



Is there any cleaning procedure for Glass Fused Silica Capillaries used in LC/MS systems?

Cleaning Procedure for Conductive Capillaries:

Various cleaning procedures have been recommended for the Agilent ion transport capillaries:

- The procedure for the Agilent Ion Trap specifies a 50:50 H₂O / isopropanol solution to rinse the capillary bore, using a syringe.
- The procedure for the Agilent Single Quad specifies the use of a cotton wad soaked with solvent and drawn through the capillary bore with wire.

We are recommending a new procedure for the Agilent conductive ion transport capillaries (a Fused Silica capillary). This procedure provides superior cleaning and should be used for non-conductive glass capillaries (old type) as well.



Cleaning Procedure:

1. Prepare an Alconox Detergent Solution:
 - a. Use "Alconox Detergent Powder", catalog item 1104. The Alconox Powder is included in the ship kit
 - b. Dissolve 1g Alconox in 100ml deionized water. This is the same Concentration recommended for "manual or ultrasonic cleaning".
2. Place ion transport capillary upright in a 100ml polypropylene graduated cylinder and fill with Alconox solution. Sonicate the graduated cylinder with the ion transport capillary in an ultrasonic cleaner for 10 to 15 minutes.



Note:

a. A glass-graduated cylinder may also be used if a 1 mL pipette tip is placed over the end of the ion transport capillary to protect the metalized plating. The pipette tip should be trimmed to approximately 4 cm so the capillary can be immersed in the cleaning solution.

b. To maintain the proper resistance, the conductive ion transport capillaries should be handled only with protective (i.e. nitrile) gloves.



3. Rinse the ion transport capillary and graduated cylinder several times with dionized water.
4. Fill graduated cylinder with deionized water and sonicate the graduated cylinder with the ion transport capillary for 10 to 15 minutes.
5. Remove ion transport capillary from graduated cylinder and remove the pipette tip, if applicable.
6. Blow out excess water from the ion transport capillary bore using AeroDuster or oil-free pressurized gas.
7. Install the ion transport capillary in LC/MS Desolvation Assembly:
 - a. Lubricate the ion transport capillary surface with isopropanol and insert carefully into Desolvation Assembly. Support the front and rear of the capillary and keep it level during installation. When 2-3 cm of the capillary still extends from Desolvation Assembly, it will “hold up” on the rear contact spring. Keeps applying pressure until ~1cm remains extending from the Desolvation Assembly.



- b. Lubricate the ion transport capillary tip with isopropanol and install the Capillary Cap.
 - c. Install the threaded Spray Shield by turning clockwise.
8. Close the spray chamber and begin an instrument pump down using the “Maintenance\MSD Pumpdown” function. 6100 series LC/MS instruments require a power cycle to initiate the pumpdown function.

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