

Application Report 398

Shorter Analysis Time for Method 8270D on the SLB-5ms

Typical run times for US EPA Method 8270 range from 23 to 45 minutes. In this application, the high maximum operating temperature of the SLB-5ms was utilized to reduce run time to < 19 minutes.

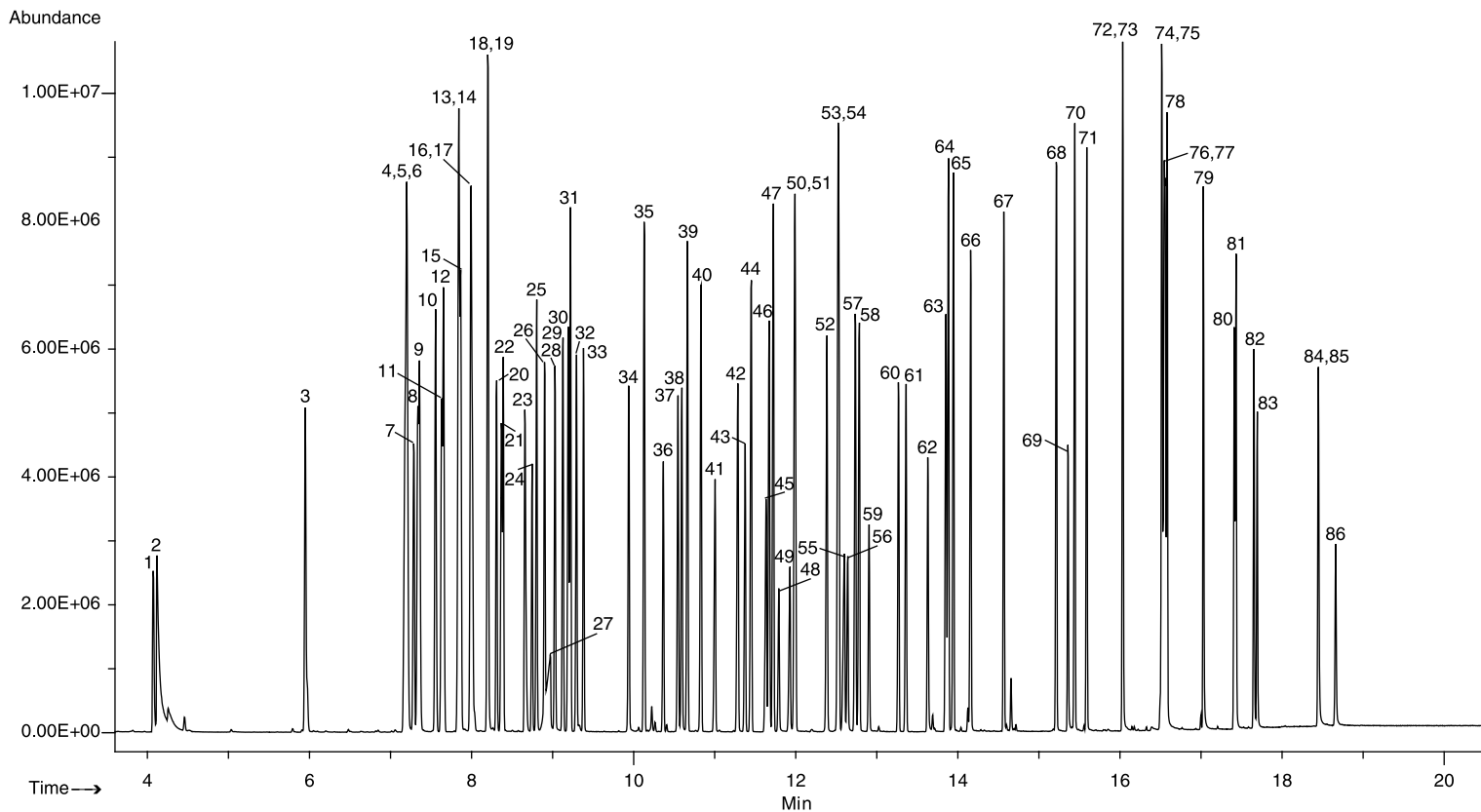
Key Words

semivolatiles, BNA, 506508, 861148, 46702-U, 48467, 861155, 46955-U, US EPA Method 8270D, RCRA, SLB-5ms, 28471-U

