



Get "FAME"ous!

Restek's new FAMEWAX" column for fast and efficient FAME analysis.

Current methods for the analysis of fatty acid methyl esters (FAMES) have been designed using Carbowax" columns that provide a specific elution order and separation of polyunsaturated fatty acids (PUFAs) in 35 to 50 minutes. Restek's new 0.25 and 0.32mm ID FAMEWAX" columns can provide necessary baseline resolution for complex PUFA samples in less than 22 minutes! 0.53mm ID FAMEWAX" columns are also available for concentrated FAME samples and for conversion from packed to capillary columns.

Capillary column performance requirements for PUFA analysis are specified in AOCS and AOAC methods. The American Oil Chemists Society (AOCS) Method CE 1b-89 "FAMES analysis by capillary GLC" requires baseline resolution of C21:5n3 and C23:0 (internal standard [IS]) and C24:0 and C22:6n3 (DHA). The Association of Official Analytical Chemists (AOAC) Official Method #991.39 "Fatty Acids in Encapsulated Fish Oils and Fish Oil Methyl and Ethyl Esters" requires the same elution pattern as Carbowax" 20M and additional resolution of C23:0(IS) from C22:4n6.

FAMEWAX" columns meet all the criteria listed in the methods in significantly less time, with faster flow and temperature program rates than other Carbowax" columns. The menhaden oil PUFA analysis in Figure 1 shows that C21:5n3 and C23:0 (IS) are well resolved, as are C24:0, C22:6n3 (DHA) and C24:1n9 with a total analysis time of only 22 minutes. Figure 2 shows the same analysis on the Supelco Omegawax" 250 column with identical GC conditions. Peaks C21:5n3 and C23:0 are not baseline resolved, nor are C22:6n3 and C24:1n9. To achieve resolution of these components on

