

Fritted Fused Silica

Materials

Potassium Silicate, Aqueous Soln, 29.8 Deg. Baume, Pfaltz & Bauer No.:P23830-200g (Fisher part # 50-828-816)

Formamide, 99.5%, for analysis, ACROS Organics (Fisher part # AC205821000)

Fused silica 100 μm ID x 360 μm OD (Molex (former Polymicro) part # TSP100375)

Heater (dry bath) at $\sim 90^\circ\text{C}$

Protocol

1. Turn on the heater block and set it to $\sim 90^\circ\text{C}$
2. Cut appropriate length of 100 x 360 μm fused silica ($\sim 20\text{-}25\text{ cm}$)
3. Prepare silicate solution fresh (in 1.5 ml eppendorf tube)
 - 170 μl Potassium Silicate solution
 - 30 μl Formamide
 - vortex
4. Dip one end into silicate solution for a few seconds until it reaches $\sim 1\text{-}2\text{ cm}$ (inspect under microscope)
5. Wipe off the outside of the tubing with a kimwipe
6. Lay the silica filled end of the capillaries flat onto the heater block, set a second block on top to hold them down
7. Leave on the heater block over night
8. Trim the frit length to about 2 mm with a tubing cutter
9. Make sure to flush the frit. We usually pack the frit with beads of your choice and then hook it up to the HPLC and let it equilibrate at 2-3 $\mu\text{l}/\text{min}$ (e.g. 0.1% formic acid, 2% acetonitrile in water) for 5-10 mins.

