

Quality Control Certificate

Product: **Smart Column**
 Product No.: 19513
 Lot No.: **721580**

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:	0,13	pg/column
		(crit: <	0,70 pg/column)
	dl-PCB-TEQ:	0,0209	pg/column
		(crit: <	0,05 pg/column)
	Sum Total PCB:	5	pg/column
		(crit: <	300 pg/column)

Results Recoveries:	PCDD/F	87	to	109	%	(crit: 70	to	120	%)
	PCB	70	to	103	%	(crit: 70	to	120	%)

This is to certify that the Smart Column, Lot 721580, passed the required test specifications and is released for sale.

date: 13.03.2025 sign.: T. Kehmeier

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 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.</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 Smart 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 silica 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= 6

Table 1: PCDD/F blank

	[pg/column]
2,3,7,8-TCDF	<dl
1,2,3,7,8-PeCDF	0,05
2,3,4,7,8-PeCDF	<0,081
1,2,3,4,7,8-HxCDF	<0,027
1,2,3,6,7,8-HxCDF	0,023
2,3,4,6,7,8-HxCDF	<0,045
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	0,023
1,2,3,4,6,7,8,9-OCDF	<0,054
2,3,7,8-TCDD	0,04
1,2,3,7,8-PeCDD	<0,054
1,2,3,4,7,8-HxCDD	0,048
1,2,3,6,7,8-HxCDD	<0,108
1,2,3,7,8,9-HxCDD	0,052
1,2,3,4,6,7,8-HpCDD	0,09
1,2,3,4,6,7,8,9-OCDD	0,76

Table 2: PCB blank

	[pg/column]
PCB-#28	1,04
PCB-#52	1,08
PCB-#101	0,61
PCB-#153	0,74
PCB-#138	0,98
PCB-#180	0,547
PCB-#81	0,11
PCB-#77	0,142
PCB-#126	0,1757
PCB-#169	0,108
PCB-#123	0,47
PCB-#118	0,59
PCB-#114	0,302
PCB-#105	0,14
PCB-#167	0,644
PCB-#156	0,418
PCB-#157	0,62
PCB-#189	0,472

PCDD/F TEQ (2005)	[pg/column]
lower bound	0,13
upper bound	0,13

PCB-TEQ	[pg/column]
lower bound	0,0209
upper bound	0,0209
Sum DIN	5

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Table 3: PCDD/F recoveries

	[%]	RSD [%]	
PCDD/F 13C Recoveries [%]	2,3,7,8-TCDF	98	2
	1,2,3,7,8-PeCDF	89	2
	2,3,4,7,8-PeCDF	94	3
	1,2,3,4,7,8-HxCDF	96	4
	1,2,3,6,7,8-HxCDF	101	5
	2,3,4,6,7,8-HxCDF	100	4
	1,2,3,7,8,9-HxCDF	105	4
	1,2,3,4,6,7,8-HpCDF	105	4
	1,2,3,4,7,8,9-HpCDF	101	3
	1,2,3,4,6,7,8,9-OCDF	100	5
	2,3,7,8-TCDD	96	3
	1,2,3,7,8-PeCDD	92	4
	1,2,3,4,7,8-HxCDD	109	3
	1,2,3,6,7,8-HxCDD	87	4
	1,2,3,7,8,9-HxCDD	101	4
	1,2,3,4,6,7,8-HpCDD	100	3
	1,2,3,4,6,7,8,9-OCDD	96	5

Table 4: PCB recoveries

	[%]	RSD [%]	
PCB 13C Recoveries [%]	PCB-#28	99	3
	PCB-#52	103	5
	PCB-#101	97	1
	PCB-#153	84	2
	PCB-#138	97	2
	PCB-#180	85	2
	PCB-#81	89	6
	PCB-#77	93	6
	PCB-#126	85	6
	PCB-#169	81	7
	PCB-#123	85	4
	PCB-#118	82	5
	PCB-#114	88	5
	PCB-#105	84	5
	PCB-#167	87	7
	PCB-#156	77	4
	PCB-#157	70	6
	PCB-#189	85	3