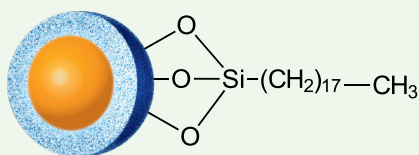


HALO® PAH

The HALO® PAH delivers a method-specific, high efficiency separation of 18 standard PAH compounds with a resolution value of at least 1.5 in under 5 minutes for EPA 8310/610 + 2 methods!



ADVANTAGES OF HALO® PAH

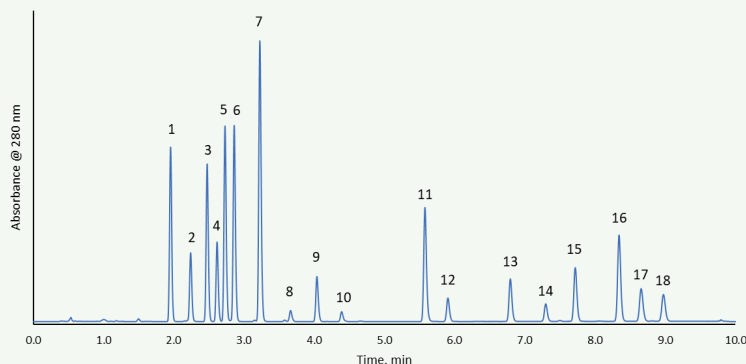
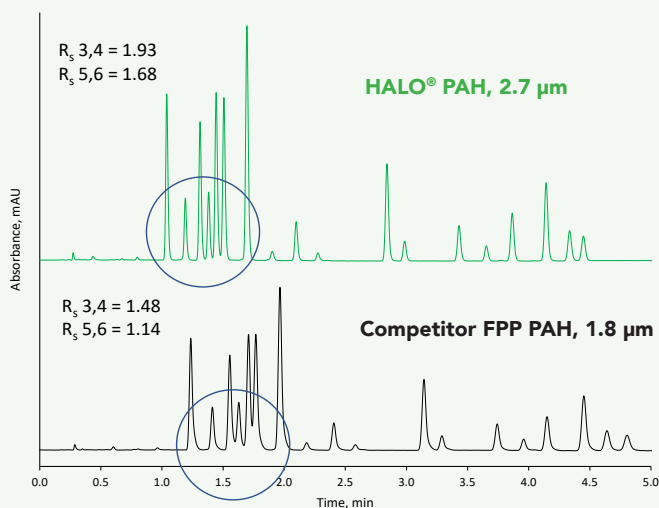
Built upon the original and proven Fused-Core® particle technology, the new HALO® PAH outperforms the leading <2 µm fully porous particle columns with less back pressure!

- Applied solution designed with environmental analysis needs in mind
- High resolution and ultra-rugged performance

Best Applications:
EPA 610, EPA 8310, EU 15+1

HALO® PAH outperforms a fully porous particle (FPP) 1.8 µm, 95 Å column for a fast 5 min separation of method EPA 8310 + 2 demonstrating improved resolution and narrow, symmetrical peak shapes.

High resolution separation of 18 PAH compounds on HALO® PAH demonstrating resolution values of 2.44 between peaks 3 and 4 and 2.23 between peaks 5 and 6.



PEAK IDENTITIES

- | | | |
|------------------------|--------------------------|----------------------------|
| 1. Naphthalene | 8. Anthracene | 15. Benzo[a]pyrene |
| 2. Acenaphthylene | 9. Fluoranthene | 16. Dibenzo[a,h]anthracene |
| 3. 1-methylnaphthalene | 10. Pyrene | 17. Benzo[g,h,i]perylene |
| 4. 2-methylnaphthalene | 11. Benzo(a)anthracene | 18. Indeno[1,2,3-cd]pyrene |
| 5. Acenaphthene | 12. Chrysene | |
| 6. Fluorene | 13. Benzo[b]fluoranthene | |
| 7. Phenanthrene | 14. Benzo[k]fluoranthene | |

TEST CONDITIONS

Column: HALO 90 Å PAH, 2.7 µm
4.6 x 50 mm

Part Number: 92844-412

Competitor Column: FPP PAH, 1.8 µm
4.6 x 50 mm

Mobile Phase A: Water
B: Acetonitrile

Gradient:	Time	%B
	0.0	50
	4.0	100
	5.0	100
	5.01	50

Flow Rate: 1.8 mL/min

HALO® Back Pressure: 256 bar

Competitor Back Pressure: 344 bar

Temperature: 30 °C

Detection: 280 nm

Injection Volume: 2 µL

Sample Solvent: Methanol

Data Rate: 100 Hz

Response Time: 0.025 sec.

