Application Report 478

US EPA Method OLM04.2 SVOA (CLP Semivolatiles) by GC-MS on the Supelco SLB™-5ms

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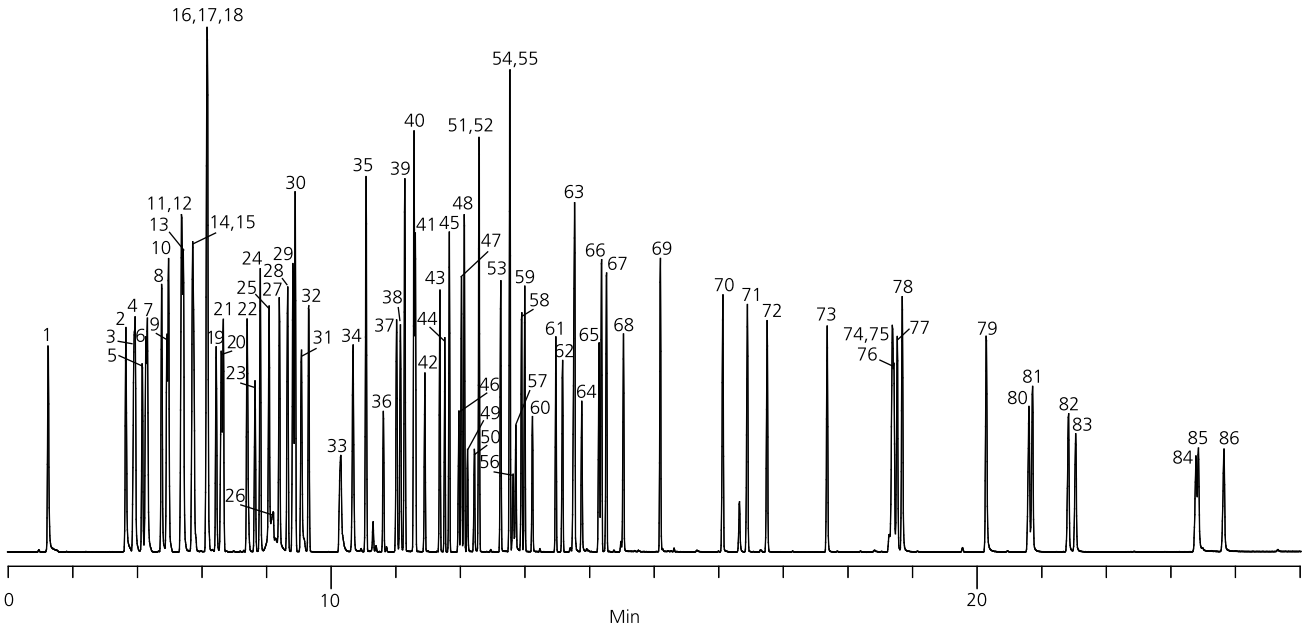
Acquisition System: 5973 GC-MS
Notebook Reference: 1569-084

The Contract Laboratory Program (CLP) is a nationwide network consisting of testing laboratories, contractors, and EPA employees. Its primary function is to provide analytical data in support of EPA's Superfund program. To ensure the data is of consistent and documented quality, labs participating in the program must analyze samples using methods described in the CLP Statement of Work (SOW). This application illustrates the separation of semivolatile compounds, on a 30 m x 0.25 mm I.D., 0.25 µm SLB-5ms, including those commonly analyzed as part of the CLP.

Key Words

Semivolatiles, CLP, SOW, US EPA Method OLM04.2 SVOA, SLB-5ms, 28471-U, 506508, 47508, 47509-U, 47514, 40060, 40026, 46955-U, 47960-U



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Conditions

column:	SLB-5ms, 30 m x 0.25 mm I.D., 0.25 µm (28471-U)
oven:	40 °C (2 min.), 15 °C/min. to 240 °C, 10 °C/min. to 330 °C (2 min.)
inj.:	250 °C
MSD interface:	330 °C
scan range:	m/z 40-450
carrier gas:	helium, 1.0 mL/min. (11 min.), ramp to 1.5 mL/min. (constant for remainder of run)
injection:	1 µL, pulsed (15 psi until 0.10 min.) splitless (0.75 min.)
liner:	4 mm I.D., single taper
sample:	50 ppm of an 80 component semivolatile standard, plus 6 internal standards (at 40 ppm) in methylene chloride

Peak IDs

1. 2-Fluorophenol (surr.)
2. Benzaldehyde
3. Phenol-d_6 (surr.)
4. Phenol
5. Bis(2-chloroethyl)ether
6. 2-Chlorophenol-d_4 (surr.)
7. 2-Chlorophenol
8. 1,3-Dichlorobenzene
9. 1,4-Dichlorobenzene-d_4 (I.S.)
10. 1,4-Dichlorobenzene
11. Benzyl alcohol
12. 1,2-Dichlorobenzene (surr.)
13. 1,2-Dichlorobenzene
14. 2-Methylphenol
15. Bis(2-chloroisopropyl)ether
16. 4-Methylphenol
17. n-Nitroso-di-n-propylamine
18. Acetophenone
19. Hexachloroethane
20. Nitrobenzene-d_5 (surr.)
21. Nitrobenzene
22. Isophorone
23. 2-Nitrophenol
24. 2,4-Dimethylphenol
25. Bis(2-chloroethoxy)methane
26. Benzoic acid
27. 2,4-Dichlorophenol
28. 1,2,4-Trichlorobenzene
29. Naphthalene-d_8 (I.S.)
30. Naphthalene
31. 5-Chloroaniline
32. Hexachlorobutadiene
33. Caprolactam
34. 4-Chloro-3-methylphenol
35. 2-Methylnaphthalene
36. Hexachlorocyclopentadiene
37. 2,4,6-Trichlorophenol
38. 2,4,5-Trichlorophenol
39. 2-Fluorobiphenyl (surr.)
40. 1,1'-Biphenyl
41. 2-Chloronaphthalene
42. 2-Nitroaniline
43. Dimethyl phthalate
44. 2,6-Dinitrotoluene
45. Acenaphthylene
46. 3-Nitroaniline
47. Acenaphthene-d_{10} (I.S.)
48. Acenaphthene
49. 2,4-Dinitrophenol
50. 4-Nitrophenol
51. 2,4-Dinitrotoluene
52. Dibenzofuran
53. Diethyl phthalate
54. 4-Chlorophenyl phenyl ether
55. Fluorene
56. 4-Nitroaniline
57. 2-Methyl-4,6-dinitrophenol
58. n-Nitrosodiphenylamine
59. Azobenzene
60. 2,4,6-Tribromophenol (surr.)
61. 4-Bromophenyl phenyl ether
62. Hexachlorobenzene
63. Atrazine
64. Pentachlorophenol
65. Phenanthrene-d_{10} (I.S.)
66. Phenanthrene
67. Anthracene
68. Carbazole
69. Di-n-butyl phthalate
70. Fluoranthene
71. Pyrene
72. Terphenyl-d_{14} (surr.)
73. Butyl benzyl phthalate
74. 3,3'-Dichlorobenzidine
75. Benzo(a)anthracene
76. Chrysene-d_{12} (I.S.)
77. Chrysene
78. Bis(2-ethylhexyl)phthalate
79. Di-n-octyl phthalate
80. Benzo(b)fluoranthene
81. Benzo(k)fluoranthene
82. Benzo(a)pyrene
83. Perylene-d_{12} (I.S.)
84. Indeno(1,2,3-cd)pyrene
85. Dibenzo(a,h)anthracene
86. Benzo(g,h,i)perylene