Figure 1 - Menhaden Oil PUFA on a FAMEWAX" Column

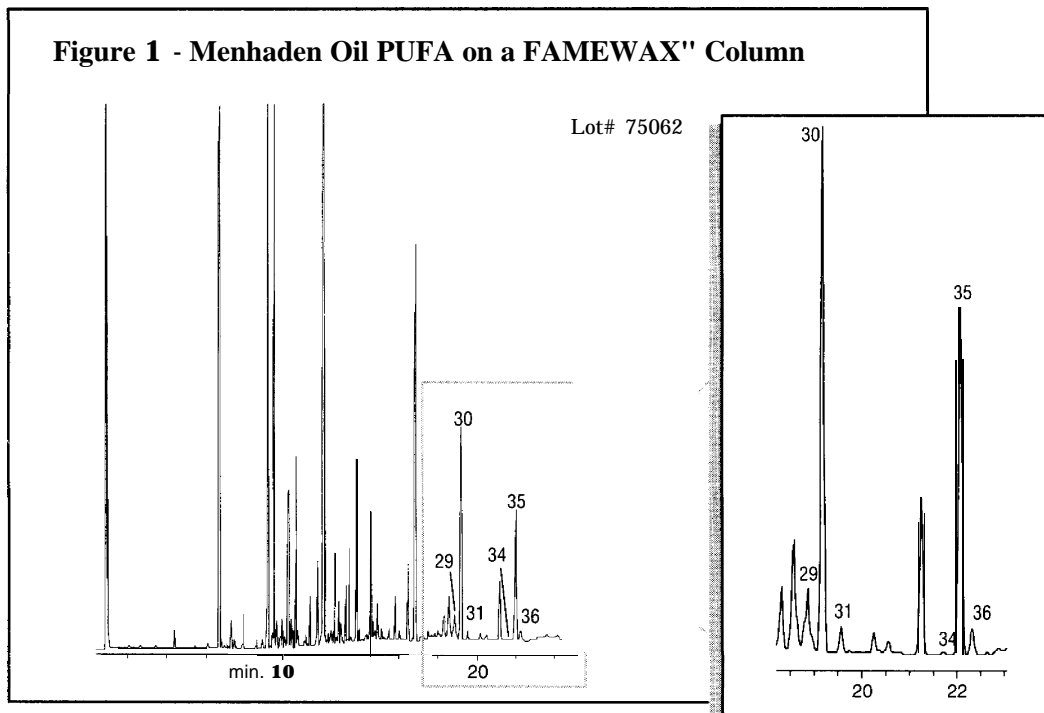
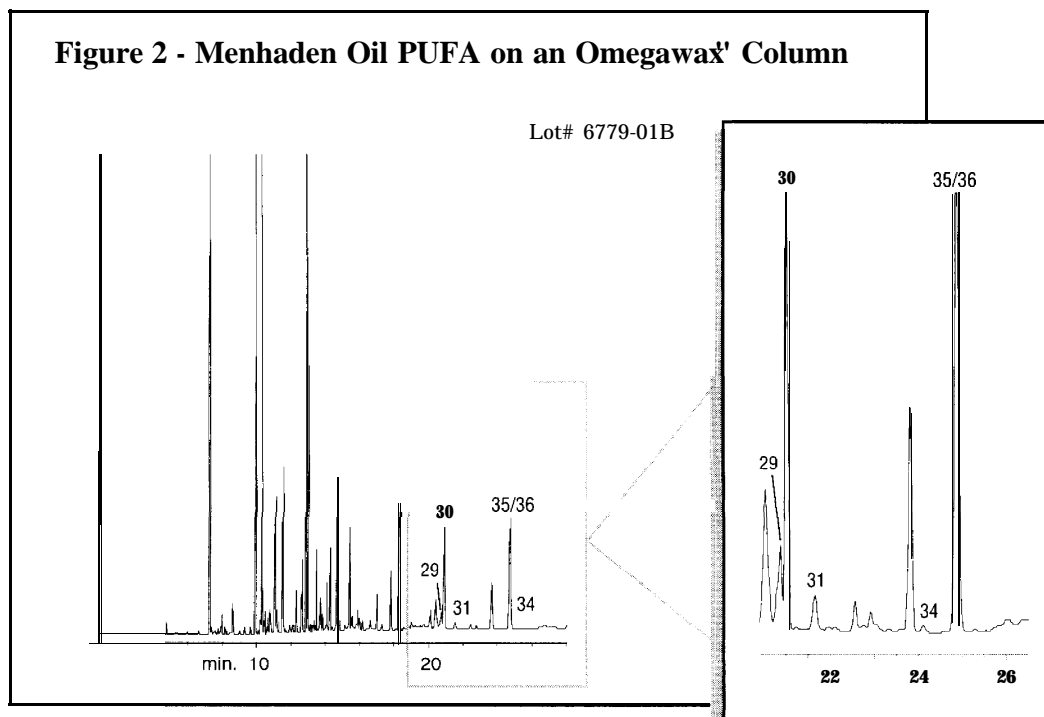


Figure 2 - Menhaden Oil PUFA on an Omegawax' Column



the Omegawax" column, the program rate must be decreased to 2 or 3°C/minute, increasing analysis time by 59%!

The 30m, 0.32mm, 0.25µm FAMEWAX" column also meets the criteria for PUFA analysis. Larger diameter 0.32mm ID col-



umns have 4-5 times more sample capacity (400-500ng vs. 50-100ng). The increased sample capacity minimizes overloading of more concentrated samples with minimal loss in column efficiency.

The 30m, 0.53mm, 0.5um FAMEWAX" column has the sample capacity to accommodate direct and on-column injections. This wide bore column allows conversion from packed to capillary columns without the expense of adding a capillary injector to your GC. Although attaining the resolution requirements for PUFA analysis is difficult for most wide bore PEGs, Figure 3 illustrates that the 0.53mm ID FAMEWAX" column can provide sufficient resolution for PUFA analysis.

Unlike similar columns from other manufacturers, all FAMEWAX" columns are tested with two test mixtures. Each batch of polymer is tested with a menhaden type

oil, and each column is tested with a Grob type test mix. The menhaden oil test ensures proper column polarity indicated by the separation and elution order of PUFAs. Also, 0.25mm and 0.32mm ID FAMEWAX" columns must pass the resolution criteria outlined in the official methods for complex PUFA matrices. The Grob mix ensures inertness, efficiency, film thickness consistency and minimal column bleed.

