

MICROACTIVE GEMINI[®] VII



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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.

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.

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.

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 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.

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 ana-

alyzer'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.

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: Correct the problem indicated in the previous error message, then restart the application.

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.

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).

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.

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.

2508 Overlay [n] was not found. It will not be included in the reports.

Cause: The specified overlay file could not be found.

Action: Ensure the file specified as an overlay exists.

2509 Error opening file [n]. Reports cannot be produced.

Cause: An error occurred while the application was opening a file necessary to the report operation.

Action: Use the name given in the error message to investigate. Contact your Micromeritics Service Representative.

2510 Error parsing reports from file [n]. Reports cannot be produced.

Cause A: One or more data entry fields in the sample file may contain an invalid character.

Action A: Review the data entry fields, then remove the invalid character.

Cause B: The system was unable to create the usual temporary files during the report, possibly due to insufficient disk space.

Action B: Check the available hard disk space .

Cause C: An internal processing error occurred.

Action C: Contact your Micromeritics Service Representative.

2511 Print job [n] has been canceled due to insufficient disk space. Delete unnecessary files and restart the report.

Cause: The media drive does not have required space for the temporary file.

Action: Delete unnecessary files from the disk. At least five megabytes of free space is required for normal operation.

2512 Print job [n] canceled.

Cause: The print job was canceled by the operator.

Action: None required.

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.

2522 Invalid controller application file.

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

Action: Reinstall the analysis program.

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.

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.

2599 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.

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.

2629 The application controller [n] must not belong to either the analyst or developer group in order to run this application. Program will terminate.

Cause: The application controller was placed in the analyst or developer group (or both).

Action: Remove the application controller from the group(s).

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.

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.

4006 Report type not found.**4007 Error processing report.**

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

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

4008 Report requested on sample file with no data points.

Cause: The selected file contains no collected data.

Action: Select another file which contains collective data and restart the report.

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.

- 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.
- 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.
- 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.

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 The data requested on this report are not available. No subreports selected.

Cause: There is no information in the sample log to report.

Action: A sample file was selected of which no analyzer operations were used. Select a

sample file with a status of *Prepared*, *Preparing*, *Analyzing*, or *Complete* to obtain a valid sample log report.

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.

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.

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.

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.

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.

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 rep-

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.

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.

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.

6008 At least one sample must be selected to proceed.

Cause: An attempt was made to start an analysis without selecting any sample files.

Action: Select at least one file, then start the analysis.

6023 Desorption points in this sample file cannot be processed by this instrument. Continue with adsorption points?

Cause: The selected sample file in this analysis has desorption points selected in the pressure table. The analyzer (Gemini 2390a or 2390p) cannot report desorption data.

Action A: Click **Yes** to continue with the analysis and report adsorption data only. Click **No** either to choose a different file or to edit the current file.

Action B: If using a Gemini 2390t, select *Start Analysis* for that unit.

6024 Some selected reports are invalid for this instrument.

Cause: The requested report cannot be generated with the Gemini 2390a.

Action: Edit the report selections on the *Report Options* window.

6025 Serial write queue full.

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

Action: Ensure the Ethernet cable is securely connected. Exit the application and then restart it. Contact a Micromeritics service representative if this error message continues.

6026 Measure Po for each point is not supported by this model. Choose another sample file for analysis or change the Po option in the analysis conditions.

Cause: *Measure Po for each point* was selected as the saturation method. This option is only available for the Gemini 2390p or 2390t.

Action: Edit the Po options in the analysis conditions and select *Entered* or *Most recent measured* as the saturation pressure method.

6027 Analysis: Po dosing failure.

Cause: The dewar does not contain enough cryogen to take an accurate reading in the Po tube.

Action: Refill the dewar with cryogen and restart the analysis.

6028 This instrument does not provide measured Po analyses.

Cause: An attempt was made to start an analysis on the Gemini 2390a using a sample file in which *Measure Po for each point* was selected as the saturation method. This feature is available only for the Gemini 2390p and 2390t.

Action A: Cancel the analysis, open the sample file, and select *Entered* or *Most recent measured* for the P_0 value. Restart the analysis

Action B: Select a different file and continue with the analysis.

Action C: If a Gemini 2390p or 2390t is attached, select *Start Analysis* for that unit.

6029 Instrument is not completely calibrated.

Cause: The analyzer in use is missing calibrations.

ActionA: Go to **Unit > Calibration > Load from File** and select a file containing calibration data. Contact a Micromeritics service representative if this error message continues.

6030 A sample must be selected to proceed.

Cause: Select a sample file prior to starting a blank analysis or a *QuickStart* analysis.

