



Organophosphorus pesticides

Separation of EPA 8140 and 8141 pesticides

Application Note

Environmental

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography with an Agilent CP-Sil 13 CB column separates 25 organophosphorus pesticides according to EPA 8140 and 8141 in 31 minutes.



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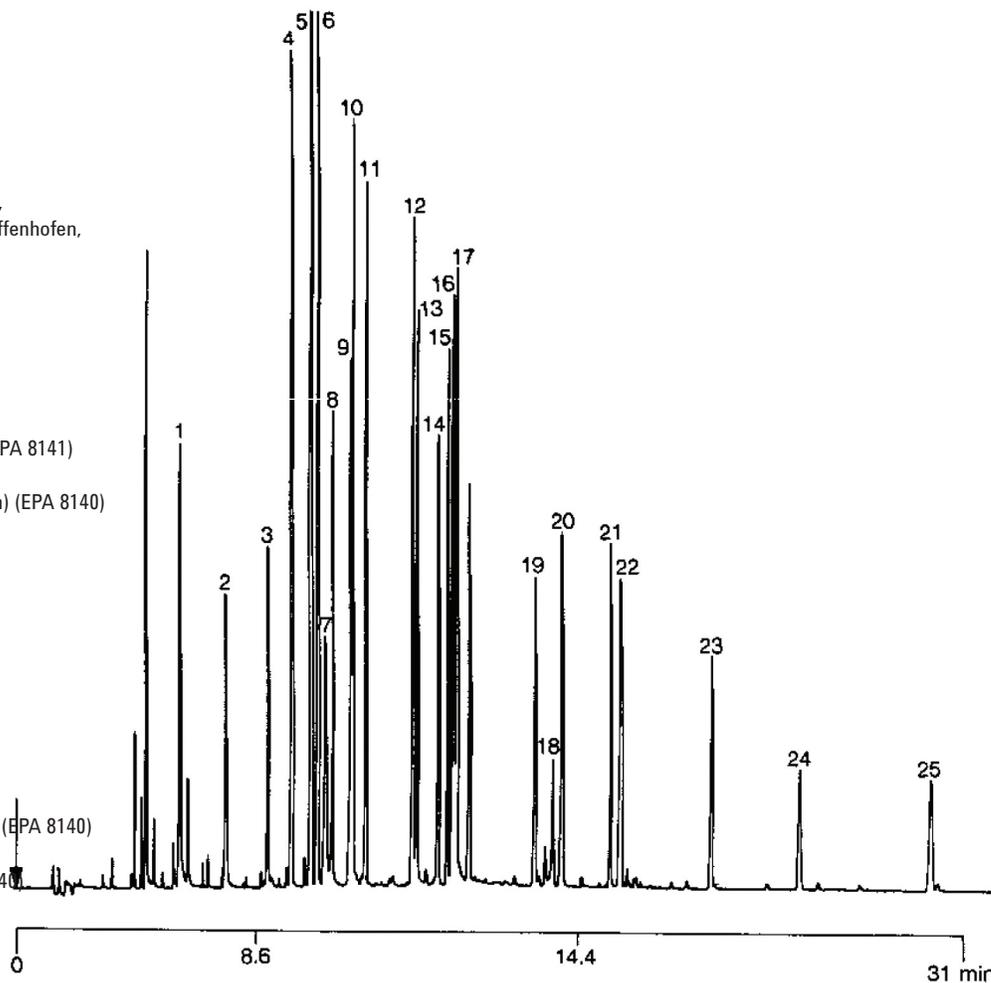
Conditions

Technique : GC-capillary
Column : Agilent CP-Sil 13 CB, 0.32 mm x 50 m fused silica
WCOT CP-Sil 13 CB (df = 0.4 µm) (Part no. CP7937)
Temperature : 70 °C → 270 °C, 20 °C/min
Carrier Gas : H₂, 100 kPa (1.0 bar, 14 psi)
Injector : On-column
Detector : NPD
T = 300 °C
Sample Size : 1 µL
Concentration Range : 1 ng/µL

Courtesy : Mr Lembacher,
Hipp K. G., Pfaffenhofen,
Germany

Peak identification

1. dichlorvos (EPA 8140)
2. mevinphos (phosdrin) (EPA 8140)
3. tetraethyl pyrophosphate (TEPP) (EPA 8141)
4. ethoprop (EPA 8140)
5. sulfotep (EPA 8141) + naled (dibrom) (EPA 8140)
6. phorate (thimet) (EPA 8140)
7. monocrotophos (EPA 8141)
8. demeton (EPA 6140)
9. dimethoate (EPA 8141)
10. diazinon (EPA 8140)
11. disulfoton (EPA 8140)
12. methyl parathion (EPA 8140)
13. ronnel (EPA 8140)
14. malathion (EPA 8141)
15. chlorpyrifos (EPA 8140)
16. ethyl parathion (EPA 8141) 2
17. fenthion (EPA 8140) + trichloronate (EPA 8140)
18. merphos (EPA 8140)
19. stirofos (tetrachlorvinphos) (EPA 8140)
20. tokuthion (prothiophos) (EPA 8140 I)
21. fensulfothion (EPA 8140)
22. bolstar (EPA 8140)
23. EPN (EPA 8141)
24. azinphosmethyl (guthion) (EPA 81 40)
25. coumaphos (EPA 8140)



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