MICROPREP

micromeritics®

QUICK START GUIDE

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ABOUT THIS GUIDE

This quick start guide will help you start an analysis with supplied reference material and a pre-defined method. See the Operator's Manual for general instructions for operating the instrument.

The following symbols or icons indicate safety precautions and/or supplemental information and may appear in this manual:

NOTE — Notes contain important information applicable to the topic.

CAUTION — Cautions contain information to help prevent actions that may damage the instrument or components.

WARNING — Warnings contain information to help prevent actions that may cause personal injury.

GENERAL SAFETY

Do not service or modify this instrument without authorization from Micromeritics Service Personnel. It does not include any user-serviceable parts.

Any piece of laboratory equipment can become dangerous to personnel when improperly operated or poorly maintained. Individuals operating and maintaining Micromeritics instruments should be familiar with its operation and should be thoroughly trained and instructed on safety.

- Read the operator manual for any special operational instructions for the instrument.
- Know how the instrument functions and understand the operating processes.

- Wear the appropriate personal protective equipment when operating this instrument — such as eye protection, lab coat, protective gloves, etc.
- When lifting or relocating the instrument, use appropriate lifting and transporting devices designed for heavy equipment. Ensure that enough personnel are available to assist with the movement of the instrument.
- Always pay attention to the safety instructions provided on each label affixed to the instrument and do not alter or remove the labels. When inspecting the instrument, ensure that the safety labels have not become worn or damaged.
- Proper maintenance is critical to personnel safety and smooth instrument operation and performance. Instruments require regular maintenance to help promote safety, provide an optimum end test result, and to prevent costly down time. Failure to practice proper maintenance procedures can lead to unsafe conditions and shorten the life of the instrument.
- Improper handling, disposal, or transportation of potentially hazardous materials can result in serious injury or damage to the instrument. Always consult the SDS when working with hazardous substances. Safe operation and handling of the instrument, supplies, and accessories are the responsibility of the operator.

INTENDED USE

The instrument is intended to be operated by trained personnel familiar with the proper operation of the equipment recommended by the manufacturer and as well as relevant hazards involved and prevention methods. Other than what is described in this manual, all use is seen as unintended use and can cause a safety hazard.

The instrument is intended to be used as per applicable local and national regulations.

SYMBOLS THAT MAY APPEAR ON THE INSTRUMENT

The following symbols or icons indicate safety precautions and/or supplemental information and may appear on your instrument:

Use extreme caution when working on the instrument where one of these symbols may be displayed. These symbols indicate the part may be hot and cause serious burns.

Use the cotton gloves provided in the accessory kit when handling heated surfaces. These cotton gloves are not intended to protect hands when heated surfaces are above 60 °C.

When working on an instrument where this symbol is displayed, refer to the corresponding Operator Manual for additional information.

When this symbol is displayed, toxic or flammable gases require proper venting of exhaust.

This symbol can also indicate the instrument uses mercury which is an extremely toxic substance. Read the Safety Data Sheet (SDS) and be aware of the hazards of mercury and know what to do in the event of a spill or an exposure incident.

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ABOUT MICROPREP

The MicroPrep is used for outgassing the zeolite trap on the ChemiSorb Auto. The zeolite trap replaces a traditional cold trap, a metal coil typically submerged in a cryogenic slurry, used to condense vapors from the gas downstream of the sample prior to reaching the thermal conductivity detector (TCD).

Vapors negatively impact the reading of the TCD, reducing accuracy, and shortening its functional life. Therefore, vapors generated during chemisorption experiments, such as water vapor produced from catalyst reduction, must be removed from the gas stream before coming in contact with the TCD when active.

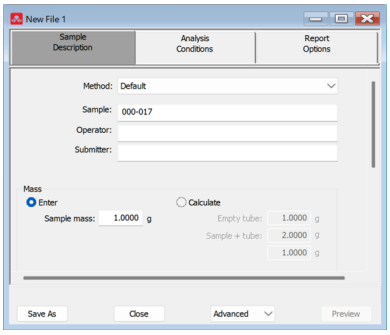
If the TCD is not enabled, vapor will not affect it.