Save yourself time and money. Try Restek's new FAMEWAX" columns for fast and efficient FAMES analyses. The 0.25mm and 0.32mm ID FAMEWAX" columns provide optimum PUFA analyses in less time than other columns. The 0.53mm ID provides capillary conversion in packed column instruments, maximum sample capacity, and the necessary resolution for a wide variety of FAME analyses, including complex PUFA analysis. All FAMEWAX" columns are tested with two test mixtures to pro-

vide you with the highest quality column for FAME analyses anywhere. We guarantee it!

FAMEWAX" Columns

- Significantly reduces analysis times.
- Specially tested to ensure column reproducibility. We guarantee it!
- 0.25mm and 0.32mm ID columns available for complex PUFA analysis.
- Also available in 0.53mm ID columns.

FAMEWAX" Columns

30m, 0.25mm ID, 0.25um
FAMEWAX"
cat.# 12497

30m, 0.32mm ID, 0.25um
FAMEWAX"
cat.# 12498

30m, 0.53mm ID, 0.50um
FAMEWAX"
cat.# 12499

Compound List and Conditions for Figures 1-3

29. C21:5n3	34. C24:0
30. C23:0 (IS)	35. C22:6n3
31. C22:4n6	36. C24:1n9

Figure 3 - The 0.53mm ID FAMEWAX™ provides the necessary resolution for PUFAs using direct injection.

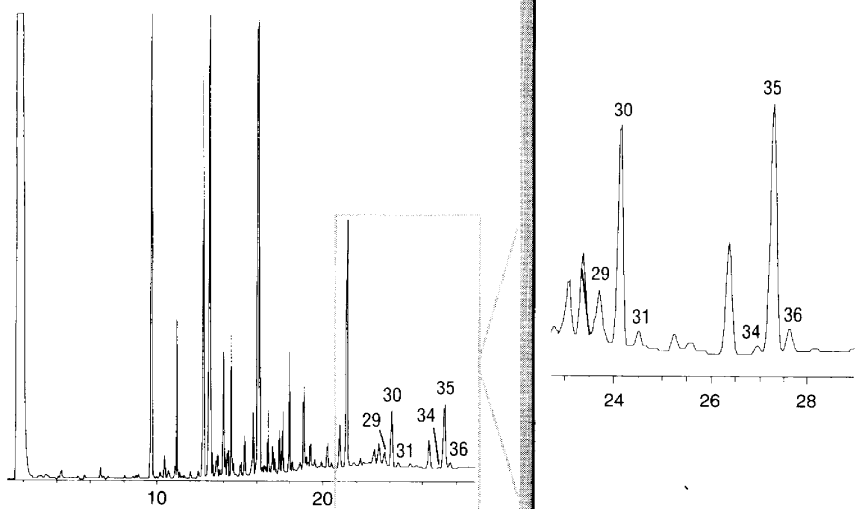


Figure 1
30m, 0.25mm ID, 0.25um FAMEWAX (75062)
Figure 2
30m, 0.25mm ID, 0.25um Omegawax (6779-01B)
0.8ul split injection of menhaden oil PUFA with C23:0 (IS)
On-column concentration 100-150ng.
Oven temp.: 120°C to 220°C @ 7C/min. (hold 20 min.)
Inj. & det. temp.: 220°C
Carrier gas: hydrogen
Linear velocity: 60cm/sec. set @ 120°C
FID sensitivity: 8 x 10-11 AFS
Split ratio: 50: 1

Figure 3
30m, 0.53mm ID, 0.50um FAMEWAX (82764B)
1.0ul direct injection of menhaden oil.
On-column concentration 2500ng total.
Oven temp.: 120°C (hold 2 min.) to 220°C @ 6C/min. (hold 20 min.)
Inj. & det. temp.: 230°C
Carrier gas: hydrogen
Linear velocity: 32cm/sec. set @ 120°C
FID sensitivity: 8 x 10-11 AFS