



Thermo Scientific National SureStop 9 mm Vial

**Innovative vial design**  
unmatched performance

**Thermo**  
SCIENTIFIC

# Understanding your needs

## Exceeding your expectations



“Just one more turn.” That has been the chromatographer’s answer to the age-old question of how tight to seal their chromatography autosampler screw thread vial closure. Unfortunately, for a lot of chromatographers, this answer has resulted in a myriad of chromatographic problems. Truth be told, “Just one more turn” is more than likely the absolute worst thing that one can do to seal an autosampler vial.

Thermo Scientific™ SureStop™ 9 mm vials, are designed as part of the Advance Vial Closure System (AVCS), and remove any subjectivity around achieving the optimal seal compression when closing a vial. As an integral component of AVCS technology, SureStop vials offer the sealing and performance characteristics of a crimp top vial and the versatility and convenience of a threaded vial. This is achieved by incorporating a definite stop point into the design of the vial finish, preventing over tightening of the closure. SureStop vials remove all doubt about the degree of tightening necessary for optimal sealing.



But what does SureStop mean for your laboratory? It means having confidence in your vials sealing properly, eliminating evaporation differences between samples. It means failed runs due to mishandling of vials by autosampler robotics are a thing of the past. It means less time spent troubleshooting vial related problems and more time reporting consistently reliable results.

When consistency improves, data quality improves

and SureStop vials become the most trusted chromatography consumables in your lab.

### SureStop 9 mm vials features and benefits:

- A consistent seal independent of the amount of torque applied when closing the vial eliminating user-to-user variance
- Optimal septum compression across the opening of the vial, irrespective of torque applied creating optimal vial sealing at all times, under all conditions. This produces more reproducible analytical results
- A design that allows the positioning of the closure to be consistently “flat”, producing a more cylindrical vial profile, which improves autosampler recognition, handling and compatibility
- As a result of AVCS, when used with our C5000 closure, SureStop becomes one of the best sealing vial/closure combinations on the market
- Designed for use with nearly every autosampler on the market
- When compared to other 2 mL vials, SureStop yields the lowest loss to evaporation and the lowest standard deviation in evaporation studies making SureStop the most dependable vial on the market today

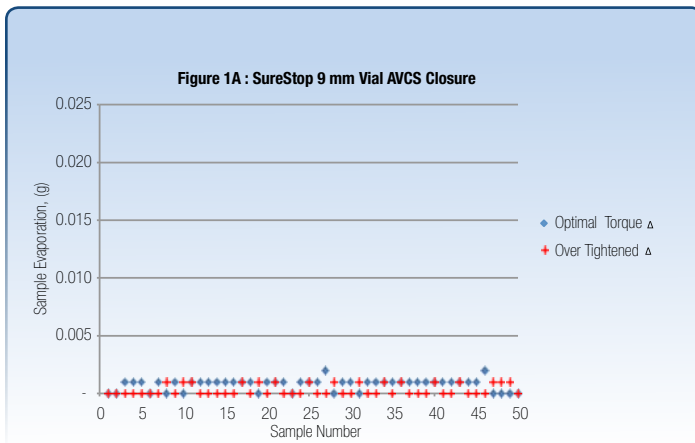


# Performance, flexibility, innovation Unmatched sample handling solutions

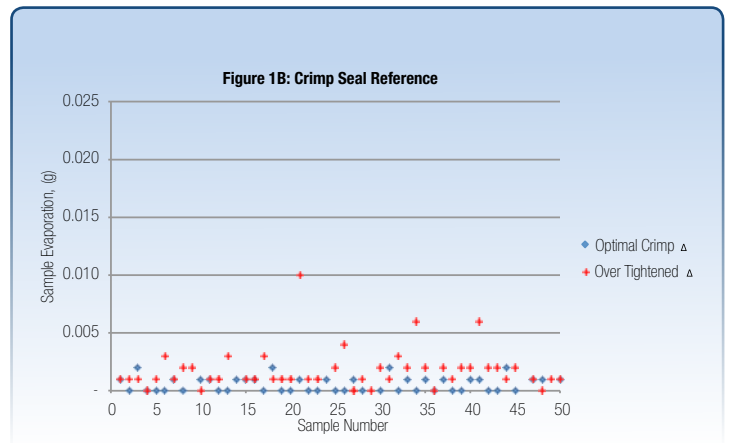
## Crimp Vial Comparison

Long considered to be the most secure vial and closure combination, crimp vials have always provided high performance by relying on the consistency of a properly adjusted crimping tool. SureStop 9 mm vials offer laboratories the sealing and performance of a crimp top vial but with the versatility and convenience of a threaded vial.

