

November 6, 2013 (14:30-15:30)



VENDOR SEMINAR:

**INTRODUCING THE Rxi-PAH:
A NEW OPTIMIZED GC COLUMN FOR PAH ANALYSES**

Introducing the Rxi-PAH: A New Optimized GC Column for PAH Analyses

PAH analyses are performed regularly throughout the world for both food safety and environmental testing but challenges remain. The Rxi-PAH GC stationary phase was tailored specifically to meet these challenges. Even difficult priority compounds, such as the European Food Safety Authority (EFSA) PAH4, are easily separated and accurately quantified, results that cannot be achieved on typical GC columns.

An arylene modification and surface bonding of the stationary phase increase thermal stability and ruggedness so relatively nonvolatile, higher molecular weight PAHs can be analyzed routinely without interference from column bleed. For example, over thirty-five PAHs were analyzed in 33 minutes and included coronene and the dibenzo pyrenes eluting at high temperature with better detectability, peak height, than with other columns. In addition to this highly selective column, hydrogen carrier gas was explored with GC-TOFMS. PAHs are ideal for analysis by hydrogen carrier GC-MS because they form strong molecular ions and do not have problems with hydrogen reactivity. The fact that there is only one strong ion m/z signal helps overcome some sensitivity loss when using hydrogen in GC-MS.

Excellent column efficiency means that the column can be trimmed for maintenance purposes many times without losing critical PAH separations, including those that are part of environmental methods, as well as food safety testing. Column trimming from 60 to 45 meters was performed and resolution of critical pairs was maintained. Column ruggedness was tested with repeated injections of oyster and paprika QuEChERS extracts.