

CoreFocus
Report
No.388

GCMS

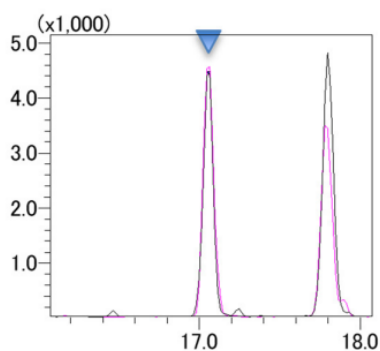
HS

SH Series

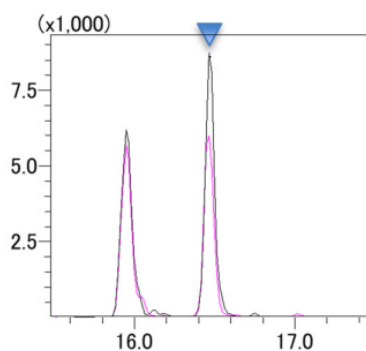
SH-I-5Sil MS

Analysis of Dioxins in Foods and Feeds

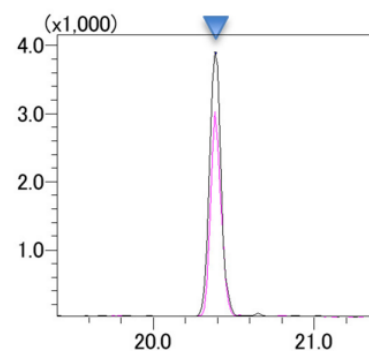
Keywords: Persistent organic pollutants, POPs



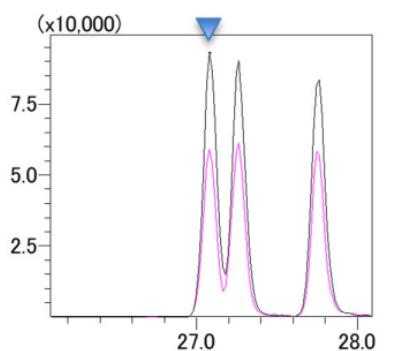
2,3,7,8-Tetrachlorodibenzo-p-dioxin



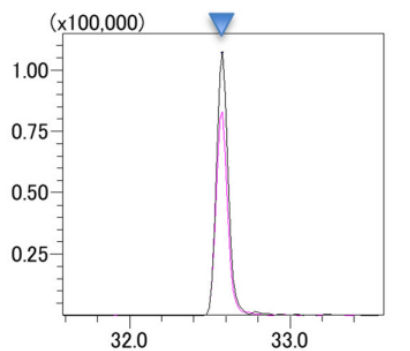
2,3,7,8-Tetrachlorodibenzofuran



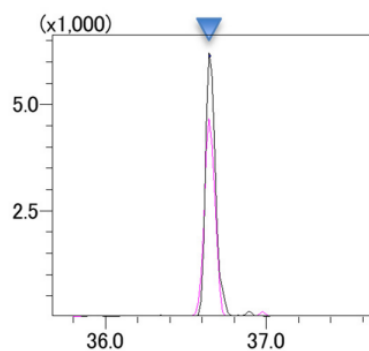
1,2,3,7,8-Pentachlorodibenzofuran



1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin



1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin



Octachlorodibenzofuran

Chromatograms of Representative Compounds in Analysis of Standard Samples (Concentration: 0.025 pg/ μ L)

Instrument Composition

Sample preparation (extraction)	:	SpeedExtractor (BÜCHI Labortechnik AG)
Sample preparation (clean-up)	:	GO-xHT (Miura Co., Ltd.)
Auto sampler	:	AOC-20i/s
GC-MS/MS	:	GCMS-TQ™8050
Software	:	GCMSsolution™ Ver. 4.50SP1 LabSolutions Insight™ Ver. 3.6 EU Regulation Compliant GC-MS/MS Method Package for Dioxins in Foods

Detailed Analysis Conditions (AOC-20i/s)

# of rinses with solvent (pre-run)	:	3
# of rinses with solvent (post-run)	:	3
# of rinses with sample	:	0
Plunger speed (suction)	:	Low
Viscosity comp. time	:	0.2 s
Plunger speed (injection)	:	High
Syringe insertion speed	:	High
Pumping times	:	5
Inj. port dwell time	:	0.3 s
Terminal air gap	:	No
Plunger washing speed	:	High
Washing volume	:	6 µL
Injection volume	:	2 µL

Detailed Analysis Conditions (GC)

Inlet liner	:	Topaz®single gooseneck inlet liner, w/wool (Restek Corp., P/N : 23336)
Column	:	SH-I -5Sil MS (60 m x 0.25 mm I.D., 0.25 µm) P/N : 227-36036-02
Injection mode	:	Spiltless
Sampling time	:	1.00 min
Injection temp.	:	280 °C
Column oven temp.	:	150 °C (1min) - (20 °C/min) - 220 °C - (2 °C/min) - 260 °C (3 min) - (5 °C /min) - 320 °C (3.5 min)
High pressure injection	:	450 kPa (1.5 min)
Flow control mode	:	Linear velocity (45.6 cm/s)
Purge flow	:	20 mL/min
Carrier gas	:	Helium

Analysis Conditions (MS)

Ion source temp.	:	230 °C
Interface temp.	:	300 °C
Detector voltage	:	1.8 kV (absolute)
Loop time	:	0.8 s (for native compounds) 0.2 s (for labeled compounds)
Transition	:	Conditions of method package
Ion source	:	BEIS
Emission current	:	150 µA

Source : Application News M287 ([ENG](#))

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