

Quality Control Certificate

Product: **Universal Column**
Product No.: 19511
Lot No.: **724399**

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

Description: The Universal 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: <	0,70 pg/column)
dl-PCB-TEQ:	0,0023	pg/column
	(crit: <	0,05 pg/column)
Sum Total PCB:	32,4	pg/column
	(crit: <	300 pg/column)

Results Recoveries:

PCDD/F	86	to	115	%	(crit: 70	to	120	%)
PCB	82	to	108	%	(crit: 70	to	120	%)

This is to certify that the Universal Column, Lot 724399, passed the required test specifications and is released for sale.

date: 29.09.2026

sign.: 

The company LCTech GmbH is certified according to ISO 9001



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Hazards:	NOT FOR HUMAN OR DRUG USE! The Universal 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 Universal 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.

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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	0,07
1,2,3,7,8-PeCDF	<0,045
2,3,4,7,8-PeCDF	<0,081
1,2,3,4,7,8-HxCDF	0,03
1,2,3,6,7,8-HxCDF	0,02
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	<dl
1,2,3,4,6,7,8,9-OCDF	<0,054
2,3,7,8-TCDD	<0,036
1,2,3,7,8-PeCDD	0,08
1,2,3,4,7,8-HxCDD	<0,027
1,2,3,6,7,8-HxCDD	<0,108
1,2,3,7,8,9-HxCDD	<0,027
1,2,3,4,6,7,8-HpCDD	0,11
1,2,3,4,6,7,8,9-OCDD	0,29

Table 2: PCB blank

	[pg/column]
PCB-#28	17,25
PCB-#52	10,55
PCB-#101	2,45
PCB-#153	0,88
PCB-#138	1,01
PCB-#180	0,237
PCB-#81	0,04
PCB-#77	0,198
PCB-#126	0,0275
PCB-#169	<dl
PCB-#123	0,14
PCB-#118	0,88
PCB-#114	0,023
PCB-#105	0,22
PCB-#167	0,165
PCB-#156	<0,126
PCB-#157	0,04
PCB-#189	0,127

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

PCB-TEQ	[pg/column]
lower bound	0,0023
upper bound	0,0023
Sum DIN	32,4

Table 3: PCDD/F recoveries

		[%]	RSD [%]
PCDD/F 13C Recoveries [%]	2,3,7,8-TCDF	98	7
	1,2,3,7,8-PeCDF	98	4
	2,3,4,7,8-PeCDF	99	6
	1,2,3,4,7,8-HxCDF	104	9
	1,2,3,6,7,8-HxCDF	109	6
	2,3,4,6,7,8-HxCDF	110	7
	1,2,3,7,8,9-HxCDF	107	8
	1,2,3,4,6,7,8-HpCDF	114	4
	1,2,3,4,7,8,9-HpCDF	91	7
	1,2,3,4,6,7,8,9-OCDF	96	10
	2,3,7,8-TCDD	97	5
	1,2,3,7,8-PeCDD	96	8
	1,2,3,4,7,8-HxCDD	114	7
	1,2,3,6,7,8-HxCDD	98	3
	1,2,3,7,8,9-HxCDD	115	3
	1,2,3,4,6,7,8-HpCDD	99	9
	1,2,3,4,6,7,8,9-OCDD	86	16

Table 4: PCB recoveries

		[%]	RSD [%]
PCB 13C Recoveries [%]	PCB-#28	96	8
	PCB-#52	96	14
	PCB-#101	100	6
	PCB-#153	104	5
	PCB-#138	106	6
	PCB-#180	104	8
	PCB-#81	103	5
	PCB-#77	108	4
	PCB-#126	106	12
	PCB-#169	104	16
	PCB-#123	90	11
	PCB-#118	85	14
	PCB-#114	98	4
	PCB-#105	87	11
	PCB-#167	86	18
	PCB-#156	91	12
	PCB-#157	88	19
	PCB-#189	82	14