

Quality Control Certificate

Product: **Florisil Column**
 Product No.: 13807
 Lot No.: **719083**

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 on a DEXTech Plus system, spiked with recovery standard, evaporated with the D-EVA and has been quantified with a HRGC/HRMS DFS from Thermo Fisher Scientific at a resolution of R > 10000.

Results Blank Value:	PCDD/F-TEQ:	0,1	pg/column
		(crit: <	0,7 pg/column)
	dl-PCB-TEQ:	0,0156	pg/column
		(crit: <	0,05 pg/column)
	Sum Total PCB:	9,4	pg/column
		(crit: <	300 pg/column)

Results Recoveries:	PCDD/F	71	to	117	%	(crit: 70	to	120	%)
	PCB	86	to	116	%	(crit: 70	to	120	%)

This is to certify that the Florisil Column, Lot 719083, passed the required test specifications and is released for sale.

date: 03.11.2023 sign.: *M. Bradis*

The company LCTech GmbH is certified according to ISO 9001



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Hazards:	<p>NOT FOR HUMAN OR DRUG USE!</p> <p>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.</p>
Quality Control:	<p>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.</p>
Quality Management:	<p>This product was produced using a Quality Management System registered to the ISO 9001:2015 (DEKRA)</p>
Documentation / Data Attached:	<p>table 1 & 2: blankvalues of PCDD/F and PCB table 3 & 4: 13C-Recoveries of PCDD/F and PCB</p>
Analytics	<p>This is to certify that the Florisil Column, Lot , passed the required test specifications and is released for sale.</p>
Remarks	<p>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.</p>



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Results:

Lockmass check: No significant disturbances, or indicators for contaminations are detected.

Blanks: n= 8

Table 1: PCDD/F blank

	[pg/column]
2,3,7,8-TCDF	<dl
1,2,3,7,8-PeCDF	<0,045
2,3,4,7,8-PeCDF	<dl
1,2,3,4,7,8-HxCDF	<dl
1,2,3,6,7,8-HxCDF	<dl
2,3,4,6,7,8-HxCDF	<0,045
1,2,3,7,8,9-HxCDF	0,05
1,2,3,4,6,7,8-HpCDF	<dl
1,2,3,4,7,8,9-HpCDF	<0,018
1,2,3,4,6,7,8,9-OCDF	0,06
2,3,7,8-TCDD	<dl
1,2,3,7,8-PeCDD	0,06
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
1,2,3,4,6,7,8,9-OCDD	0,51

Table 2: PCB blank

	[pg/column]
PCB-#28	1,37
PCB-#52	1,39
PCB-#101	1,05
PCB-#153	1,97
PCB-#138	1,29
PCB-#180	2,351
PCB-#81	0,08
PCB-#77	0,075
PCB-#126	0,12
PCB-#169	0,112
PCB-#123	0,68
PCB-#118	0,89
PCB-#114	0,544
PCB-#105	0,85
PCB-#167	0,462
PCB-#156	0,94
PCB-#157	0,59
PCB-#189	1,374

PCDD/F TEQ (2005)	[pg/column]
lower bound	0,07
upper bound	0,1

PCB-TEQ	[pg/column]
lower bound	0,0156
upper bound	0,0156
Sum DIN	9,4

Table 3: PCDD/F recoveries

	[%]	RSD [%]	
PCDD/F 13C Recoveries [%]	2,3,7,8-TCDF	101	6
	1,2,3,7,8-PeCDF	101	6
	2,3,4,7,8-PeCDF	104	10
	1,2,3,4,7,8-HxCDF	109	4
	1,2,3,6,7,8-HxCDF	117	6
	2,3,4,6,7,8-HxCDF	111	3
	1,2,3,7,8,9-HxCDF	110	3
	1,2,3,4,6,7,8-HpCDF	98	7
	1,2,3,4,7,8,9-HpCDF	106	4
	1,2,3,4,6,7,8,9-OCDF	82	6
	2,3,7,8-TCDD	97	5
	1,2,3,7,8-PeCDD	106	8
	1,2,3,4,7,8-HxCDD	115	4
	1,2,3,6,7,8-HxCDD	100	4
	1,2,3,7,8,9-HxCDD	110	3
	1,2,3,4,6,7,8-HpCDD	96	5
	1,2,3,4,6,7,8,9-OCDD	71	7

Table 4: PCB recoveries

	[%]	RSD [%]	
PCB 13C Recoveries [%]	PCB-#28	93	4
	PCB-#52	86	8
	PCB-#101	96	4
	PCB-#153	97	5
	PCB-#138	100	3
	PCB-#180	97	3
	PCB-#81	112	3
	PCB-#77	116	3
	PCB-#126	113	10
	PCB-#169	112	7
	PCB-#123	105	8
	PCB-#118	102	8
	PCB-#114	104	7
	PCB-#105	102	6
	PCB-#167	98	1
	PCB-#156	102	5
	PCB-#157	104	5
	PCB-#189	98	10