



# Determination of halogenated hydrocarbons in water

## Application Note

Environmental

### Authors

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### Introduction

Agilent FactorFour VF-624ms columns separate 31 halogenated hydrocarbon pollutants in less than 40 minutes.



**Agilent Technologies**

## Conditions

Column : Agilent FactorFour VF-624ms, 0.32 mm x 60 m  
(df = 1.8 µm) (Part no. CP9105)

Oventemp. : 45 °C (10 min) → 2 °C/min → 70 °C → 6 °C/min  
→ 160 °C → 1 °C/min → 170 °C → 30 °C/min →  
200 °C

Carrier Gas : Helium, 0.5 mL/min, 55 kPa

Injection : Headspace: 14 mL Sample + 7g Na<sub>2</sub>SO<sub>4</sub> in 20 mL Vial,  
80 °C, 30 min

Injector : Split: 0.6:1, T = 170 °C

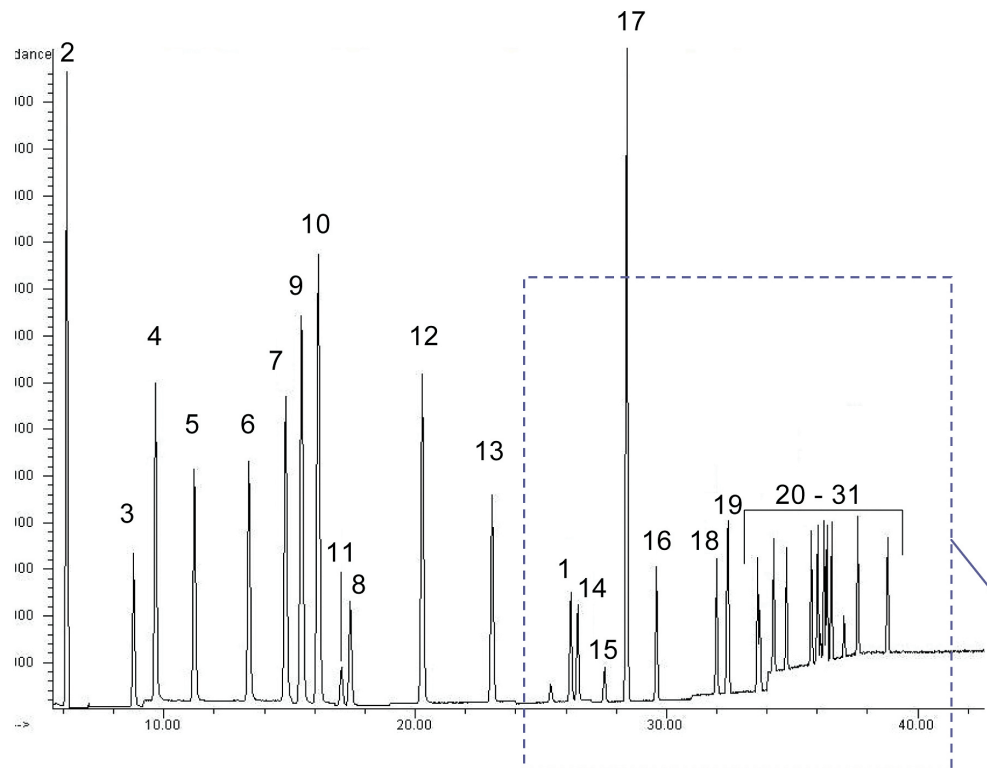
Sample Size : MS, T = 230 °C

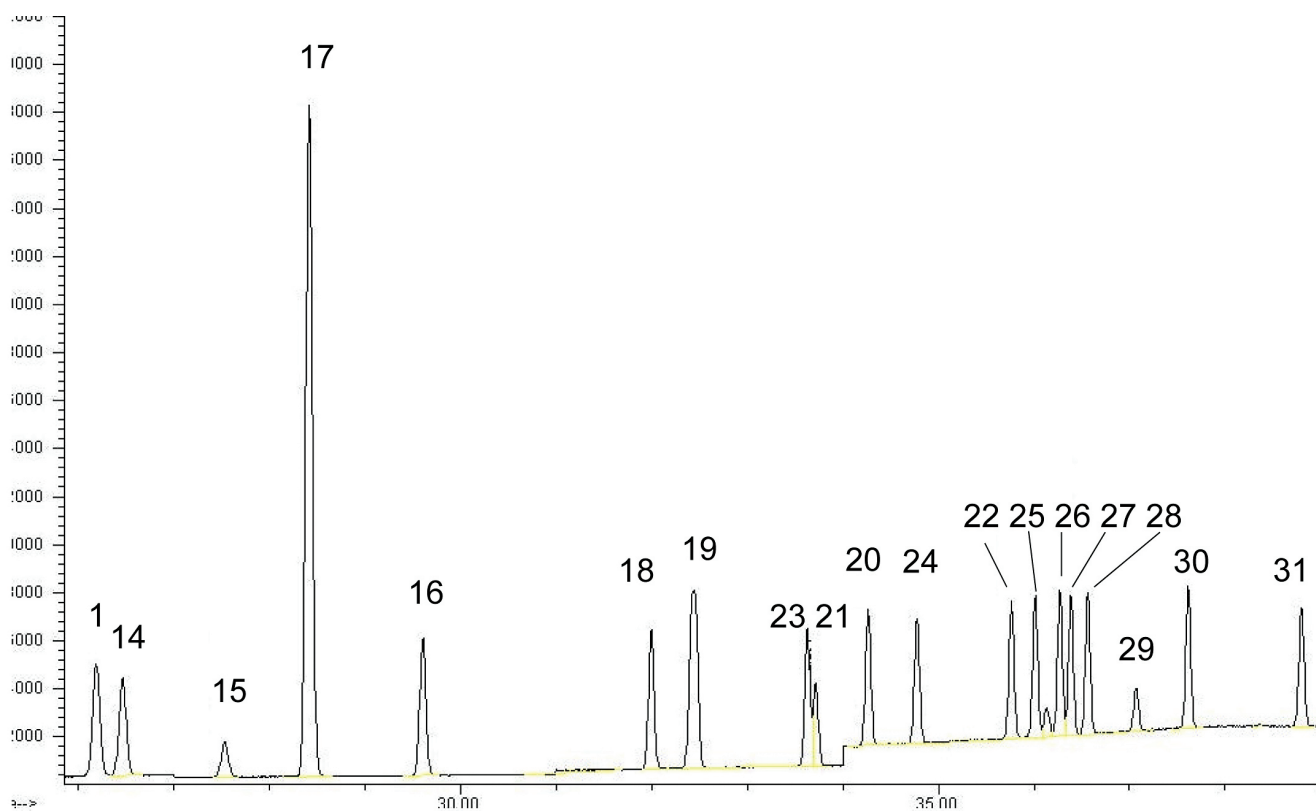
Sample Matrix : Water

Concentration : Ca. 1 - 15 µg/L, see next page for exact levels

## Peak identification

1. toluene-d8
2. trichlorofluoromethane
3. dichloromethane
4. trans-1,2-dichloroethene
5. 1,1-dichloroethane
6. cis-1,2-dichloroethene
7. chloroform
8. 1,2-dichloroethane
9. 1,1,1-trichloroethane
10. tetrachloromethane
11. benzene
12. trichlorethene
13. bromodichloromethane
14. toluene
15. trichloronitromethane
16. dibromochloromethane
17. tetrachloroethene
18. ethylbenzene
19. m/p-xylene
20. bromoform
21. styrene
22. 1,1,2,2-tetrachloroethane
23. o-xylene
24. isopropylbenzene/cumene
25. n-propylbenzene
26. 3-ethyltoluene
27. 4-ethyltoluene
28. 1,3,5-trimethylbenzene
29. 2-ethyltoluene
30. 1,2,4-trimethylbenzene
31. 1,2,3-trimethylbenzene





| Compounds                 | Rt-time [min] | Quant ion |
|---------------------------|---------------|-----------|
| toluene-d8                | 26.19         | 98        |
| trichlorofluoromethane    | 6.13          | 101       |