Flow Cell: 1 µL

LC System: Shimadzu Nexera

TEST CONDITIONS

Column: HALO 90 Å PAH, 2.7 µm
3.0 x 100 mm

Part Number: 92843-612

Mobile Phase A: Water
B: Acetonitrile

Gradient:	Time	%B
	0.0	50
	8.0	100
	10.0	100

Flow Rate: 0.77 mL/min

Back Pressure: 263 bar

Temperature: 30 °C

Detection: 280 nm

Injection Volume: 2 µL

Sample Solvent: Methanol

Data Rate: 100 Hz

Response Time: 0.025 sec.

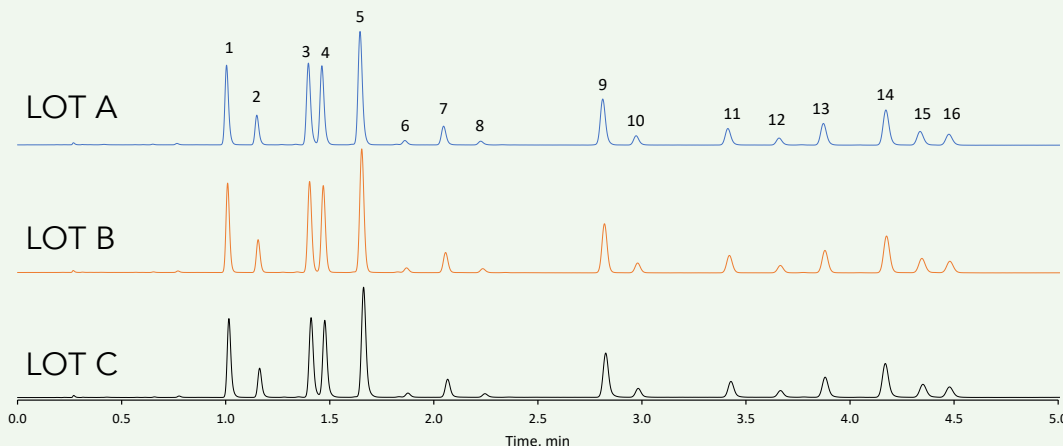
Flow Cell: 1 µL

LC System: Shimadzu Nexera X2



PERFORMANCE YOU CAN RELY ON

Comparison of three different HALO® PAH lots which show excellent reproducibility for 16 PAH compounds found in EPA 610 and 8310.



TEST CONDITIONS

Column: HALO 90 Å PAH, 2.7 µm 4.6 x 50 mm
 Part Number: 92844-412
 Mobile Phase A: Water
 B: Acetonitrile
 Gradient: Time %B
 0.0 50
 4.0 100
 5.0 100
 5.01 50
 Flow Rate: 1.8 mL/min
 Pressure: 256 bar
 Temperature: 30 °C
 Detection: 280 nm
 Injection Volume: 2 µL
 Sample Solvent: Methanol
 Data Rate: 100 Hz
 Response Time: 0.025 sec.
 Flow Cell: 1 µL
 LC System: Shimadzu Nexera

PEAK IDENTITIES

- | | | | |
|-------------------|-----------------|--------------------------|----------------------------|
| 1. Naphthalene | 5. Phenanthrene | 9. Benzo[a]anthracene | 13. Benzo[a]pyrene |
| 2. Acenaphthylene | 6. Anthracene | 10. Chrysene | 14. Dibenzo[a,h]anthracene |
| 3. Acenaphthene | 7. Fluoranthene | 11. Benzo[b]fluoranthene | 15. Benzo[g,h,i]perylene |
| 4. Fluorene | 8. Pyrene | 12. Benzo[k]fluoranthene | 16. Indeno[1,2,3-cd]pyrene |

HALO® PAH

Ligand: Trifunctional C18 Surface Area: 135 m²/g
 Particle Size: 2.7 µm Carbon Load: 9.9 %
 Pore Size: 90 Å

Endcapped: No
 Low pH Limit /Max T: 2/60 °C
 High pH Limit/Max T: 9/40 °C

ORDERING INFORMATION

ANALYTICAL COLUMNS

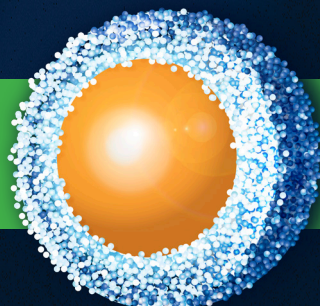
90 Å, 2.7 µm

Dimensions: ID x Length (in mm)	PN
2.1 x 50	92842-412
2.1 x 100	92842-612
2.1 x 150	92842-712
3.0 x 50	92843-412
3.0 x 100	92843-612
3.0 x 150	92843-712
4.6 x 50	92844-412
4.6 x 100	92844-612
4.6 x 150	92844-712

GUARD COLUMNS

2.7, µm, 90 Å Guard columns, 3-pack

Dimensions: ID x Length (in mm)	PN
2.1 x 5	92842-112
3.0 x 5	92843-112
4.6 x 5	92844-112
Guard Column Holder	94900-001



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