Quality Control Certificate

Product: **Florisil Column**

Product No.: 13807

Lot No.: **719998**

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:	0,05	pg/column
	(crit: < 0,7	pg/column)
dl-PCB-TEQ:	0	pg/column
	(crit: < 0,05	pg/column)
Sum Total PCB:	1	pg/column
	(crit: < 300	pg/column)

Results Recoveries:

PCDD/F	70	to	108	%	(crit:	70	to	120	%)
PCB	91	to	108	%	(crit:	70	to	120	%)

This is to certify that the Florisil Column, Lot 719998, passed the required test specifications and is released for sale.

date: 03.04.2024   sign.: *M.Bradis*

The company LCTech GmbH is certified according to ISO 9001

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: blankvalues of PCDD/F and PCB table 3 & 4: 13C-Recoveries of PCDD/F and PCB
Analytics	This is to certify that the Florisil Column, Lot , passed the required test specifications and is released for sale.
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.

Results:

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

Blanks: n=   12

Table 1: PCDD/F blank

sample amount [pg/column]		[pg/column]
	2,3,7,8-TCDF	<dl
	1,2,3,7,8-PeCDF	<dl
	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	<dl
	1,2,3,7,8,9-HxCDF	<dl
	1,2,3,4,6,7,8-HpCDF	<dl
	1,2,3,4,7,8,9-HpCDF	<dl
	1,2,3,4,6,7,8,9-OCDF	<dl
	2,3,7,8-TCDD	<dl
	1,2,3,7,8-PeCDD	<dl
	1,2,3,4,7,8-HxCDD	<dl
	1,2,3,6,7,8-HxCDD	<dl
	1,2,3,7,8,9-HxCDD	<dl
	1,2,3,4,6,7,8-HpCDD	<dl
	1,2,3,4,6,7,8,9-OCDD	0,29

PCDD/F TEQ (2005)	[pg/column]
lower bound	0
upper bound	0,05

Table 2: PCB blank

sample amount [pg/sample]		[pg/column]
	PCB-#28	0,46
	PCB-#52	0,53
	PCB-#101	<dl
	PCB-#153	<0,162
	PCB-#138	<dl
	PCB-#180	<dl
	PCB-#81	0,05
	PCB-#77	<dl
	PCB-#126	<dl
	PCB-#169	<dl
	PCB-#123	<dl
	PCB-#118	<0,108
	PCB-#114	0,005
	PCB-#105	<dl
	PCB-#167	<dl
	PCB-#156	<dl
	PCB-#157	<dl
	PCB-#189	0,034

PCB-TEQ	[pg/column]
lower bound	0
upper bound	0,0004
Sum DIN	1

Table 3: PCDD/F recoveries

		[%]	RSD [%]
	2,3,7,8-TCDF	96	3
	1,2,3,7,8-PeCDF	92	3
	2,3,4,7,8-PeCDF	96	6
	1,2,3,4,7,8-HxCDF	95	3
	1,2,3,6,7,8-HxCDF	104	3
	2,3,4,6,7,8-HxCDF	103	5
PCDD/F 13C Recoveries [%]	1,2,3,7,8,9-HxCDF	104	3
	1,2,3,4,6,7,8-HpCDF	86	5
	1,2,3,4,7,8,9-HpCDF	90	3
	1,2,3,4,6,7,8,9-OCDF	74	7
	2,3,7,8-TCDD	88	5
	1,2,3,7,8-PeCDD	93	7
	1,2,3,4,7,8-HxCDD	108	3
	1,2,3,6,7,8-HxCDD	89	5
	1,2,3,7,8,9-HxCDD	100	6
	1,2,3,4,6,7,8-HpCDD	87	4
	1,2,3,4,6,7,8,9-OCDD	70	4

Table 4: PCB recoveries

		[%]	RSD [%]
	PCB-#28	98	6
	PCB-#52	91	8
	PCB-#101	92	3
	PCB-#153	98	4
	PCB-#138	97	3
	PCB-#180	101	4
PCB 13C Recoveries [%]	PCB-#81	100	4
	PCB-#77	102	5
	PCB-#126	108	5
	PCB-#169	102	5
	PCB-#123	97	3
	PCB-#118	98	3
	PCB-#114	99	5
	PCB-#105	95	5
	PCB-#167	104	1
	PCB-#156	102	4
	PCB-#157	106	4
	PCB-#189	106	5