HALO®

ENVIRONMENTAL

Separation of Ultra-Short and Long Chain PFAS Compounds Using a Positive Charge Surface Column

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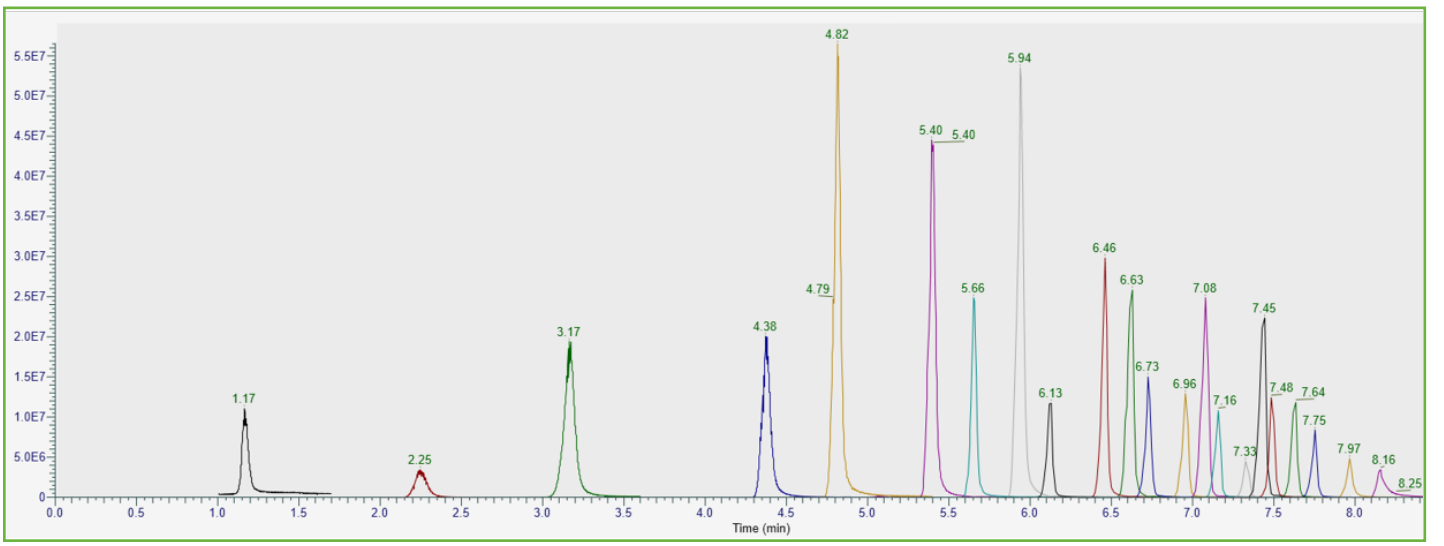

TEST CONDITIONS:

Column: HALO 90 Å PCS Phenyl-Hexyl, 2.7 µm, 2.1 x 100 mm
Part Number: 92812-618
Delay Column: HALO 160 Å PFAS Delay, 2.7 µm, 3.0 x 50 mm
Part Number: 92113-415
Mobile Phase A: 5mM Ammonium Formate, 0.05% Formic Acid
Mobile Phase B: MeOH
Gradient:

Time	%B
0.0	2
7.0	95
9.0	95
11.0	2
15.0	2

Flow Rate: 0.4 mL/min
Back Pressure: 452 bar
Temperature: 40 °C
Injection: 2.0 µL
Sample Solvent: Water/ MeOH
Samples: LGC Ultrasort-chain (C1-C4) DRE-A30000064MW
Wellington Labs: (C4-C18) PFAC-MXB
LC System: Shimadzu Nexera X2
LC/MS: Thermo QE-HF
Sheath Gas: 25
Aux Gas Flow: 10
Sweep Gas Flow: 1
Capillary Temp: 325 °C

PEAK IDENTITIES

1. Trifluoro acetic acid
2. Trifluoromethane sulfonic acid
3. pentafluoropropionic acid
4. pentafluoroethanesulfonic acid
5. heptafluorobutyric acid
6. perfluoropropanesulfonic acid
7. perfluoropentanoic acid
8. perfluorobutanesulfonic acid
9. perfluorohexanoic acid
10. perfluoroheptanoic acid
11. perfluorohexanesulfonic acid
12. perfluorooctanoic acid
13. perfluorononanoic acid
14. perfluorooctanesulfonic acid
15. perfluorodecanoic acid
16. perfluoroundecanoic acid
17. perfluorodecanesulfonic acid
18. perfluorododecanoic acid
19. perfluorotridecanoic acid
20. perfluorotetradecanoic acid
21. perfluorohexadecanoic acid
22. perfluorooctadecanoic acid

Per-and poly-fluorinated alkyl substances are becoming more and more of a concern to the environment with further investigation of the ultra-short chain PFAS such as TFA. A separation of ultra-short and long chain PFAS (C1-C18) is performed on a HALO® PCS Phenyl-Hexyl column along with a HALO® PFAS Delay column which demonstrates excellent retention for both hydrophilic and hydrophobic analytes. A combination of ammonium formate, formic acid, and methanol allowed for the overall best selectivity and peak shapes.