neck of the dewar.

Action A: Check the dewar and remove ice if necessary. Then restart the analysis.

Cause B: The Psat tube is interfering with elevator movement.

Action B: Ensure the Psat tube is close to the sample tube and the dewar lid is over both the sample and Psat tubes. Then restart the analysis.

6241 Maximum time limit exceeded before the port [n] elevator reached the DOWN position.

Cause: The maximum time for the analysis was exceeded before the elevator reached the UP position. Ice may be present in the bottom or the neck of the dewar.

Action: Check the dewar and remove ice if necessary. Then restart the analysis.

6242 Time limit exceeded while evacuating Psat tube.

Cause: The maximum time allotted for the Psat tube evacuation operation in a 2020 physical adsorption analysis was exceeded.

Action: Contact your Micromeritics Service Representative.

6243 Time limit exceeded while dosing Psat tube to 925 mmHg.

Cause: The sample was at a pressure greater than 0.5 mmHg at the start of the leak test. A leak test can not be performed unless the sample has been fully evacuated.

Action: Insert an evacuation task immediately before the leak test. If an evacuation task is already present, ensure that the evacuation is being performed at the same temperature as the test and that the duration of the evacuation is adequate.

6244 [n] Analysis canceled. Time limit exceeded while storing analysis gas in Psat tube.

Cause A: The time limit (10 minutes) was exceeded while storing the analysis gas in the Psat tube. The Psat gas regulator may be set too low or turned off.

Action A: Set the Psat gas regulator to 15 psig (1.03 bar). Then restart the analysis.

Action B: The Psat gas cylinder is empty.

Action C: Connect a new Psat gas cylinder. Then restart the analysis.

6264 Calculations failed for first analysis data.**6265 Calculations failed for repeat analysis data.****6266 Calculations failed for differential data.**

Cause: Calculations for the primary/repeat/difference data set failed. Not enough points were supplied to the line-fit, or the line-fit could not be successfully computed.

Action: Ensure that an appropriate selection of data has been made for the calculation.

6267 Fewer than two repeat points are available.

6268 Fewer than two difference points are available.

6269 Line fit could not be done for repeat data.

6269 Line fit could not be done for primary data.

6269 Line fit could not be done for difference data.

Cause: Fewer than two primary/repeat/difference points were passed to the line fit calculation.

Action: Select two or more data points for the line fit calculations.

6500 Failed to evacuate manifold to VAC SET in [n] seconds. Calibration canceled.

Cause A: The vacuum set point is set too low.

Action A: Reset VAC SET point to 5.0 mmHg. If the VAC SET point is already at 5.0 mmHg or above, the vacuum gauge may need servicing.

Cause B: Leak in manifold.

Action B: Locate the leak and repair it. Restart calibration.

Cause C: Valve failure.

Action C: Identify the leaking valve. Contact your Micromeritics Service Representative.

6501 The 1000 mmHg transducer offset exceeds recommended limits: [n].

6502 The 10 mmHg transducer offset exceeds recommended limits: [n].

6502 The 1 mmHg transducer offset exceeds recommended limits: [n].

6503 The 0.1 mmHg transducer offset exceeds recommended limits: [n].

6503 The 1 mmHg transducer offset exceeds recommended limits: [n].

Cause: The *Pressure Gauge Calibration* operation showed the transducer offset exceeds the recommended limit.

Action: Repeat the *Pressure Gauge Calibration* operation. Contact a Micromeritics service representative if this error message continues.

6504 Unable to write the calibration file [n].

6505 Unable to read the calibration file [n].

6506 Calibration file for [n] is invalid.

Cause: A **Save to File** operation failed.

Action: Confirm there is sufficient free space on the media receiving the file and that the media is not corrupted. Contact a Micromeritics service representative if this error message continues.

6509 The sample has an invalid status and cannot be used for degassing.

Cause: A file selected for degassing has a status other than *No Analysis* or *Prepared*.

Action: Select a different file.

6510 Error evacuating.

Cause: An evacuation error occurred during a degas operation.

Action: Contact a Micromeritics service representative if this error message continues.

6511 Error dosing.

Cause: A dosing error occurred during a degas operation.

Action: Contact a Micromeritics service representative if this error message continues.

6512 Error calibrating the servo.

Cause: An error occurred while calibrating the servo valve.

Action: Contact a Micromeritics service representative if this error message continues.

6513 Error waiting for pressure to drop.

Cause: A pressure error occurred during a degas operation.

Action: Contact a Micromeritics service representative if this error message continues.

6514 Problem encountered dosing to target [n], last pressure = [n], elapsed time = [n].

Cause: Dosing during an analysis did not come within the allowed range of the target.

Action: Check that the outlet stage of the gas regulator is within specification. Contact a Micromeritics service representative if this error message continues.

