

How Tight Should an Autosampler Vial Cap be to Prevent Push Through of the Septa During Injection - HPLC Primer

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For application of autosampler vial screw caps, "tight" could refer to torque applied to the cap during application of the closure to the vial or the ability to hold a seal and not allow evaporation. For purposes of this discussion, we will refer to "tight" as how much downward force is needed for the cap to push the septa down on the vial to prevent "push through" during injection.

Some screw-thread caps offered today provide a septa that is bonded in place to the plastic cap to minimize "push through" created by deficiency in older autosampler brands while others provide a physical/mechanical in place stop in hopes of achieving an adequate seal and preventing "push-through" of the septum; however, these designs do not guarantee performance or absolute prevention of "push through" and the mechanical stop often leads to over torqueing causing other problems for reliable injection.

For good injection, it is very important not to over torque the cap during application as well as under torqueing. Further, today's recent model autosamplers rarely cause "push-through" rendering the bonded cap and the mechanical stop not necessary when a cap is properly seated on the vial and the septa has proper specifications for autosampler needles.

MICROSOLV's autosampler vial, cap and septa manufacturing tolerances allow today's users a generous range of acceptable torque with regards to achieving an adequate seal without needing septa bonding or a mechanical stop on the vial without the fear of septa pushing through during injection.

See AQ Brand™ screw caps as an example of caps you can rely upon to have virtually no septa push through.

Click [HERE](#) for AQ Brand autosampler vials, caps & inserts ordering information and pictures