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Acquisition System: 6890 GC / 5973
MSD

Notebook Reference: 1509-099



G003577

Conditions

column: SLB-5ms, 30 m x 0.25 mm I.D., 0.25 μ m (28471-U)
oven: 40 °C (3 min.), 20 °C/min. to 100 °C, 15 °C/min. to 200 °C,
30 °C/min. to 350 °C (3 min.)
inj.: 250 °C
MSD interface: 330 °C
scan range: 40-450 m/z
carrier gas: helium, ramped flow, 1 mL/min. (8 min.), 10 mL/min² to
1.5 mL/min. (constant for remainder of run)
injection: 0.5 μ L, splitless (0.3 min.)
liner: 2 mm I.D., straight
sample: 25 ng on-column of a 72 component semivolatile standard,
8 surrogates, and 6 internal standards (at 20 ng on-column)

27. Benzoic acid
28. 2,4-dichlorophenol
29. 1,2,4-trichlorobenzene
30. Naphthalene-d₈ (I.S.)
31. Naphthalene
32. 4-chloroaniline
33. Hexachlorobutadiene
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. 2-chloronaphthalene
41. 2-nitroaniline
42. Dimethyl phthalate
43. 2,6-dinitrotoluene
44. Acenaphthylene
45. 3-nitroaniline
46. Acenaphthene-d₁₀ (I.S.)
47. Acenaphthene
48. 2,4-dinitrophenol
49. 4-nitrophenol
50. Dibenzofuran
51. 2,4-dinitrotoluene
52. Diethyl phthalate
53. Fluorene
54. 4-chlorophenyl phenyl ether
55. 4-nitroaniline
56. 2-methyl-4,6-dinitrophenol
57. N-nitrosodiphenylamine
58. Azobenzene

59. 2,4,6-tribromophenol (surr.)
60. 4-bromophenyl phenyl ether
61. Hexachlorobenzene
62. Pentachlorophenol
63. Phenanthrene-d₁₀ (I.S.)
64. Phenanthrene
65. Anthracene
66. Carbazole
67. Di-n-butyl phthalate
68. Fluoranthene
69. Benzidine
70. Pyrene
71. Terphenyl-d₁₄ (surr.)
72. 3,3'-dimethylbenzidine
73. Butylbenzyl phthalate
74. 3,3'-dichlorobenzidine
75. Bis(2-ethylhexyl)phthalate
76. Benzo(a)anthracene
77. Chrysene-d₁₂ (I.S.)
78. Chrysene
79. Di-n-octyl phthalate
80. Benzo(b)fluoranthene
81. Benzo(k)fluoranthene
82. Benzo(a)pyrene
83. Perylene-d₁₂ (I.S.)
84. Indeno(1,2,3-cd)pyrene
85. Dibenzo(a,h)anthracene
86. Benzo(g,h,i)perylene

Peak IDs

1. N-nitrosodimethylamine	14. Benzyl alcohol
2. Pyridine	15. 1,2-dichlorobenzene
3. 2-fluorophenol (surr.)	16. 2-methylphenol
4. Aniline	17. Bis(2-chloroisopropyl)ether
5. Phenol-d ₆ (surr.)	18. N-nitroso-di-n-propylamine
6. Phenol	19. 4-methylphenol
7. Bis(2-chloroethyl)ether	20. Hexachloroethane
8. 2-chlorophenol-d ₄ (surr.)	21. Nitrobenzene-d ₅ (surr.)
9. 2-chlorophenol	22. Nitrobenzene
10. 1,3-dichlorobenzene	23. Isophorone
11. 1,4-dichlorobenzene-d ₄ (I.S.)	24. 2-nitrophenol
12. 1,4-dichlorobenzene	25. 2,4-dimethylphenol
13. 1,2-dichlorobenzene-d ₄ (surr.)	26. Bis(2-chloroethoxymethane)