

## Application Note

Enviro

### CFC separation using Porous Polymer material

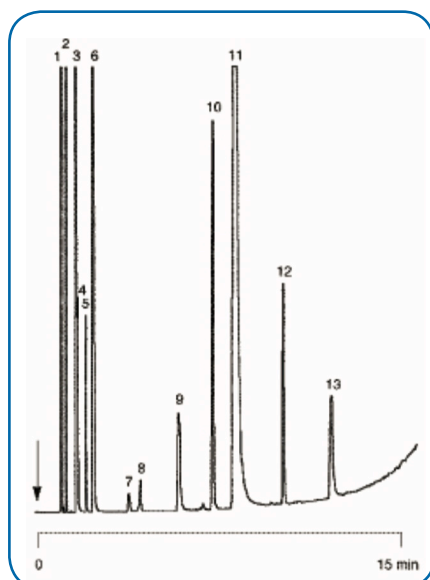
Porous polymers are generally preferred for CFC separations as the high retention allows the volatile CFCs to be measured at low levels. However, if the porous polymer has no homogeneous pore size distribution, several molecules will show extra peak broadening, resulting in poor detection limits. A CFC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

The SCION-BOND Q, with its well defined pore size distribution, elutes CFC 113 as a sharp peak. Due to the inertness of the BONO 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 injection including pressure pulse is possible as the SCION-BOND Q has a chemically bonded integrated adsorption layer, which does not contain particles.



#### 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



#### Conditions

Technique	GC FID
Column	SCION-BOND Q, 0.53 mm x 25 m, df = 10 µm (Part no. SC35604)
Temperature	100 °C (2 min) → 250 °C, 10 °C/min
Carrier Gas	He, 40 kPa (0.4 bar, 6 psi)
Injector	Split T = 250 °C
Detector	FID, T = 250 °C
Sample Size	1 µL, liquid
Concentration Range	0.1% in N <sub>2</sub>