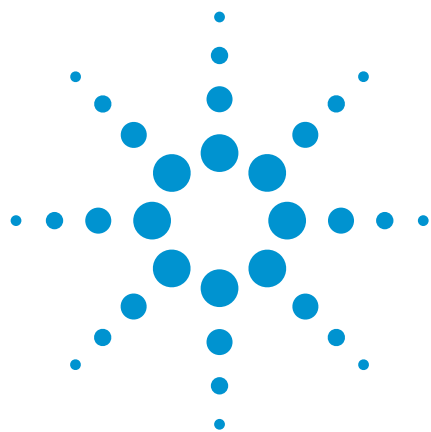




## **Pesticides**

# Analysis of chlorinated pesticides to CLP-SOW 3/90

## Application Note

Environmental

### **Authors**

Agilent Technologies, Inc.

### **Introduction**

GC/MS with an Agilent CP-Sil 19 CB for Pesticides column separates 22 pesticides in 18 minutes.



**Agilent Technologies**

## Conditions

Technique : GC-capillary

Column : Agilent CP-Sil 19 CB for pesticides, 0.32 mm x 30 m  
fused silica WCOT CP-Sil 19 CB (df = 0.25 µm)  
(Part no. CP7408)

Temperature : 110 °C (0.5 min) → 140 °C, 20 °C/min;  
140 °C (0 min) → 280 °C, 11 °C/min

Carrier Gas : He

Injector : Splitless

Detector : MSD-TIC

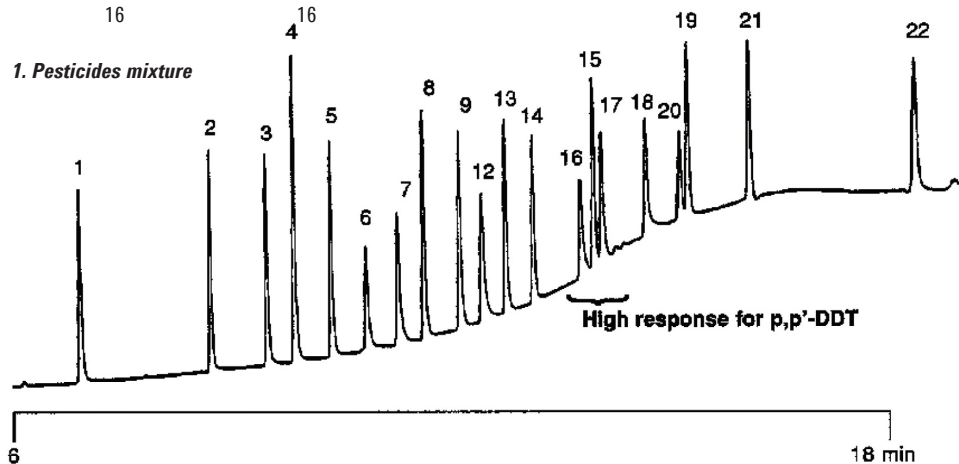
Sample Size : 2 µL

Concentration Range : µg/mL

Solvent Sample : hexane

### Peak identification

|                                 | Resolution check<br>mix (chrom 2)<br>µg/mL | Pesticide standard<br>mix A (chrom 3)<br>µg/mL | Pesticide standard<br>mix B (chrom 4)<br>µg/mL |
|---------------------------------|--------------------------------------------|------------------------------------------------|------------------------------------------------|
| 1. 2,4,5,6-tetrachloro-m-xylene |                                            | 8                                              | 8                                              |
| 2. α-BHC                        |                                            | 8                                              |                                                |
| 3. γ-BHC                        |                                            | 8                                              |                                                |
| 4. heptachlor                   |                                            | 8                                              |                                                |
| 5. aldrin                       |                                            |                                                | 8                                              |
| 6. β-BHC                        |                                            |                                                | 8                                              |
| 7. δ-BHC                        |                                            |                                                | 8                                              |
| 8. heptachlorepoxyde            |                                            |                                                | 8                                              |
| 9. endosulfan I                 | 1                                          | 8                                              |                                                |
| 10. γ-chlordane                 | 1                                          |                                                | 8                                              |
| 11. α-chlordane                 |                                            |                                                | 8                                              |
| 12. p,p'-DDE                    | 2                                          |                                                | 16                                             |
| 13. dieldrin                    | 2                                          | 16                                             |                                                |
| 14. endrin                      |                                            | 16                                             |                                                |
| 15. endosulfan II               |                                            |                                                | 16                                             |
| 16. p,p'-DDD                    |                                            | 16                                             |                                                |
| 17. p,p'-DDT                    |                                            | 16                                             |                                                |
| 18. endrin aldehyde             |                                            |                                                |                                                |
| 19. endosulfan sulfate          | 2                                          |                                                | 16                                             |
| 20. methoxychlor                | 10                                         | 80                                             |                                                |
| 21. endrin ketone               | 2                                          |                                                | 16                                             |
| 22. decachlorobiphenyl          |                                            | 16                                             | 16                                             |