6516 Sample pressure greater than [n] is not allowed.

Cause: An absolute pressure greater than (pressure) mmHg was attained during low pressure dosing (either fixed dose mode or incremental dose mode).

Action: The analysis was canceled. All previously collected data were stored.

6517 Total volume dosed greater than [n] is not allowed.

Cause A: The maximum total volume dosed in an analysis was exceeded.

Action A: Perform leak checks on the system. Contact your Micromeritics Service Representative.

Cause B: The value for the P_0 may be too low, causing the analyzer to mistake condensation for actual adsorption

Action B: Change the analysis variables to directly measure the value of P_0 during the experiment.

Cause C: The amount of sample used may be too large. Multiply the maximum value from the Volume Adsorbed column of the Isotherm Report by the sample weight. If the result exceeds (volume) cm^3 , the amount of sample is too large.

Action C: Reduce the amount of sample.

6518 Pressure of $[n]$ exceeds the maximum manifold pressure of $[n]$.

Cause: The maximum pressure in the analysis was exceeded.

Action: Contact your Micromeritics Service Representative.

6519 Psat gas is not condensing.

Cause A: The working dewar does not contain enough bath liquid.

Action A: Retry the operation after filling the dewar.

Cause B: The Psat gas is contaminated.

Action B: Replace the Psat gas supply.

Cause C: The Psat tubing from the regulator to the analyzer is contaminated.

Action C: Pump out the tubing.

6520 Power failure detected.

Cause: A power failure occurred in the specified unit, and any analyses in progress were terminated.

Action: If the program was running and an Uninterruptible Power Supply (UPS) was attached, data points were collected and stored in the sample file. If enough data points were not collected, create another sample file and start a new analysis.

6521 Transducer overrange detected.

Cause: The transducer in the specified unit has detected a pressure equal to or greater than 1000 mmHg. The exhaust port on the sample tube may be blocked.

Action A: Inspect for and clear any blockage.

Action B: Observe caution when operating the analyzer manually. Contact a Micromeritics service representative if this error message continues.

6522 Time limit exceeded while evacuating manifold.

Cause A: Maximum manifold evacuation time was exceeded before the vacuum set point was achieved. Vacuum pump may be turned off.

Action A: Turn on vacuum pump switch. Then restart the analysis.

Caution B: The vacuum pump oil level is low.

Action B: Check the vacuum pump oil level and add more oil if necessary. Then restart the analysis.

Cause C: The manifold is contaminated or leaking.

Action C: Correct the problem. Refer to the analyzer Operator Manual on testing for leaks. Then restart the analysis.

6523 Analysis canceled: Time limit exceeded while evacuating sample (unrestricted).

Cause: The maximum time for evacuating the sample through the unrestricted valve was exceeded. Possible causes are a leak in the sample tube fitting or a crack in the sample tube.

Action: Check the sample tube and the sample tube fitting; ensure that the tube is securely attached to the port. Then restart the analysis.

6524 Analysis canceled: Time limit exceeded while evacuating sample (restricted).

Cause: The maximum time allowed for evacuating the sample through the restricted valve was exceeded.

Action: Check the sample tube and the sample tube fitting to ensure that the tube is securely attached to the port. Verify that the sample is properly degassed. Then start the analysis again.

6525 Power failure lasted too long.

Cause: A failure on an analyzer which has an Uninterruptible Supply attached has lasted for an hour or more; therefore, the analysis has been canceled.

Action: Determine the cause of the failure and correct it.

6526 Time limit exceeded while backfilling manifold to [n] with [n].

6527 Time limit exceeded while dosing manifold to [n] with [n].

Cause A: The maximum time was exceeded before the target pressure point was reached. The gas regulator may be set too low or turned off.

Action A: Set the gas regulator to 10 psig (0.7 bar). Then resume the analysis.

Cause B: The gas cylinder is empty.

Action B: Connect a new gas cylinder. Then resume the analysis.

6528 Low pressure gauge offset too high [n].

Cause: A check of the 10 mmHg or 0.1 mmHg gauge's offset during an automatic operation indicated it was too high.

Action: Contact a Micromeritics service representative if this error message continues.

6529 1000 mmHg pressure gauge offset is too high [n].

Cause: A check of the 1000 mmHg gauge's offset during an automatic operation indicated it was too high.

Action: Contact a Micromeritics service representative if this error message continues.

6530 Volume calibration canceled due to failure (code [n]).

Cause: A problem occurred during volume calibration.

Action: Contact your Micromeritics Service Representative.

6531 The gas configuration file for [n] is invalid.

Cause: The contents of the gas configuration file are not valid.

Action: Confirm there is sufficient free space on the media receiving the file and that the media is not corrupted). Contact a Micromeritics service representative if this error message continues.

6532 The Instrument is currently running the Physi software. Do you want to reset it?

Cause: The analyzer is under the control of the physical adsorption application.