Action: Select a sample file and proceed with the analysis.

6031 Cannot read the analysis conditions parameter file.**6032 Cannot read the adsorptive properties parameter file.****6033 Cannot read the report options parameter file.**

Cause: The file is corrupt.

Action: Recreate the file or select a different file.

6035 The instrument e [η]. is not calibrated.

Cause: Upon initialization, the analyzer was unable to locate the calibration file.

Action: Go to **Unit > Calibration > Load from File** and select a file containing calibration data. Contact a Micromeritics service representative if this error message continues.

6036 Pressure is out of range.

Cause: There is a problem with the analyzer's calibration.

Action: Select **Unit > Calibration > Load from File**, then select a file containing calibration data. Contact a Micromeritics service representative if this error message continues.

6037 Sample pressure underrange.

Cause: A test of the sample pressure transducer showed a low reading. The current operation will continue.

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

6038 Sample pressure overrange.

Cause A: Adsorbate gas pressure is too high. The current operation will continue.

Action A: Verify that the gas inlet pressure regulator setting does not exceed 15 to 18 psi (103.4 to 124.1 kPa). Contact your Micromeritics Service Representative.

Cause B: An error occurred in the pressure measurement electronics.

Action B: Contact your Micromeritics Service Representative.

6039 Po pressure underrange.

Cause: A test of the P_0 pressure transducer showed a low reading. The current operation will continue.

Action: Contact your Micromeritics Service Representative.

6040 Po pressure overrange.

Cause: The gas pressure in the P_0 tube is too high. The current operation will continue.

Action A: Verify that the gas inlet pressure regulator setting does not exceed 15 to 18 psi (103.4 to 124.1 kPa). Contact a Micromeritics service representative if this error message continues.

Cause B: An error occurred in the pressure measurement electronics.

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

6041 Quantity adsorbed underrange.

Cause: A test of the quantity adsorbed pressure transducer showed a low reading. The current operation will continue.

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

6042 Quantity adsorbed overrange.

Cause A: The rate of adsorption by the sample exceeded the response capacity of the analyzer, preventing normal refilling of the gas reservoirs.

Action A: Repeat the analysis using a smaller amount of sample.

Cause B: An error occurred in the pressure measurement electronics.

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

6043 Evacuation timeout.

Cause: The analyzer failed to reach a suitable vacuum level within the specified evacuation time.

Action A: Remove and reattach the sample and balance tubes, ensuring that both are securely in the port.

Action B: Verify that the vacuum pump is operating properly.

Action C: If actions A and B don't correct the problem, degas the sample again and repeat the analysis.

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

6044 Dosing timeout.

Cause A: The adsorbate gas supply was depleted by the analyzer during analysis or termination.

Action A: Verify that the inlet valve on the gas bottle is open and that the gas pressure regulator setting is between 15 and 18 psig (103.4 and 124.1 kPa). Check the adsorbate gas bottle to see if it is empty; replace if necessary.

Cause B: Sample has adsorbed the maximum amount of gas available.

Action B: If additional data points are required, repeat the analysis with a smaller amount of sample (to avoid exceeding 100 cm³ STP total volume adsorbed).

6045 Elevator timeout.

Cause: The elevator was unable to reach the raised or lowered position.

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

6048 Po fill timeout.

Cause: The adsorbate gas supply was depleted during an analysis or a P₀ measurement.

Action: Verify that the inlet valve on the gas cylinder is open and that the gas pressure regulator setting is between 15 and 18 psig (103.4 and 124.1 kPa). Verify that the adsorbate gas is not empty; replace if necessary.

6049 Operator canceled operation.

Cause: **Cancel** was clicked while an analysis or a P₀ measurement was in progress.

Action: Restart the operation.

6050 Valve failure.

Cause: An error in the valve control electronics has occurred.

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

6051 Power fail.

Cause: A power failure occurred during an automatic operation. The operation was canceled.

Action: Restart the operation.

- 6052** **Zero calibration failed.**
- 6053** **Scale calibration failed.**
- 6054** **Transducer match failed.**
- 6055** **Dosing servo calibration failed.**
- 6056** **Balance servo calibration failed.**
- 6057** **Quantity adsorbed calibration failed.**

Cause A: Calibration was out of the tolerance range.

Action A: Verify the preparatory steps for the calibration were performed properly. For example, the sample tube may not have been empty.

If all preparatory steps were followed and no other message was displayed, contact a Micromeritics service representative.

Cause B: One of the steps in the calibration failed. An additional error message is displayed.

Action B: Refer to the Cause/Action for the error message that displayed with this one.