Agilent Technologies

Split/Splitless Inlet Cleaning Procedure
5890 and 6890 Split/Splitless Inlets

The Split/Splitless inlet will become active (degrading certain types of compounds) over time. In some cases, just changing the liner and the gold seal will not remedy this problem. In these cases a more vigorous cleaning procedure must be implemented. The following procedure has been developed to help in this process.

The following parts and solvents will be needed:

     38-caliber brass gun barrel cleaning brush with metal rod.

     Methylene Chloride

     Acetone

     Methanol

     Glass transfer pipettes with bulb

     "Kimwipes"

     Safety Glasses

     Lab Coat

     Nitrile Chemical Resistant Gloves

1. Cool the inlet. This is best accomplished by reducing the inlet temperature to 40C. Leaving the inlet on allows the injection port fan to continue to operate thus, aiding in cooling the injection port. It is also helpful to lower the oven temperature to 40C. These steps can be performed from the GC front panel or the Chemstation software.

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2. After the inlet has cooled sufficiently (at least 70C), turn the inlet flow off.

3. If an autosampler is in place, remove tower, tray and top cover.

4. While wearing appropriate safety apparel, remove the weldment assembly that covers the GC liner. Remove the liner completely from the GC. Notice a flow line that sits below the weldment, this is the split vent flow line. This should have a 7/16" swagelok fitting, loosen the fitting and remove the split vent flow line.

5. Turn the GC oven off and open the door. Loosen and remove the GC column nut from the inlet. Place a septa over the injection port end of the column, so as NOT introduce O2 to the column. Remove the insulator and the gray reducing nut that houses the gold seal and washer from the bottom of the inlet.

6. The injection port consists now of just a long metal tube. All flow lines and the glass liner have been removed from the assembly. Dip the gun brush into the Methylene chloride and insert the brush into the inlet completely. **MOVE THE BRUSH UP AND DOWN DO NOT TWIST.** Perform this step twice. Then use the glass pipette to rinse the inlet with Methylene Chloride. Follow the Methylene Chloride rinse with an Acetone brush and rinse and finish with a Methanol brush and rinse.

7. After the last Methanol brush and rinse, dab the top of the inlet with a "kimwipe" to remove any residual solvent that may pool. Look down through the assembly to make sure that it is free of particles that may stick to the walls of the inlet. Heat the inlet to 65C to flash vaporize the solvent away. (**THIS IS A CRITICAL STEP THAT CANNOT BE BYPASSED).**

8. Reassemble the inlet with a new gold seal, washer, liner, and a new ferrule on the column. Make sure that the column is re-cut prior to installation. Reinstall the split vent line and tighten. Reinstall the weldment assembly (**NOTE: Prior to reinstalling the autosampler assembly turn the injection port flow back on. Do not turn the injection port temperature on.)** Check to make sure that proper head pressure can be obtained, if not recheck all fittings for leaks.

   Before increasing the temperature, let the inlet sit at 65C for about 10 minutes to remove any oxygen that might be in the inlet. **THIS STEP MUST NOT BE SKIPPED. IF IT IS THE CLEAN PARTS JUST INSTALLED WILL BE REOXIDIZED.**

9. After 10 minutes heat the inlet to operating conditions. Let it stabilize for 5 minutes. Make at least 2 blanks runs before any analyte is injected, to make sure that the inlet has been successfully cleaned. Be aware this technique does not work on all applications, and over time will not bring the inlet back. The assembly will need to be changed in time.

Please make sure that there is full understanding of this procedure prior to disassembly of injection port. If you are unable to complete this procedure please

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