

Quality Control Certificate

Product: **Smart Column**
Product No.: 19513
Lot No.: **723846**

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

Description: The Smart Column is part of a 3-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: <	0,70 pg/column)
	dl-PCB-TEQ:	0,002	pg/column
		(crit: <	0,05 pg/column)
	Sum Total PCB:	21,2	pg/column
		(crit: <	300 pg/column)

Results Recoveries:	PCDD/F	82	to	102	%	(crit: 70	to	120	%)
	PCB	84	to	103	%	(crit: 70	to	120	%)

This is to certify that the Smart Column, Lot 723846, passed the required test specifications and is released for sale.

date: 17.07.2026 sign.: 

The company LCTech GmbH is certified according to ISO 9001



QC-Certificate - 19513 - 723846

Hazards:	NOT FOR HUMAN OR DRUG USE! The Smart Column is designed and prepared for usage with the Alumina/Florisil 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 Smart 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 silica or filters without any effect on the clean-up.

QC-Certificate - 19513 - 723846

Results:

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

Blanks: n= 6

Table 1: PCDD/F blank

	[pg/column]
sample amount [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	<0,09
1,2,3,4,6,7,8,9-OCDD	0,32

Table 2: PCB blank

	[pg/column]
sample amount [pg/sample]	
PCB-#28	11,21
PCB-#52	7,86
PCB-#101	1,16
PCB-#153	0,59
PCB-#138	0,42
PCB-#180	<0,18
PCB-#81	0,03
PCB-#77	0,162
PCB-#126	0,0192
PCB-#169	<dl
PCB-#123	0,04
PCB-#118	0,58
PCB-#114	0,022
PCB-#105	0,16
PCB-#167	0,034
PCB-#156	<0,126
PCB-#157	0,04
PCB-#189	0,049

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

PCB-TEQ	[pg/column]
lower bound	0,002
upper bound	0,0023
Sum DIN	21,2



QC-Certificate - 19513 - 723846

Table 3: PCDD/F recoveries

		RSD [%]	
		[%]	
PCDD/F 13C Recoveries [%]	2,3,7,8-TCDF	96	4
	1,2,3,7,8-PeCDF	93	3
	2,3,4,7,8-PeCDF	97	3
	1,2,3,4,7,8-HxCDF	93	3
	1,2,3,6,7,8-HxCDF	94	3
	2,3,4,6,7,8-HxCDF	92	4
	1,2,3,7,8,9-HxCDF	100	4
	1,2,3,4,6,7,8-HpCDF	102	3
	1,2,3,4,7,8,9-HpCDF	94	4
	1,2,3,4,6,7,8,9-OCDF	101	3
	2,3,7,8-TCDD	92	4
	1,2,3,7,8-PeCDD	94	3
	1,2,3,4,7,8-HxCDD	94	5
	1,2,3,6,7,8-HxCDD	82	3
	1,2,3,7,8,9-HxCDD	97	4
	1,2,3,4,6,7,8-HpCDD	94	2
	1,2,3,4,6,7,8,9-OCDD	89	3

Table 4: PCB recoveries

		RSD [%]	
		[%]	
PCB 13C Recoveries [%]	PCB-#28	100	2
	PCB-#52	96	1
	PCB-#101	95	1
	PCB-#153	98	1
	PCB-#138	94	1
	PCB-#180	96	1
	PCB-#81	99	2
	PCB-#77	103	3
	PCB-#126	96	2
	PCB-#169	91	2
	PCB-#123	91	6
	PCB-#118	88	8
	PCB-#114	94	3
	PCB-#105	86	6
	PCB-#167	84	9
	PCB-#156	89	6
	PCB-#157	89	8
	PCB-#189	85	7