

Quality Control Certificate

Product: **Alumina Column**
Product No.: 15433
Lot No.: **722217**

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

Description: The Alumina 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:	0,15	pg/column						
		(crit: <	0,70	pg/column)					
	dI-PCB-TEQ:	0,0081	pg/column						
		(crit: <	0,05	pg/column)					
	Sum Total PCB:	5,6	pg/column						
		(crit: <	300	pg/column)					
Results Recoveries:	PCDD/F	84	to	120	%	(crit: 70	to	120	%)
	PCB	83	to	105	%	(crit: 70	to	120	%)

This is to certify that the Alumina Column, Lot 722217, passed the required test specifications and is released for sale.

date: 03.09.2025

sign.: 

The company LCTech GmbH is certified according to ISO 9001



QC-Certificate - 15433 - 722217

Hazards:	NOT FOR HUMAN OR DRUG USE! The Alumina 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 Alumina Column, Lot , passed the required test specifications and is released for sale.
Remarks	n/a

QC-Certificate - 15433 - 722217

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	<0,036
1,2,3,7,8-PeCDF	<0,045
2,3,4,7,8-PeCDF	<0,081
1,2,3,4,7,8-HxCDF	<0,027
1,2,3,6,7,8-HxCDF	<0,018
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	<0,09
1,2,3,4,6,7,8,9-OCDD	0,67

Table 2: PCB blank

	[pg/column]
PCB-#28	2,06
PCB-#52	2,22
PCB-#101	0,91
PCB-#153	0,42
PCB-#138	<dl
PCB-#180	<0,18
PCB-#81	0,1
PCB-#77	0,452
PCB-#126	0,0584
PCB-#169	0,07
PCB-#123	0,11
PCB-#118	0,26
PCB-#114	0,005
PCB-#105	0,17
PCB-#167	<dl
PCB-#156	0,368
PCB-#157	0,38
PCB-#189	0,092

PCDD/F TEQ (2005)	[pg/column]
lower bound	0,15
upper bound	0,15

PCB-TEQ	[pg/column]
lower bound	0,0081
upper bound	0,0081
Sum DIN	5,6

Table 3: PCDD/F recoveries

		[%]	RSD [%]
PCDD/F 13C Recoveries [%]	2,3,7,8-TCDF	94	5
	1,2,3,7,8-PeCDF	97	4
	2,3,4,7,8-PeCDF	102	4
	1,2,3,4,7,8-HxCDF	114	3
	1,2,3,6,7,8-HxCDF	120	3
	2,3,4,6,7,8-HxCDF	118	2
	1,2,3,7,8,9-HxCDF	119	5
	1,2,3,4,6,7,8-HpCDF	113	4
	1,2,3,4,7,8,9-HpCDF	99	3
	1,2,3,4,6,7,8,9-OCDF	95	5
	2,3,7,8-TCDD	92	4
	1,2,3,7,8-PeCDD	108	6
	1,2,3,4,7,8-HxCDD	120	2
	1,2,3,6,7,8-HxCDD	101	3
	1,2,3,7,8,9-HxCDD	114	3
	1,2,3,4,6,7,8-HpCDD	101	4
	1,2,3,4,6,7,8,9-OCDD	84	4

Table 4: PCB recoveries

		[%]	RSD [%]
PCB 13C Recoveries [%]	PCB-#28	95	5
	PCB-#52	95	5
	PCB-#101	99	3
	PCB-#153	93	2
	PCB-#138	97	4
	PCB-#180	96	4
	PCB-#81	93	7
	PCB-#77	98	9
	PCB-#126	105	8
	PCB-#169	103	9
	PCB-#123	92	6
	PCB-#118	84	6
	PCB-#114	91	6
	PCB-#105	87	4
	PCB-#167	83	6
	PCB-#156	85	5
	PCB-#157	87	7
	PCB-#189	90	6