



How do I clean glass capillary viscometer tubes?

Laboratory instrument care

Find some great tips & tricks for cleaning glass capillary viscometer tubes. When using the ASTM method D445, here's some guidance on cleaning solvents from glass capillary viscometer tubes. Begin with employing a solvent which is miscible with your sample. Then find a second solvent that is miscible with the first solvent and water. Bear in mind that the second drying solvent may not be necessary if the first solvent adequately evaporates and water is not present in the sample. If the viscometer tube has a build-up on it that is not removed with these solvents, then the viscometer can be cleaned with chromic acid. The chromic acid doesn't adhere to glass and is therefore a great product for cleaning.

The CANNON automated viscometers can use similar guidelines for washing and drying solvents. The second solvent is again optional. For cleaning out build-up in the viscometer tubes, we recommend an alkaline detergent for cleaning. Remember that prolonged exposure to the glass can etch the surface and change the capillary. We recommend to using the detergent at a temperature below 80 °C and to simply pull the fluid up into the tube and then immediately drop the fluid back out, making sure not leave it in the tube. Then, rinse the tube with several vials of water and finally dry it with acetone or an alcohol.

The detergent can also attack metals in the solenoid valves. Never place the detergent in a sample vial and run it like a sample and never run it through the instrument in place of the normal solvent. Use an alternative source of vacuum and a trap to pull the fluid up into the tube. A house vacuum source with a trap could be used. You can check to see if the detergent etched the glass by measuring a certified reference material after cleaning to verify the viscometer tube is measuring properly.

Tips & Tricks supplied by CANNON, Tom Zubler, VP of QA & Technical Services

Find out more about CANNON Instruments from our

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