

Polarimeter Cell Cleaning Prior to Making a Measurement

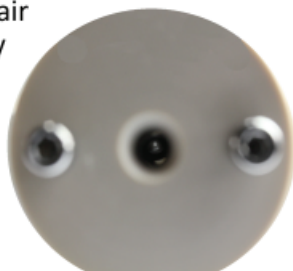
Cleaning a Polarimeter Sample Cell – Video Transcript

This video gives a brief overview of the proper method of cleaning a Rudolph polarimeter cell. This video is relevant to; 40T Temptról polarimeter cell supplied with the Autopol IV-T, V, V plus and VI – 40T Polarimeter cell is shown 32 Cell supplied for low volume measurements in a non Temptról polarimeter like the Autopol III – The 32 Polarimeter cell is shown. Before starting the process suitable solvents need to be selected. Often two solvents are used, one that will remove the sample and another that will remove the first solvent. Since this cell had sucrose in it I am going to use water and acetone. – Generally solvent 1 will become the “Blank” After cleaning the polarimeter cell will need to be dried, in a laboratory this will often mean using clean compressed or nitrogen but for this video I am going to use canned air. Shown are – Wash bottle labeled water, Wash bottle labeled acetone, and Canned air

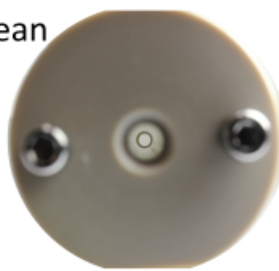
Inject solvent 1 and move back and forth with the syringe
Inject solvent 2 and move back and forth with a syringe
Blow the cell dry with the air

At this point the cell should be clean and dry, ready for the next sample. I am going to look down the end to confirm – Visual – End of the cell clear to end.

Cell with air
or not dry



Cell is clean
and dry



Of course my description assumes that we are going to clean the polarimeter cell immediately after measurement however people are people and mistakes happen. Sometimes samples precipitate in the cell, sometimes people forget to clean the cell and the sample dries on the cell wall. This section shows how to pull the cell apart if simple cleaning does not suffice

Remove the ends of the cell using an allen driver
We now have access to the inside of the cell. Under normal circumstances the fluid will enter from the inlet in the outer ring, come out over the windows and then back through the inner tube
We can pull the glasses from the ends
Now all the wetted materials can be soaked in a solvent even cleaned in an ultrasonic bath
Reassembly is the same process in reverse. Just remember that the washer goes outside the glasses.
The ends only fit one way. Remember that you are sealing a precision glass on glass fitting and finger tightness is all that is needed.
The polarimeter cell is clean and now ready to be used again.



To view the entire line of Rudolph Research Polarimeters please visit Rudolph Research Analytical or view our Autopol line of Automatic Polarimeters