SureStop provides consistent septum compression without relying on tools that can go out of adjustment. In fact, the performance of the SureStop vial is so dependable, that it may be confidently used in GC applications with volatile solvents. Figure 1 highlights the performance of the SureStop vial. Compare that to Figure 1B which focuses on how the crimp vial performs.



Optimal Torque = closure tightened until positive stop  
Over tightened = Additional torque applied beyond normal hand comfort

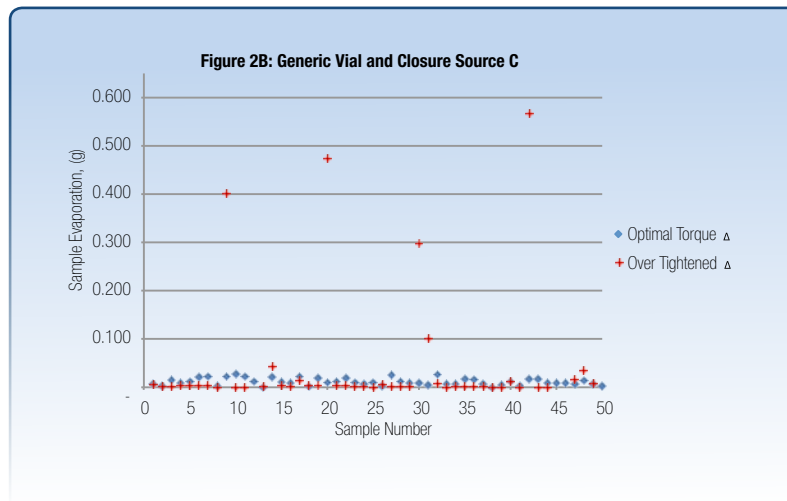
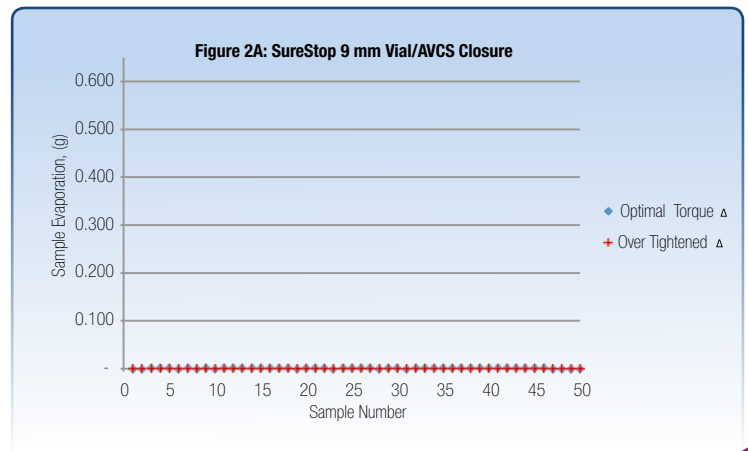


Optimal crimp = seal attached with properly adjusted crimping tool  
Over tightened = seals over crimped to visible deformation of side wall



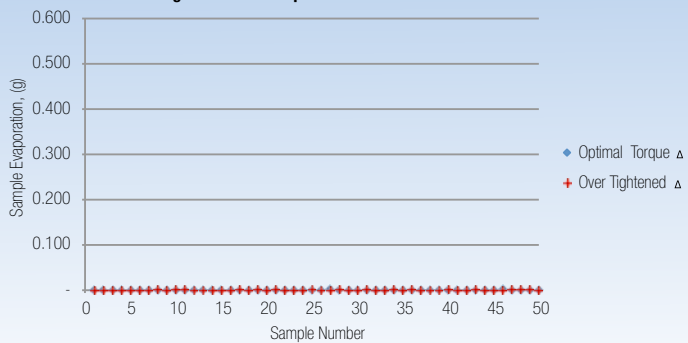
## Over Tightening

One approach to reducing the impact of overtightening and to control the position of the septum within the cap has been the use of septum physically bonded into the screw cap. Bonded caps were created as next best “work-around” attempt to alleviate the affects of over tightening, but those products have not proven feasible for all applications, are more costly, and do not provide the flexibility of septum choices found with non-bonded closures. SureStop 9 mm vials provide an innovative economical solution to over tightening. The SureStop vial design provides feedback that indicates when optimal seal compression has occurred and prevents over tightening. Effectively creating a “sure stopping position,” SureStop vial creates a consistent closing that is unmatched by any available 9 mm screw thread vial. Figures 2A and 2B demonstrate the resistance of SureStop to the impact of over tightening compared to over tightened standard vials.





