# Halogenated hydrocarbons, $C_1$ – $C_2$, hydrocarbons. $C_1$ – $C_6$

## Application Note

Environmental


### Authors

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### Introduction

Porous polymers are generally preferred for CFC separations as the high retention allows the volatile CFCs to be measured at low levels. However, if the porous polymer has no homogeneous pore size distribution, several molecules will show extra peak broadening, resulting in poor detection limits. A CFC that shows this behavior is CFC 113 or its isomer 113a.

The Agilent PoraBOND Q, with its well defined pore size distribution, elutes CFC 113 as a sharp peak. Due to the inertness of the PoraBONO Q porous polymer a wide range of CFCs will elute at low concentrations. Conditioning the column at 300 °C removes any heavy material which might be in the sample as an impurity. Valve injections that include pressure pulses can be done as the PoraBOND Q has a chemically bonded integrated adsorption layer, which does not contain particles.


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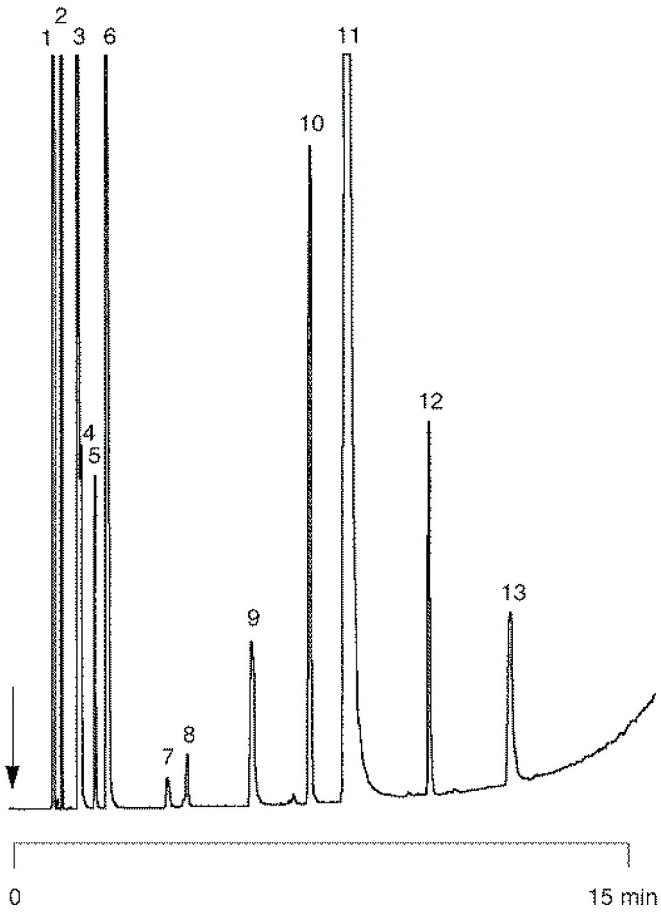
## Conditions

| | | |
|---|---|---|
| Technique | : | GC-capillary |
| Column | : | Agilent PoraBOND Q, 0.53 mm x 25 m, fused silica PLOT (df = 10 µm) (Part no. CP7354) |
| Temperature | : | 100 °C (2 min) ⟶ 250 °C, 10 °C/min |
| Carrier Gas | : | He, 40 kPa (0.4 bar, 6 psi) |
| Injector | : | Split<br>T = 250 °C |
| Detector | : | FID,<br>T = 250 °C |
| Sample Size | : | 50 µL |
| Concentration Range | : | 0.1% in $N_2$ |




## Peak identification

1. methane
2. ethane
3. CFC 134a
4. CFC 22
5. propane
6. CFC 12
7. isobutane
8. butane
9. CFC 11
10. pentane
11. CFC 113 + CFC 113a
12. hexane
13. CFC 112 + CFC 112a

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