

Ultra-Sensitive Coal Tar Distillate Analysis by GC-PID

The distillation of Naphthenes and Coal Tars results in a complex array polynuclear aromatics, or which many do not show up in an analysis by GC-TCD or FID because they are at trace levels in the sample. In some cases these trace products are valuable and in sufficient quantity to warrant recovery. In order to discover hidden profits like this a GC equipped with a photo-ionization detector is used.

Photo-ionization detectors are much more sensitive than the conventional TCD or FID, and have the added benefit of an extremely strong response to olefins and aromatics over saturated compounds in the coal tar distillate. However, TCD's and FID's are usually far less expensive to purchase. This leaves many plants with a limited resource for gathering data on their distillation process.

But for under \$10,000, our GC-PID will out-perform any more expensive GC-FID and open your eyes to a world of information about your distillate. Our highly advanced GC systems give you power to detect in the part-per-billion range for QC product tests as well as on-line process analyses.

When analyzed by GC-TCD on a packed column, the naphthalene distillate shown below appeared to have no recoverable by-product, but when analyzed on the Buck 910GC PID, revealed a hidden source of revenue. The ultimate yield on this new product paid for the instrument in a few weeks.

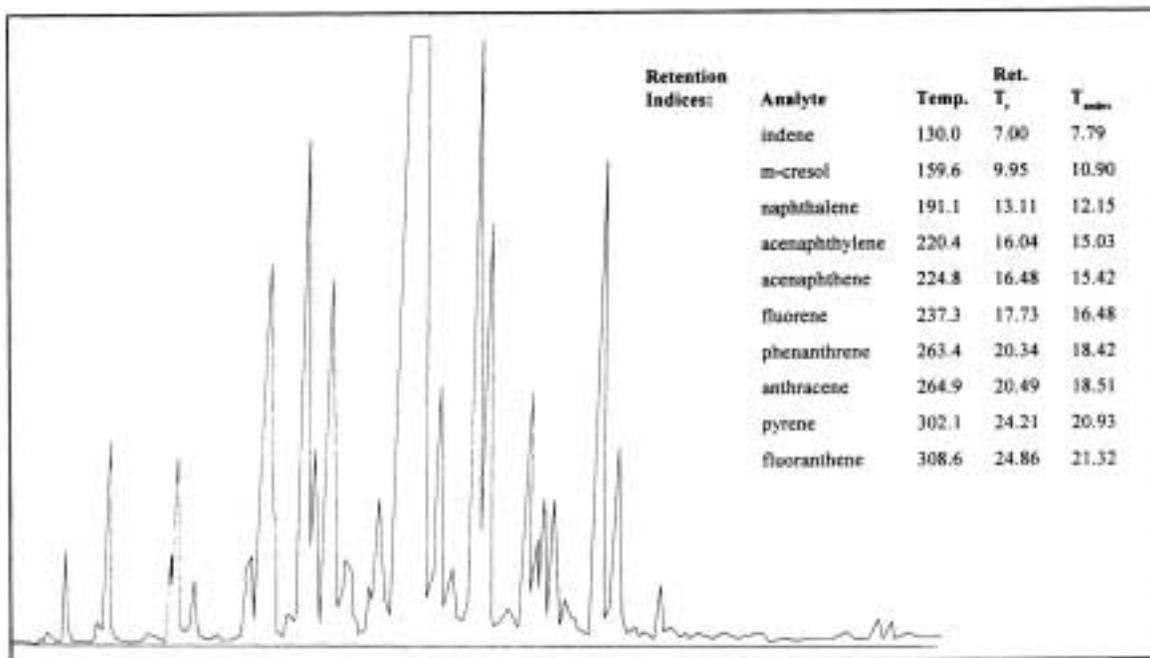
Analyst: Kevin Attra

SIC: 1389, 2865, 2869

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Instrumentation: Buck 910GC
Application: Poly-nuclear Aromatics by GC-PID
Analytes: Naphthalenes, Colar Tar Distillates

Column: Mxt-5; 30m x 0.53mm ID x 0.50 μ m
Detectors: Photo Ionization (PID)
Injectors: Heated Split / Splitless; 250°C
Carrier Gas: Helium @ 20cm/sec
Oven Program: 60°C to 350°C at 10°C/minute



BUCK
Scientific

1-800-562-5566

58 Fort Point Street East Norwalk CT 06855

Tel: 203-853-9444

Fax: 203-853-0569

www.bucksci.com

sales@bucksci.com

