

TR-FAME

TRACE GC Capillary Column

Key Words

- cis/trans isomers
- FAME
- High Polarity

Introduction

The TR-FAME from Thermo Electron Corporation is a cyanopropylphenyl based phase specifically designed for the separation of Fatty Acid Methyl Esters (FAMES). The unique selectivity of the TR-FAME column provides excellent separation of cis / trans isomers and FAMES with various degrees of unsaturation. The maximum allowable operating temperature of 260°C also provides versatility for the analysis of high molecular weight FAMES



Phase Type

70% Cyanopropyl Polysilphenylene-siloxane

Maximum Temperatures

250°C / 260°C

USP Category

N/A

Cross Reference of Competitor Phases

DB-23, BPX70, Rtx-2330, SP-2330, CP-Sil 88, SP-2380, HP-23, VF-23ms, 007-23, AT-Silar, PE-23

Application

The sample chromatogram shows the retention and excellent separation of many FAME compounds. Many FAMES have very similar mass spectra and therefore identification of unknowns can be difficult. It is important to note also that the elution order of FAMES is very dependent on gas chromatographic conditions and even a small oven temperature ramp change can result in peak Elution order swapping.

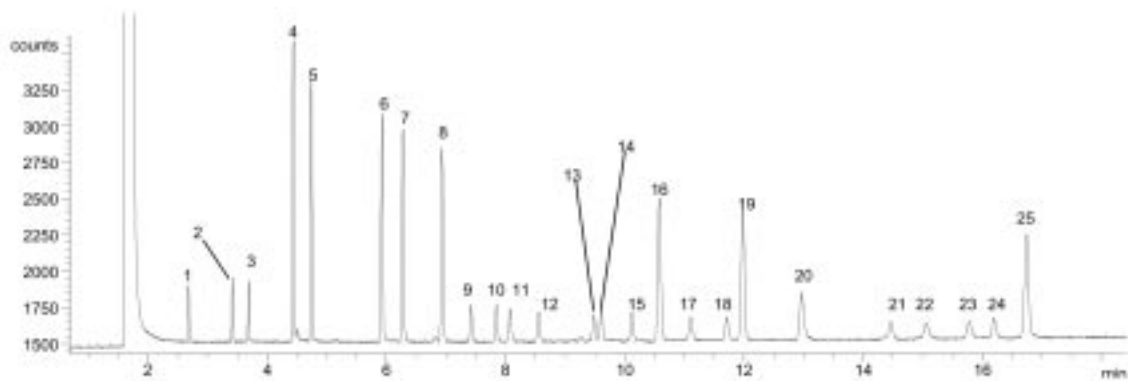
TR-FAME Product Information

ID (mm)	FILM THICKNESS (μm)	LENGTH (m)	PART NO.
0.10	0.20	10	260M096P
0.22	0.25	25	260M135P
0.22	0.25	30	260M141P
0.22	0.25	50	260M147P
0.22	0.25	60	260M153P
0.25	0.25	30	260M142P
0.25	0.25	60	260M154P
0.25	0.25	120	260M166L
0.32	0.25	25	260M137P
0.32	0.25	30	260M143P
0.32	0.25	50	260M149P
0.32	0.25	60	260M155P

Analysis of 24 FAMES

Part No.: 260M142P
 Phase: TR-FAME, 0.25µm film
 Sample: 100ppm in Hexane
 Column: 30m x 0.25 mm ID
 Initial Temp: 150°C, 0.5 min.
 Rate 1: 10°C/min to 180°C,
 Rate 2: 1.5°C/min to 220°C
 Rate 3: 30°C/min to 260°C
 Final Temp: 260°C, 5 min.
 Detector Type: FID
 Detector Temp: 280°C
 Carrier Gas: He, 20.7 psi
 Carrier Gas Flow: 1.3 mL/min.
 Constant Flow: On
 Average Linear Velocity: 35 cm/sec at 150°C
 Injection Mode: Split
 Split Ratio: 15:1
 Injection Volume: 1 µL
 Injection Temperature: 250°C

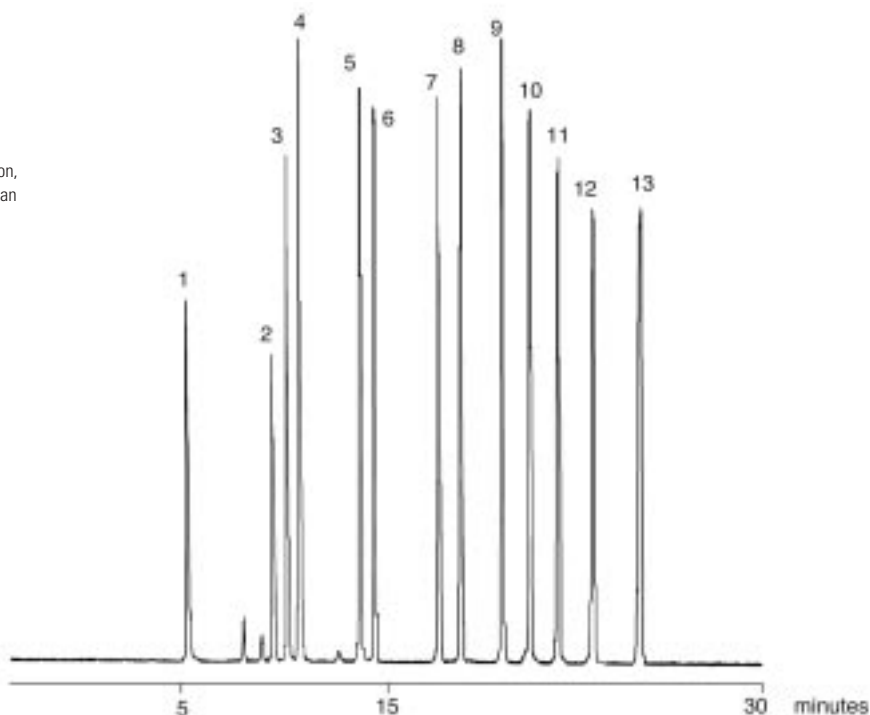
Components	13.	C20:2W6	
1.	C12:0	14.	C20:3W9
2.	C14:0	15.	C20:3W6
3.	C14:1W5	16.	C20:4W6
4.	C16:0	17.	C22:0
5.	C16:1W7	18.	C22:1W9
6.	C18:0	19.	C20:5W3
7.	C18:1W9	20.	Unknown
8.	C18:2W6	21.	C22:4W6
9.	C18:3W6	22.	C24:0
10.	C18:3W3	23.	C24:1W9
11.	C20:0	24.	C22:5W3
12.	C20:1W9	25.	C22:6W3



Analysis of 13 Sugar component alditol acetate mixture on TR-FAME

Part No.: 260M142P
 Phase: TR-FAME, 0.25µm film
 Column: 30m x 0.25mm ID
 Initial Temp.: 190°C, 1min
 Program Rate: 3°C/min
 Final Temp: 260°C, 10min
 Carrier Gas: He, 50kPa
 Detector: MS (Electron Impact Ionisation,
 Ionisation Potential 70eV) Scan
 100m/z to 350m/z in 0.3s.
 Injection Mode: Split 50:1

Components	
1.	Erythritol
2.	2-Deoxy-ribitol
3.	Rhamnitol
4.	Fucitol
5.	Ribitol
6.	Arabinitol
7.	Xylitol
8.	2-Deoxy-glucitol
9.	Allitol
10.	Mannitol
11.	Galacitol
12.	Glucitol
13.	Myo-inositol



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TN20080_E 08/04C

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