

## PCBs

# Analysis of PCBs in pork mince

## Application Note

Food Testing & Agriculture

### Authors

Agilent Technologies, Inc.

### Introduction

Foodstuffs can be contaminated with relatively high levels of PCBs and dioxins. Dioxin analysis is possible but is very expensive and time consuming. A fast screening can be done for PCB using selective capillary columns. A series of PCB congeners was defined for determining the presence of contamination in foodstuffs. PCBs 28, 52, 101, 138, 153 and 180 were selected because they occur in many environmental samples and they can be separated from most matrix interferences and co-eluting PCBs. PCB 118 was selected on the basis of its toxicity. These congeners are all separated in the shortest possible analysis time using the Agilent CP-Select for PCB phase. Normally, long columns are required with analysis times of 30 - 40 minutes, particularly to get PCB 28 separated from PCB 31: now the analysis can be completed in less than 12 minutes. Sample preparation was done using Agilent Bond Elut PCB (p/n 1210-5032) with a cation and silica layer. This also works very well for PCB extraction from transformer oil and mineral oils. For PCBs in fats a Bond Elut C18 cartridge is recommended.



**Agilent Technologies**

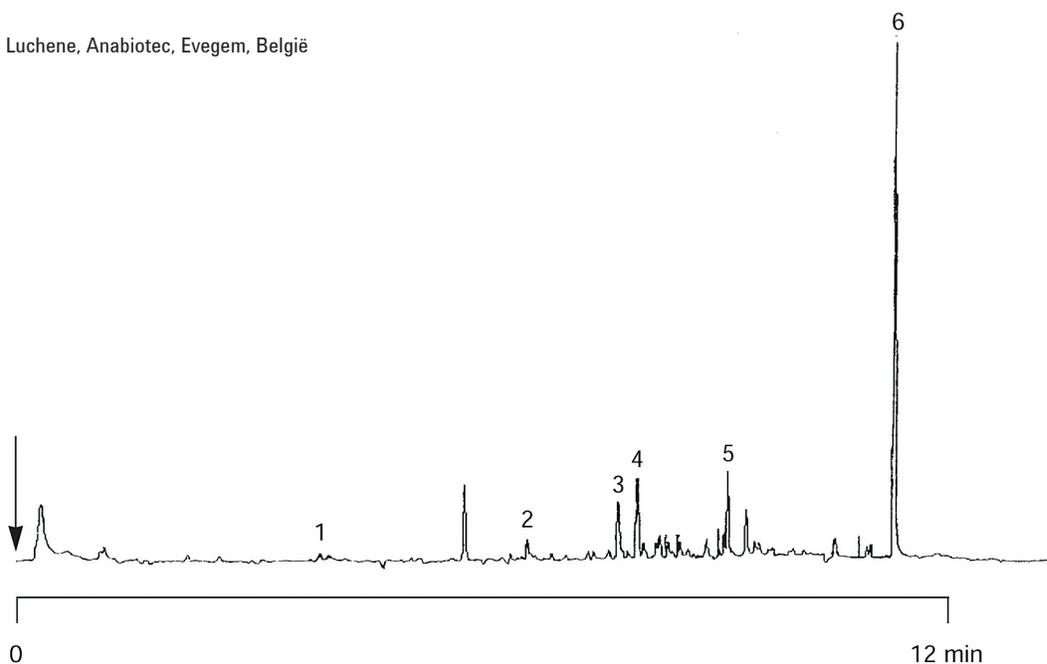
## Conditions

Technique : GC-capillary  
Column : Agilent CP-Select for PCB 28/31, 0.32 mm x 10 m  
fused silica WCOT (df = 0.05 µm) (Part no. CP7479)  
Temperature : 110 °C (1 min) → 270 °C, 12 °C/min  
Carrier Gas : He, 40 kPa (0.4 bar, 5.7 psi)  
Injector : Splitless, 45 s splitless time,  
T = 270 °C  
Detector : ECD  
T = 320 °C  
Sample Size : 1 µL  
Concentration Range : ca. 60 ppb  
Solvent Sample : iso-octane

Courtesy : Eric van Luchene, Anabiotec, Evegem, België

## Peak identification

1. PCB 28	4.010
2. PCB 101	6.654
3. PCB 153	7.811
4. PCB 138	8.057
5. PCB 180	9.251
6. Internal Standard	11.365



[www.agilent.com/chem](http://www.agilent.com/chem)

This information is subject to change without notice.

© Agilent Technologies, Inc. 2011

Printed in the USA

31 October, 2011

First published prior to 11 May, 2010

A01542



**Agilent Technologies**