

Quality Control Certificate

Product: Florisil Column

Product No.: 13807

Lot No.: 713749

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:	0,27	pg/column
	(crit: < 0,7	pg/column)
dl-PCB-TEQ:	0,035	pg/column
	(crit: < 0,05	pg/column)
Sum Indikator PCB:	18,48	pg/column
	(crit: < 100	pg/column)

Results Recoveries:

PCDD/F	81	to	100	%	(crit: 70 to 120)
PCB	70	to	96	%	(crit: 70 to 120)

This is to certify that florisil column, Lot 713749, passed the required test specifications and is released for sale.

date: 12.11.2020 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=9)

Table 2: PCB blank (n=9)

Congeneres: [pg/column]:

2,3,7,8-TCDF	0,05
1,2,3,7,8-PeCDF	0,08
2,3,4,7,8-PeCDF	<0,081
1,2,3,4,7,8-HxCDF	0,044
1,2,3,6,7,8-HxCDF	0,067
2,3,4,6,7,8-HxCDF	0,05
1,2,3,7,8,9-HxCDF	0,06
1,2,3,4,6,7,8-HpCDF	0,11
1,2,3,4,7,8,9-HpCDF	0,034
OCDF	4,96
2,3,7,8-TCDD	<0,036
1,2,3,7,8-PeCDD	0,16
1,2,3,4,7,8-HxCDD	0,07
1,2,3,6,7,8-HxCDD	0,12
1,2,3,7,8,9-HxCDD	0,056
1,2,3,4,6,7,8-HpCDD	0,19
OCDD	1,16

TEQ (WHO 2005)	
lower bound	0,27
upper bound	0,27

Congeneres: [pg/column]:

PCB 28	5,25
PCB 52	5,79
PCB 77	0,23
PCB 81	0,244
PCB 101	4,05
PCB 123	0,2113
PCB 118	0,55
PCB 114	0,0958
PCB 105	0,33
PCB 126	0,2798
PCB 153	1,62
PCB 138	0,96
PCB 167	0,428
PCB 156	0,23
PCB 157	0,19
PCB 169	0,242
PCB 180	0,38
PCB 189	0,26

TEQ (WHO 2005)	
lower bound	0,0354
upper bound	0,0354

Sum DIN PCB	18,48
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Results:

13C-Recoveries

Table 3: PCDD/F 13C-recoveries (n=9)

Congeneres:	13C rec [%]
2,3,7,8-TCDF	97
1,2,3,7,8-PeCDF	95
2,3,4,7,8-PeCDF	96
1,2,3,4,7,8-HxCDF	93
1,2,3,6,7,8-HxCDF	93
2,3,4,6,7,8-HxCDF	86
1,2,3,7,8,9-HxCDF	90
1,2,3,4,6,7,8-HpCDF	82
1,2,3,4,7,8,9-HpCDF	92
OCDF	83
2,3,7,8-TCDD	100
1,2,3,7,8-PeCDD	93
1,2,3,4,7,8-HxCDD	94
1,2,3,6,7,8-HxCDD	94
1,2,3,7,8,9-HxCDD	90
1,2,3,4,6,7,8-HpCDD	86
OCDD	81

Table 4: PCB 13C-recoveries (n=9)

Congeneres:	13C rec [%]
PCB 28	81
PCB 52	70
PCB 77	83
PCB 81	84
PCB 101	81
PCB 123	87
PCB 118	87
PCB 114	88
PCB 105	94
PCB 126	91
PCB 153	80
PCB 138	84
PCB 167	92
PCB 156	90
PCB 157	96
PCB 169	79
PCB 180	89
PCB 189	89

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