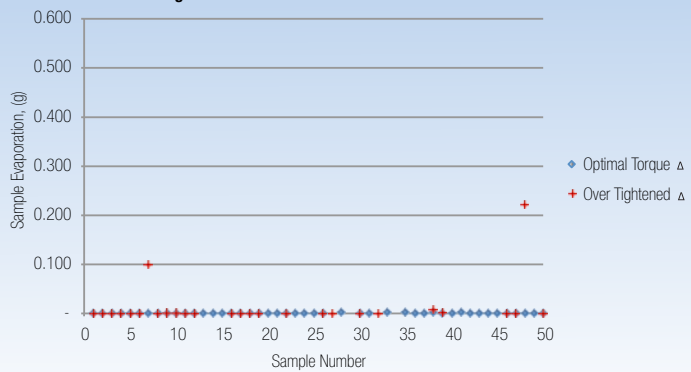
**Figure 3A : SureStop 9 mm Vial AVCS Closure**



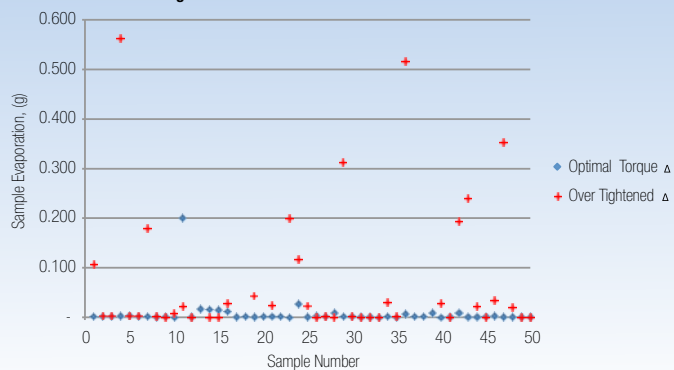
## High Performance

The most compelling performance data is in Figures 3A, 3B, and 3C, where SureStop vials and C5000 closures are compared against typical competitive vial and closure sets. This data shows that SureStop vials and C5000 closures are the most reliable vial and closure combination ever produced.

**Figure 3B: Generic Vial and Closure Source B**



**Figure 3C: Generic Vial and Closure Source C**





**SureStop Vial Self Aligning Cap,**

**Generic Vial D Cap Tilt,**

**Generic Vial C Septum Dislodged,**

**Generic Vial B deformed top**

## Reliable Vial Handling

The closure self aligning feature of SureStop vials eliminates random autosampler injection failures due to problems with handling of misshapen vials. This means no more stopped runs due to errors in vial pickup or placement.

SureStop vials designed with AVCS technology, out perform any vial currently available on the market today by nearly eliminating evaporation, reducing septum push through and eliminating closure tilt commonly found with other vials and

closures. SureStop allows complete and consistent sealing with autosampler pick-up reliability that will significantly improve data integrity for LC and GC chromatographers.

Description	Quantity (per pack)	Part Number
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL, Clear Glass	100	C5000-1
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL Clear Glass w/ID Patch	100	C5000-1W
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL Amber Glass w/ID Patch	100	C5000-2W
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL, Clear Glass with Ivory PTFE/Red Rubber Septum	100	C5000-580
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL Clear Glass w/ID Patch and Ivory PTFE/Red Rubber Septum	100	C5000-580W
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL, Clear Glass and Red PTFE/White Silicone Septum	100	C5000-592
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL, Clear Glass w/ID Patch and Red PTFE/White Silicone Septum	100	C5000-592W
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL Clear Glass w/ID Patch and Red PTFE/White Silicone/Red PTFE Septum	100	C5000-586W
SureStop 9 mm Wide Opening Screw Thread Vial, 2 mL Clear Glassw/ID Patch and Blue PTFE/White Silicone, Pre-slit Septum	100	C5000-595W

For more information visit: [www.thermoscientific.com/surestop](http://www.thermoscientific.com/surestop)

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