| dichloromethane           | 8.80          | 49        |
| trans-1,2-dichloroethene  | 9.67          | 61        |
| 1,1-dichloroethane        | 11.22         | 63        |
| cis-1,2-dichloroethene    | 13.39         | 61        |
| chloroform                | 14.85         | 83        |
| 1,2-dichloroethane        | 17.42         | 62        |
| 1,1,1-trichloroethane     | 15.48         | 97        |
| tetrachloromethane        | 16.15         | 117       |
| benzene                   | 17.06         | 78        |
| trichloroethene           | 20.29         | 130       |
| bromodichloromethane      | 23.07         | 83        |
| toluene                   | 26.47         | 91        |
| trichloronitromethane     | 27.54         | 117       |
| dibromochloromethane      | 29.61         | 129       |
| tetrachloroethene         | 28.42         | 166       |
| ethylbenzene              | 32.00         | 91        |
| m/p-xylene                | 32.43         | 91        |
| bromoform                 | 34.27         | 173       |
| styrene                   | 33.72         | 104       |
| 1,1,2,2-tetrachloroethane | 35.77         | 83        |
| o-xylene                  | 33.63         | 91        |
| isopropylbenzene/cumene   | 34.78         | 105       |
| n-propylbenzene           | 36.02         | 91        |
| 3-ethyltoluene            | 36.27         | 105       |
| 4-ethyltoluene            | 36.39         | 105       |
| 1,3,5-trimethylbenzene    | 36.57         | 105       |
| 2-ethyltoluene            | 37.07         | 105       |
| 1,2,4-trimethylbenzene    | 37.62         | 105       |
| 1,2,3-trimethylbenzene    | 38.80         | 105       |

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This information is subject to change without notice.

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