The cold trap is effective but not user friendly, requiring the operator to make a cryogenic slurry for every analysis. The hydrophilic nature of the zeolite allows it to adsorb vapors, making it a more attractive option. However, over time the zeolite will become saturated and will no longer have any capacity for vapor adsorption. The vapor sorption of the zeolite is reversable; therefore, the zeolite does not need to be replaced, it simply needs to be regenerated.

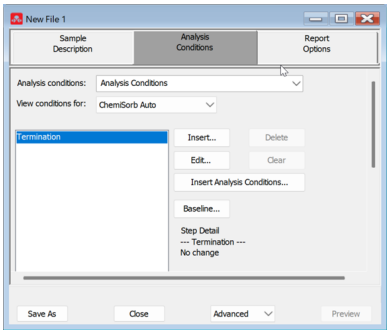
Combining flowing inert gas through the zeolite bed with heat generated by the MicroPrep causes the trapped vapor to desorb, cleaning the zeolite for further use with the ChemiSorb Auto. The frequency of regeneration is dependent on the typical use and application of the instrument. If the instrument and trap are used on a daily basis then it is best practice to regenerate the trap once a week. If the instrument and trap are used sparingly it is best to regenerate the trap on a monthly basis.

REGENERATE TRAP FOR CHEMISORB AUTO

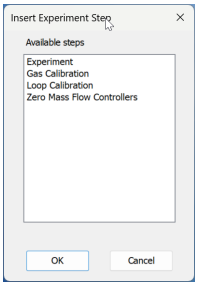
1. To create a sample file, from the menu bar, select ***File > New Sample***.



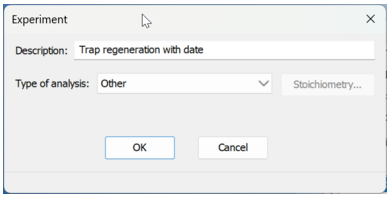
2. Select the ***Analysis*** tab.
3. In *View Conditions For* field, click the drop-down list, and select ***ChemiSorb Auto***.



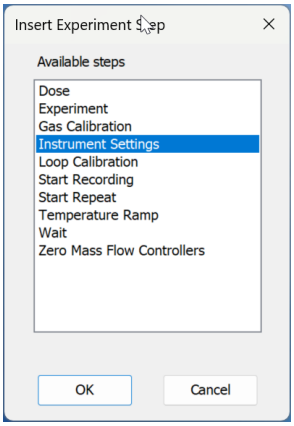
4. Click **Insert**. The Insert Experiment Step dialog box displays.



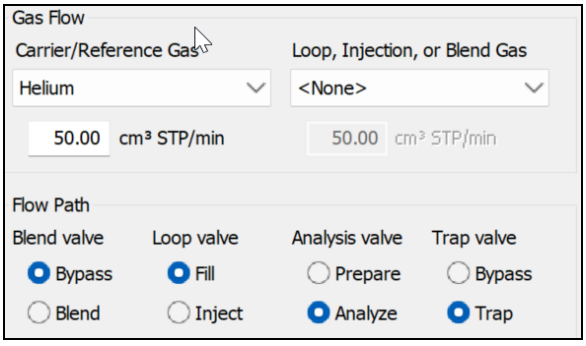
5. Under *Available Steps*, click ***Experiment*** and click **OK**.
6. In the *Description* field, enter ***Trap regeneration with date***.
7. In the *Type of analysis* field, click the drop-down list, select ***Other*** and click **OK**.



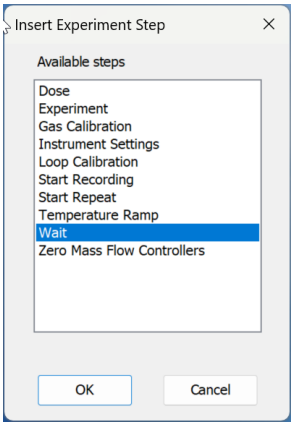
8. When returned to the Analysis Conditions dialog box, click ***Termination***.
9. Click **Insert**.
10. In the *Insert Experiment Step* dialog box, click ***Instrument Setting*** and click **OK**.