Action: Click **Yes** to reset the analyzer and download the chemical adsorption control application. Click **No** to continue running the physical adsorption application.

6533 The Instrument is currently running the Chemi software. Do you want to reset it?

Cause: The analyzer is under the control of the chemical adsorption application.

Action: Click **Yes** to reset the analyzer and download the physical adsorption control application. Click **No** to continue running the chemical adsorption application.

6534 Instrument [n] is not calibrated.

Cause: Calibration information for various analyzer components are missing.

Action: Run the application *Setup* program and reinstall calibration information for the specified unit.

6535 Problem encountered evacuating to target [n], last pressure = [n], elapsed time = [n].

Cause: Evacuation during the manifold dosing operation did not come within the allowed range of the target.

Action: Check that the outlet stage of the gas regulator is within specification. Contact a Micromeritics service representative if this error message continues.

6537 Error reading SmartVac ADC.

Cause: There was a problem reading one of the signals on the SmartVac board

Action: Exit the application. Turn off the power switch on the analyzer, then turn the power back on. Restart the application and the degas operation. Contact a Micromeritics service representative if this error message continues.

6538 Power failure detected. The sample is in an unknown condition. A run termination will be performed for safety.

Cause: A total power failure occurred and an Uninterruptible Power Supply was not connected while an analysis was in progress.

Action: Allow the analysis to terminate.

6539 Error overheating Current = [n], Target = [n], Limit = [n].

Cause A: The heating mantle is reporting a higher temperature than expected.

Action A: Ensure that the heating mantle and thermocouple cables are plugged in fully on the ports.

Cause B: An internal failure of the degas system may have occurred.

Action B: Unplug the heating mantle power connector; do not unplug the thermocouple. Allow the heating mantle to cool down (approximately 15 to 30 minutes). Then exit the ana-

lysis program and turn off the analyzer. Wait a few of minutes, then turn the analyzer on and restart the application. Contact a Micromeritics service representative if this error message continues.

6540 Error thermocouple unplugged Current = [n], Target = [n].

Cause: The heater was enabled, but the thermocouple was unplugged.

Action: Plug in the thermocouple and try again.

6541 Error: SmartVac is not in a valid state to check degas.

Cause: The SmartVac is performing another operation while another is being requested.

Action: Contact your Micromeritics Service Representative.

6542 Sample temperature target exceeds 1100 °C [n].

Cause: The maximum sample temperature target in a 2020 physical adsorption analysis was exceeded.

Action: Contact your Micromeritics Service Representative.

6543 Temperature control disabled. Sample [n] or furnace [n] thermocouple error.

Cause: A problem was detected with the furnace thermocouple.

Action: Check the furnace thermocouple. Contact a Micromeritics service representative if this error message continues.

6544 Temperature control disabled. Furnace [n] to sample [n] temperature limit exceeded.

Cause: The maximum furnace to sample temperature in a physical adsorption analysis was exceeded.

Action: Contact your Micromeritics Service Representative.

6545 Temperature control disabled. Expected [n] to sample [n] temperature limit exceeded.

Cause: The expected temperature vs. the actual sample temperature in a physical adsorption analysis was exceeded.

Action: Contact your Micromeritics Service Representative.

6546 Desorption sample pressure less than [n] is not allowed.

Cause: A desorption target pressure less than 0.050 mmHg was requested. A target absolute pressure less than 0.050 mmHg can correspond to various target relative pressures depending on the value of P_0 . For example, if $P_0 = 760$ mmHg, a relative pressure less than $0.050 / 760.0 = 0.0000658$ will result in an error. The analysis will terminate.

Action: Remove the low target relative pressure from the pressure table.

6547 Vacuum group is not configured.**6548 A request to access the shared vacuum system was rejected.**

Cause: The vacuum group is incorrectly configured, or a 2060 attempted to access a vacuum system belonging to another vacuum group.

Action: Open the *Vacuum Groups* window. Ensure that only analyzers shown in this window are currently powered on and physically connected to the same network. If other 2060s are on the same network, ensure that they are correctly configured or powered off.

6549 The shared vacuum system is not responding to requests for access.

Cause: The analyzer managing a vacuum group is either powered off or is not connected to the same network as another analyzer in the same vacuum group.

Action: Open the *Vacuum Groups* window. Ensure that all analyzers shown in this window are currently powered on and physically connected to the same network.

6556 SmartVac failed to initialize.

Cause: Application does not give the SmartVac enough time to initialize.

Action: Restart the application.

6557 CryoStat operation failed or was canceled. Errors = [n], target = [n], actual = [n].

Cause: The wait for the cryostat to reach target temperature was either skipped or failed due to a communications issue with the cryostat.

Action: Ensure that the cryostat, the analyzer, and the Windows computer are connected to the same network switch or hub. Ensure that no other devices are connected on the same subnet with the same IP address.