Application Report 389

US EPA Method 608, 8081, OLM04.2 Organochlorine Pesticides on the SLB-5ms

This is the analysis of a 22-component standard containing 20 pesticides and 2 surrogate compounds commonly analyzed by US EPA Method 8081. The SLB-5ms exhibited an extremely stable baseline over the entire analysis. The SLB-5ms can be taken to a maximum isothermal hold temperature of 340 °C, however a final analysis temperature of 300 °C was used for this application. This was done to allow the SLB-5ms to be used for dual column analysis in the same GC oven with a second column that may have a lower maximum operating temperature.

Key Words
organochlorine pesticides, US EPA Method 8081, SLB-5ms, 46845-U, 28471-U

Conditions
column: SLB-5ms, 30 m x 0.25 mm I.D., 0.25 µm (28471-U)
oven: 100 °C (2 min.), 15 °C/min. to 300 °C (5 min.)
inj.: 250 °C
det.: ECD, 300 °C
carrier gas: helium, 0.9 mL/min, constant flow
injection: 2.0 µL, splitless (0.75 min.)
liner: 4 mm I.D., single taper
sample: chlorinated pesticide standard (46845-U), diluted to 50 ppb in n-hexane

Peak IDs
1. 2,4,5,6-tetrachloro-m-xylene (surr.)
2. α-BHC
3. β-BHC
4. γ-BHC
5. δ-BHC
6. Heptachlor
7. Aldrin
8. Heptachlor epoxide
9. γ-chlordane
10. Endosulfan I
11. α-chlordane
12. 4,4'-DDE
13. Dieldrin
14. Endrin
15. 4,4'-DDD
16. Endosulfan II
17. Endrin aldehyde
18. 4,4'-DDT
19. Endosulfan sulfate
20. Methoxychlor
21. Endrin ketone
22. Decachlorobiphenyl (surr.)