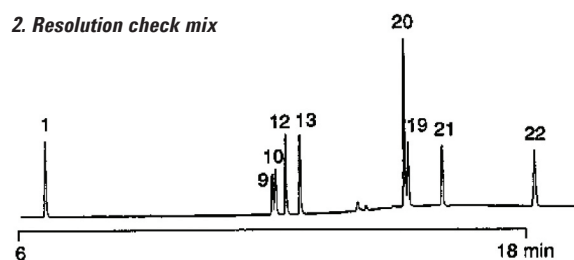
## Conditions

|                     |                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Technique           | : GC-capillary                                                                                                              |
| Column              | : Agilent CP-Sil 19 CB for pesticides, 0.32 mm x 30 m<br>fused silica WCOT CP-Sil 19 CB (df = 0.25 µm)<br>(Part no. CP7408) |
| Temperature         | : 110 °C (0.5 min) → 140 °C, 20 °C/min;<br>140 °C (0 min) → 280 °C, 11 °C/min                                               |
| Carrier Gas         | : He                                                                                                                        |
| Injector            | : Splitless                                                                                                                 |
| Detector            | : MSD-TIC                                                                                                                   |
| Sample Size         | : 2 µL                                                                                                                      |
| Concentration Range | : µg/mL                                                                                                                     |
| Solvent Sample      | : hexane                                                                                                                    |

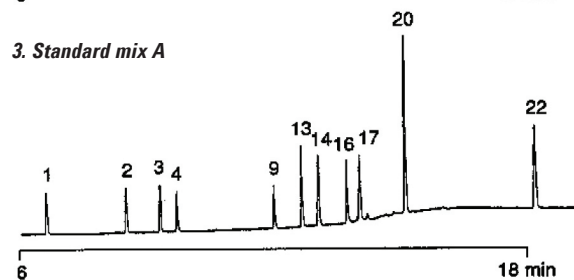
### Peak identification

|                                 | Resolution check<br>mix (chrom 2)<br>µg/mL | Pesticide standard<br>mix A (chrom 3)<br>µg/mL | Pesticide standard<br>mix B (chrom 4)<br>µg/mL |
|---------------------------------|--------------------------------------------|------------------------------------------------|------------------------------------------------|
| 1. 2,4,5,6-tetrachloro-m-xylene |                                            | 8                                              | 8                                              |
| 2. α-BHC                        |                                            | 8                                              |                                                |
| 3. γ-BHC                        |                                            | 8                                              |                                                |
| 4. heptachlor                   |                                            | 8                                              |                                                |
| 5. aldrin                       |                                            |                                                | 8                                              |
| 6. β-BHC                        |                                            |                                                | 8                                              |
| 7. δ-BHC                        |                                            |                                                | 8                                              |
| 8. heptachlorepoxyde            |                                            |                                                | 8                                              |
| 9. endosulfan I                 | 1                                          | 8                                              |                                                |
| 10. γ-chlordane                 | 1                                          |                                                | 8                                              |
| 11. α-chlordane                 |                                            |                                                | 8                                              |
| 12. p,p'-DDE                    | 2                                          |                                                | 16                                             |
| 13. dieldrin                    | 2                                          | 16                                             |                                                |
| 14. endrin                      |                                            | 16                                             |                                                |
| 15. endosulfan II               |                                            |                                                |                                                |
| 16. p,p'-DDD                    |                                            | 16                                             |                                                |
| 17. p,p'-DDT                    |                                            | 16                                             |                                                |
| 18. endrin aldehyde             |                                            |                                                |                                                |
| 19. endosulfan sulfate          | 2                                          |                                                | 16                                             |
| 20. methoxychlor                | 10                                         | 80                                             |                                                |
| 21. endrin ketone               | 2                                          |                                                | 16                                             |
| 22. decachlorobiphenyl          |                                            | 16                                             | 16                                             |

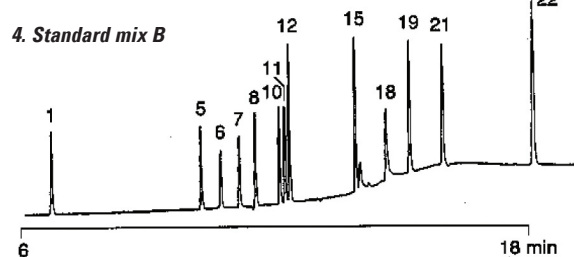
2. Resolution check mix



3. Standard mix A



4. Standard mix B



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