

# TheReporter

Reprinted from Volume 15, No. 5, 1996

T296015

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**UNITED STATES** • Supelco • Supelco Park • Bellefonte, PA 16823-0048 • Phone 800-247-6628 or 814-359-3441 • Fax 800-447-3044 or 814-359-3044 • email:supelco@sial.com

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If you have questions about applying methodology described in this article to a current application, please contact our technical service chemists.

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# Thermogreen™ LB-2 Septa: Real World Performance Tests

*Dave Martinec, Product Manager, GC Accessories*

More than 15 years ago, the performance of Supelco's Thermogreen GC septa was established as the standard to which other manufacturers would compare their products. Today, manufacturers continue to make this comparison.

Our scientists recently developed an innovative test method to closely determine actual septum performance in real world analytical conditions. In our testing, we compare bleed profile to an internal standard in a three-step process: after installation of the septum, after conditioning, and after 25 punctures. This procedure verifies reproducibility and durability characteristics.

Our updated procedure replaces the "sliver" test we developed in 1979 (1). The sliver test was acceptable for packed column instruments but, in testing with capillary GCs, establishing minimum test specifications was difficult. Other septa suppliers continue to use variations of the sliver test. Unfortunately, several variables in this test can be manipulated to generate positive or negative data. Variables include weight and surface area of the sliver, and sensitivity of the instrument. Furthermore, a "blank" run does not necessarily indicate that the profile following the blank run represents bleed from the sliver, since the system is opened to insert the sliver.

Our newest septum evaluation method does not rely on difficult-to-control experimental variables. Our objective was to develop a test that would mimic real-world conditions—the type of conditions that our discriminating customers face daily.

In addition to our Thermogreen septa, we continually evaluate other septa and septa materials. In an independent study of various septa, Overton and Manura controlled the test variables by conducting direct thermal analysis using a short path thermal desorption system, comparing bleed from common GC septa (2). Their work determined that no septa perform better than Thermogreen LB-2 septa.

Thermogreen LB-2 septa are still the highest quality septa available. No other septum has lower bleed. The composition formula is exclusive to Supelco; no other manufacturer claims exclusivity of its septum material.

## Ordering Information:

Description	Cat. No.
Thermogreen LB-2 Septa, pk. of 50	
9.5mm	<b>20652</b>
11mm	<b>20654</b>

## References

- Ottenstein, D.M., and Silvis, P.H., *GC Septa: A Comparison of Bleed Characteristics*, J. Chromatogr. Sci., Vol. 17, July 1979.
- Overton, S., and Manura, J., *Comparison of Septa by Direct Thermal Extraction*. Paper presented at The Pittsburgh Conference, March 1996.

References not available from Supelco.

Reference 2 available by E-mail at <http://www.sisweb.com/referenc/applnote/app-40.htm>.

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Reprinted from Volume 15, No. 5, 1996