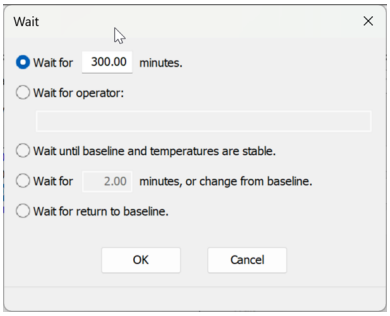
11. In the Instrument Settings dialog box, do the following:
    - For *Gas Flow*, under *Carrier/Reference Gas*, click the drop down list and select ***Helium***. Then enter a flow rate of ***50.00*** sccm.
    - For *Flow Path*, click the radio buttons for **Bypass**, **Fill**, **Analyze**, and **Trap**.
12. Click **OK**.



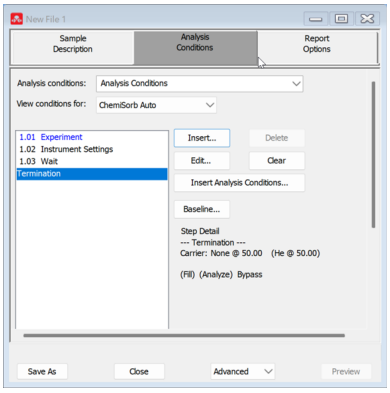
13. On the Analysis Conditions tab, click ***Insert***.
14. In the Insert Experiment Step dialog box, click ***Wait***, then click **OK**.



15. In the Wait dialog box, enter **300** in the *Wait for [minutes] field*. Click **OK**.



The Analysis Conditions tab displays the following:

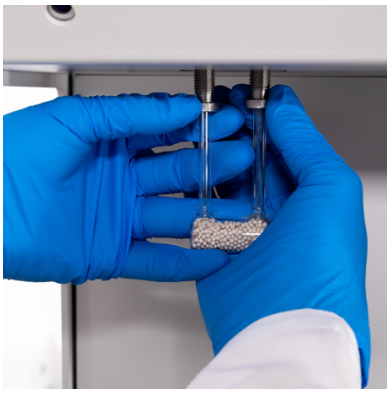


16. Select **Save As** (or **Save** if the file was previously saved).
17. In the Save File dialog box, and name the file **Trap Regeneration**. Click **Save**.

INSTRUMENT SET UP

1. On the instrument, remove the metal coil trap by unscrewing the nuts.

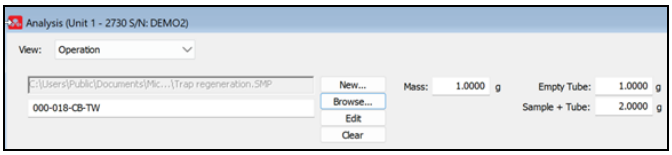
2. Attach the moisture trap glass tube containing molecular sieves.



3. Carefully slip the heating mantle over the glass cell, tie the lace, and place the clip on the mantle to hold it in place.

STARTING THE SAMPLE ANALYSIS

1. Return to the ChemiSorb Auto application.
2. From the toolbar, select ***Unit > Sample Analysis***.
3. Click **Browse**.
4. In the *Select a File for Analysis* dialog box, select the **Trap Regeneration** file saved previously.



5. When you return to the Analysis dialog box, click **Start**.
6. On the MicroPrep, set the heating mantle temperature to 245 °C by holding the star button on the left, then holding the up arrow until the target temperature is reached.
7. Upon completion of the test, cool the heating mantle by setting it to 0 °C by holding the star button on the left, then holding the down arrow until the target temperature is reached.

After the mantle has cooled, it can be removed or left in place to be used for the next regeneration cycle.

中国 RoHS 有害物质限用表 / China RoHS Hazardous Substance Table (SJ/T 11364-2024)

产品 / Product: J-KEM MicroPrep (distributed by Micromeritics Instrument Corp.)

所有主要部件均符合中国 RoHS / All major components are compliant

组件 / Component	有害物质 / Hazardous Substances									
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸二（2-乙基）己酯 (DEHP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二正丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)
电源模块 / Power Supply	○	○	○	○	○	○	○	○	○	○
控制电子 / PCB 模块 / Control Electronics / PCB	○	○	○	○	○	○	○	○	○	○
显示屏 / Display	○	○	○	○	○	○	○	○	○	○
机架与外壳 / Frame & Housing	○	○	○	○	○	○	○	○	○	○
布线与连接器 / Wiring & Connectors	○	○	○	○	○	○	○	○	○	○

符号说明 / Legend:

○ = 含量在限值以下 / Substance is below threshold

× = 含量超过限值 / Substance exceeds threshold