



prepared for pras testing

Fast and High-Resolution LC-MS Separation with Ascentis® Express PFAS HPLC Columns

PFAS (Per- and poly-fluoroalkyl substances) are persistent, man-made organic compounds, widely found in the environment. Recent awareness has brought attention to the toxicity of these substances. The U.S. Food and Drug Administration (FDA) and the U.S. Environmental Protection Agency (EPA) have initiated actions against PFAS. For determination of PFASs, liquid chromatography-mass spectrometry (LC-MS) is a commonly used technique.

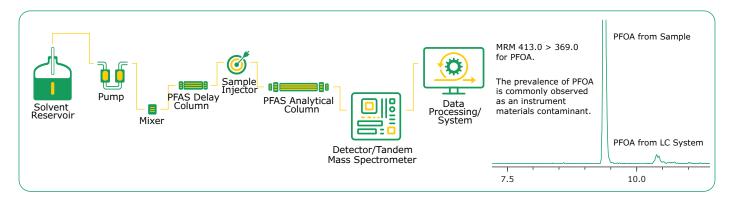
The new Ascentis® Express PFAS HPLC column, with its Fused-Core® technology and a particle size of 2.7 µm, delivers fast and high-resolution separations with excellent selectivity, peak shape, and necessary retention to perform in EPA methods 537.1, 533 and 8327.

Key benefits of Ascentis® Express PFAS columns include:

- 2.7 μm Fused-Core® particle for reliable and high efficiency separations and lower column back pressure compared to sub-2 μm particles.
- Excellent suitability for MS detection
- Application-related Lot analysis and single column performance testing
- Pressure limit: 600 bar

Ascentis® Express PFAS HPLC columns enable precise MS results

The Ascentis® Express PFAS HPLC column is designed for the separation of novel and legacy short chain and long chain PFAS compounds containing branched and linear isomers, whilst adhering to EPA methodology requirements. Furthermore, a specific PFAS delay column prevents background PFAS contamination from interfering with the sample results in quantitative LC-MS methods.



The highly retentive endcapped silane of the Ascentis® Express PFAS Delay column provides high retention of PFAS compounds across various mobile phase conditions and is used to delay background instrument

PFAS contamination from interference with analyzed samples. For this reason, the Ascentis® Express PFAS Delay column is placed upstream of the sample injector and after the mixer.



Analysis of PFAS Compounds in EPA 537.1:

LC Conditions:

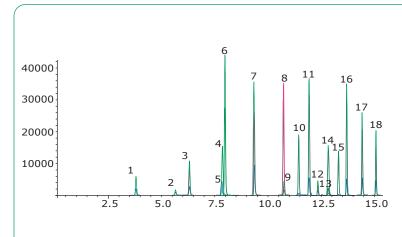
Analytical Column Ascentis® Express PFAS, 2.7 μm, 10 cm x 2.1 mm, 90A			
Delay Column	Ascentis® Express PFAS Delay, 2.7 μm, 5 cm x 3 mm		
Mobile Phase	A: 10 mM Ammonium Acetete B: Methanol		
Flow Rate 0.4 mL/min			
Pressure	485 bar		
Temperature	35 °C		
Injection Volume 2.0 μL			
Sample Solvent	Methanol (96%) Water (4%)		

Gradient

Т	Time	% B
0	0.0	33.0
1	.8.0	98.0
1	.8.1	100.0
2	21.0	100.0
2	21.1	33.0
2	26.0	End

MS Condition:

Detection	-ESI MS/MS
ESI LCMS system	Shimadzu LCMS-8040
Spray Voltage	-2.0 kV
Nebulizing gas	2 L/min
Drying gas	15 L/min
DL temp	250 °C
Heat Block	400 °C



Compound	Transition	Retention Time (min)
PFBS	299.0000>80.0000	3,789
PFHxA	313.0000>269.0000	5,639
HFPO-DA	285.0000>169.0000	6,307
PFHpA	363.0000>319.0000	7,723
PFHxS	399.0000>80.0000	7,936
ADONA	377.0000>250.9000	7,978
PFOA	413.0000>369.0000	9,368
PFNA	463.0000>419.0000	10,715
PFOS	499.0000>80.0000	10,762
9CI-PF3ONS	530.9000>351.0000	11,439
PFDA	513.0000>469.0000	11,857
N-MeFOSAA	570.0000>419.0000	12,336
PFUnA	563.0000>519.0000	12,822
N-EtFOSAA	584.0000>419.0000	12,827
11Cl-PF3OUdS	630.7000>451.0000	13,311
PFDoA	613.0000>569.0000	13,690
PFTrDA	663.0000>619.0000	14,435
PFTeDA	713.0000>669.0000	15,083
	PFBS PFHXA HFPO-DA PFHpA PFHXS ADONA PFOA PFNA PFOS 9CI-PF3ONS PFDA N-MeFOSAA PFUNA N-EtFOSAA 11CI-PF3OUdS PFDoA PFTDA	PFBS 299.000>80.0000 PFHxA 313.000>269.0000 HFPO-DA 285.0000>169.0000 PFHpA 363.0000>319.0000 PFHxS 399.0000>80.0000 ADONA 377.0000>250.9000 PFOA 413.0000>369.0000 PFNA 463.0000>419.0000 PFOS 499.0000>80.0000 PCI-PF3ONS 530.9000>351.0000 PFDA 513.0000>469.0000 N-MeFOSAA 570.0000>419.0000 PFUnA 563.0000>419.0000 N-EtFOSAA 584.0000>419.0000 N-EtFOSAA 584.0000>419.0000 PFDOA 613.0000>569.0000 PFDOA 613.0000>569.0000 PFTrDA 663.0000>619.0000

Ordering Information

Ascentis® Express PFAS, 2.7 µm

	ID (mm)	Cat. No.
Х	2.1	11-102-3077
х	2.1	11-102-3078
Х	2.1	11-102-3079
Х	2.1	11-102-3080
Х	3	11-102-3081
Х	3	11-102-3082
Х	3	11-102-3083
Х	3	11-102-3084
	x x x x x x	ID (mm) X 2.1 X 2.1 X 2.1 X 2.1 X 3 X 3 X 3 X 3

Ascentis® Express PFAS Delay columns, 2.7 µm

Length (mm)		ID (mm)	Cat. No.
50	Х	3	11-102-3085
50	Х	4.6	11-102-3086

Typically, the delay column is used with a larger ID than the analytical column:

Analytical column		Delay Column
2.1 mm ID	-	3 mm ID
3 mm ID	-	4.6 mm ID



MilliporeSigma is the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany.

© 2022 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. MilliporeSigma, the vibrant M, Supelco, and Ascentis are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

Lit. No. MS_FL9095EN Ver. 1.0 39752 02/2022

Distributed by Fisher Scientific. Contact us today:

In the United States

Order online: fishersci.com Call customer service: 1-800-766-7000 In Canada

Order online: fishersci.ca

Call customer service: 1-800-234-7437

