

## Simulated Distillation Capillary Columns

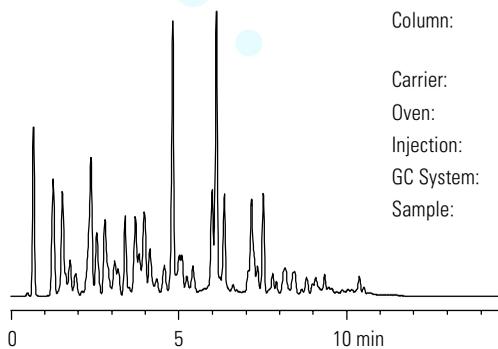
Capillary gas chromatography is frequently used to determine boiling point distribution of petroleum materials.

Performance criteria for simulated distillation of naphtha or gasoline range fractions (ASTM D3710) are met by a 7.5 meter by 5.0  $\mu\text{m}$  HP-1 capillary column.

## ASTM Method D3710-95: Boiling Point Distribution of Gasoline and Gasoline Fractions

**Method Overview:** This method analyzes petroleum products with a final boiling point of 500°F or lower. It has not been validated for gasolines containing alcohols or ethers.

### ASTM D3710—HP/AC alliance simulated distillation



Column: HP-1, 7.5 m x 0.53 mm x 5  $\mu\text{m}$   
(Agilent part no. 19095Z-627)  
Carrier: Helium, 19 ml/min  
Oven: 20°C (0 min), 15°C/min to 170°C (2 min)  
Injection: 0.1  $\mu\text{l}$  PTV injection  
GC System: Agilent 5890 Series II GC/FID  
Sample: Finished gasoline

## References

1. ASTM D86, "Distillation of Petroleum Products," *Annual Book of Standards, Volume 5, ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428 USA.*
2. ASTM D3710, "Boiling Range Distribution of Gasoline and Gasoline Fractions by GC," *Annual Book of ASTM Standards, Volume 5, ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428 USA.*
3. "Automated Blank Analysis, Calibration and Quality Control to Validate Simulated Distillation Results," Agilent pub. no. (23) 5964-2070E, September 1995.
4. "Speed Improvements in Detailed Hydrocarbon Analysis of Gasoline Using 100- $\mu\text{m}$  Capillary Columns," Agilent pub. no. (43) 5963-5190E, February 1995.
5. Synder and Blummburg, "Constant Peak Elution Temperature with GC Columns of Different Diameter. How to Increase Analysis Speed with Little or No Loss in Resolution," *Proceedings from the 14th International Symposium on Capillary Chromatography, Baltimore, MD USA, May 1992.*
6. "Two Minute Simulated Distillation Analysis of Gasoline-Range Materials—A Preliminary Investigation," Agilent pub. no. 5965-6461E.
7. "Increase Sample Throughput with Dual Channel Simulated Distillation Analyzers." Agilent pub. no. 5964-9131E.
8. "Automated Blank Analysis, Calibration, and Quality Control to Validate Simulated Distillation Results." Application Note 228-331. Agilent pub. no. 5964-2070E.
9. "Automatic System Performance Verification of HP/AC Simulated Distillation Analyzers." Application Note 228-339. Agilent pub. no. 5964-3718E.
10. "Simulated Distillation Solutions for the Petrochemical Industry." Agilent pub. no. 5963-5716E.