

Quality Control Certificate

Product: Florisil Column

Product No.: 13434

Lot No.: 713166

Storage Recommendations: Store the column at room temperature below 25°C

Description: The florisil column is part of a 3- or 4-column setup used for the sample preparation of environmental-, food- / feed- and similar matrices with DEXTech systems from LCTech for the analysis of polychlorinated dibenzo-p-dioxins (PCDD), polychlorinated dibenzofurans (PCDF) and polychlorinated biphenyl (PCB) congeners.

Quality Control Release Inspection and Test Specification

Test Procedure: A solvent blank, spiked with quantification standard has been cleaned-up on a DEXTech Plus system, spiked with recovery standard, evaporated via DEva and has been quantified with a HRGC/HRMS with a resolution of R > 10000.

Results Blank Value:

PCDD/F-TEQ:	0,23	pg/column
	(crit: <	0,7 pg/column
dl-PCB-TEQ:	0,008	pg/column
	(crit: <	0,05 pg/column
Sum Indikator PCB:	16,45	pg/column
	(crit: <	100 pg/column

Results Recoveries:

PCDD/F	82	to	103	%	(crit: 70 to 120)
PCB	83	to	110	%	(crit: 70 to 120)

This is to certify that florisil column, Lot 713166, passed the required test specifications and is released for sale.

date: 02.11.2020 sign.: _____

T. Kehmeier

The company LCTech GmbH is certified according to ISO 9001:2015



Hazards: NOT FOR HUMAN OR DRUG USE!

The florisil column is designed and prepared for usage with the universal/standard & smart column and carbon column from LCTech and for laboratory use only. This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion, all procedures should be carried out with suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed according to national and regional regulations.

Quality Control: All ingredients are traceable to certified lots of our supplier. In addition, any ingredient with a new lot will be checked on contamination and efficiency before releasing for production. Monitoring the ongoing production, several columns are chosen at random day for analysis to check on contamination and efficiency.

Quality Management: This product was produced using a Quality Management System registered to the ISO 9001:2015 (DEKRA)

Documentation / Data Attached: Table 1 & 2: Blank values of PCDD/F and PCB
Table 3 & 4: 13C-Recoveries of PCDD/F and PCB

Analytcs: All the columns (n>5) have to perform a clean-up of a solvent blank (10 mL n-hexane), spiked with a 13C - labelled quantifier-standard solution with a single column method onto a DEXTech Plus system. The fractions 1 (PCB) and 2 (PCDD/F) are spiked with 13C - labelled recovery- standard solutions and evaporated with the D-EVA vacuum centrifuge. The extracts are measured with a HRMS-DFS from Thermo Fisher Scientific with a resolution of R > 10000. The HRGCs are equipped with 60 m DB5 MS columns. For PCDD/F 5µL are injected via PTV, for PCB 2µL via SSL.

Remarks: Our suppliers maintain the highest standard of quality, however due to the high temperature necessary for several steps in the production, some small charred particles may be visible within a batch of florisil or filters without any effect on the clean-up.

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Results:

Lockmass check:

No significant disturbances, or indicators for contaminations are detected.

Blanks:

Table 1: PCDD/F blank (n=8)

Table 2: PCB blank (n=8)

Congeneres:	[pg/column]:
2,3,7,8-TCDF	0,08
1,2,3,7,8-PeCDF	0,05
2,3,4,7,8-PeCDF	<0,081
1,2,3,4,7,8-HxCDF	0,029
1,2,3,6,7,8-HxCDF	0,036
2,3,4,6,7,8-HxCDF	<dl
1,2,3,7,8,9-HxCDF	<0,045
1,2,3,4,6,7,8-HpCDF	<0,063
1,2,3,4,7,8,9-HpCDF	<0,018
OCDF	0,16
2,3,7,8-TCDD	<0,036
1,2,3,7,8-PeCDD	0,17
1,2,3,4,7,8-HxCDD	<0,027
1,2,3,6,7,8-HxCDD	<dl
1,2,3,7,8,9-HxCDD	<0,027
1,2,3,4,6,7,8-HpCDD	<0,09
OCDD	<0,108

Congeneres:	[pg/column]:
PCB 28	4,53
PCB 52	5,93
PCB 77	0,27
PCB 81	0,162
PCB 101	2,99
PCB 123	0,1492
PCB 118	0,92
PCB 114	0,2324
PCB 105	0,35
PCB 126	0,0613
PCB 153	1,44
PCB 138	1,02
PCB 167	0,313
PCB 156	0,31
PCB 157	0,188
PCB 169	0,047
PCB 180	0,23
PCB 189	0,189

TEQ (WHO 2005)	
lower bound	0,23
upper bound	0,24

TEQ (WHO 2005)	
lower bound	0,0077
upper bound	0,0077

Sum DIN PCB	16,45
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Results:

13C-Recoveries

Table 3: PCDD/F 13C-recoveries (n=8)

Congeneres:	13C rec [%]
2,3,7,8-TCDF	96
1,2,3,7,8-PeCDF	87
2,3,4,7,8-PeCDF	92
1,2,3,4,7,8-HxCDF	89
1,2,3,6,7,8-HxCDF	87
2,3,4,6,7,8-HxCDF	82
1,2,3,7,8,9-HxCDF	91
1,2,3,4,6,7,8-HpCDF	87
1,2,3,4,7,8,9-HpCDF	103
OCDF	98
2,3,7,8-TCDD	97
1,2,3,7,8-PeCDD	97
1,2,3,4,7,8-HxCDD	96
1,2,3,6,7,8-HxCDD	89
1,2,3,7,8,9-HxCDD	86
1,2,3,4,6,7,8-HpCDD	89
OCDD	90

Table 4: PCB 13C-recoveries (n=8)

Congeneres:	13C rec [%]
PCB 28	95
PCB 52	91
PCB 77	85
PCB 81	83
PCB 101	90
PCB 123	90
PCB 118	90
PCB 114	88
PCB 105	90
PCB 126	98
PCB 153	87
PCB 138	92
PCB 167	93
PCB 156	94
PCB 157	95
PCB 169	110
PCB 180	90
PCB 189	89

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