

Biodiesel Fuels Analysis

MXT®-Biodiesel TG Columns (Siltek®-treated stainless steel)

- Fast analysis times and sharp mono-, di-, and triglyceride peaks.
- Stable at 430 °C for reliable, consistent performance.

Description	temp. limits	3.5" Coil	7" diameter
		cat.#	11-pin cage
14 m, 0.53 mm ID, 0.16 µm with 2 m Integra-Gap*	-60 to 380/430 °C	70289-273	70289
10 m, 0.32 mm ID, 0.10 µm	-60 to 380/430 °C	—	70292
10 m, 0.32 mm ID, 0.10 µm with 2 m x 0.53 mm Retention Gap**	-60 to 380/430 °C	—	70290
15 m, 0.32 mm ID, 0.10 µm	-60 to 380/430 °C	—	70293
15 m, 0.32 mm ID, 0.10 µm with 2 m x 0.53 mm Retention Gap**	-60 to 380/430 °C	—	70291
2 m x 0.53 mm MXT Biodiesel TG Retention Gap	-60 to 430 °C	—	70294

*Total column length = 16 meters.

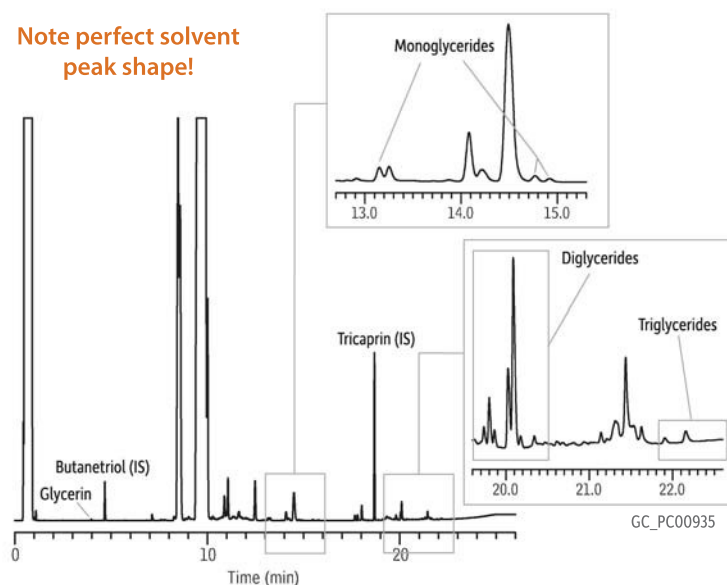
**Connected with low dead volume MXT connector.

similar phases

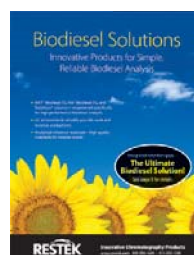
MET-Biodiesel

ASTM D6584 Derivatized B100 and Internal Standards on MXT®-Biodiesel TG

Note perfect solvent peak shape!



Column MXT®-Biodiesel TG w/2 m x 0.53 mm retention gap, 10 m, 0.32 mm ID, 0.10 µm (cat.# 70290)
Sample B100 + IS butanetriol & tricaprin derivatized with MSTFA as per ASTM D6584
Injection
 Inj. Vol.: 1.0 µL cold on-column
 Temp. Program: Oven track
Oven
 Oven Temp.: 50 °C (hold 1 min) to 180 °C at 15 °C/min to 230 °C at 7 °C/min to 430 °C at 30 °C/min (hold 5 min)
Carrier Gas H₂, constant flow
 Flow Rate: 4 mL/min
Detector FID @ 430 °C



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Biodiesel Solutions:
 Innovative Products for Simple, Reliable Biodiesel Analysis

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lit. cat.# PCFL1409-UNV

Simulated Distillation Analysis (C5-C44)

MXT®-2887 Column (Siltek®-treated stainless steel)

(nonpolar phase; Crossbond® 100% dimethyl polysiloxane—for simulated distillation)

- Application-specific columns for simulated distillation.
- Stable to 400 °C.
- 4.5" standard coil diameter.

MXT®-2887 columns' stationary phase, column dimensions, and film thicknesses have been optimized to exceed the resolution and skewing factor requirements specified in ASTM Method D2887. Each column is individually tested to guarantee a stable baseline with low bleed and reproducible retention times. The Crossbond® methyl silicone stationary phase has increased stability compared to packed columns, ensuring stable baselines and shorter conditioning times. Manufactured from Siltek®-treated stainless steel tubing, MXT® columns are the most durable high temperature GC columns available.

ID	df	temp. limits	10-Meter cat.#
0.53 mm	2.65 µm	-60 to 360/400 °C	70199

similar phases

DB-PS2887

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Rtx®-2887/ MXT®-2887
 Restek's Capillary GC Columns for Simulated Distillation of Petroleum Fractions

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lit. cat.# 59567B



Simulated Distillation Analysis (C5-C110)

similar phases

DB-HT SimDis ProSteel, CP-SimDist UltiMetal,
ZB-1X SimDist

Method Recommended Columns

ASTM Method	Hydrocarbon Range	cat. #	Configuration
D2887	C5-C44	70131	5 m x 0.53 mm, 0.88 µm
		70132	10 m x 0.53 mm, 2.65 µm
D7213 (D2887-ext)	C5-C60	70131	5 m x 0.53 mm, 0.88 µm
		70115	5 m x 0.53 mm, 0.20 µm
		70112	5 m x 0.53 mm, 0.10 µm
D5307	crude up to C42	70115	5 m x 0.53 mm, 0.20 µm
D6352	C10-C90	70112	5 m x 0.53 mm, 0.10 µm
		70115	5 m x 0.53 mm, 0.20 µm
D7096	gasoline up to C14	70132	10 m x 0.53 mm, 2.65 µm
		10177	15 m x 0.53 mm, 5 µm
D7500	C7-C110	70112	5 m x 0.53 mm, 0.10 µm
		70115	5 m x 0.53 mm, 0.20 µm
D7169	C5-C100	70112	5 m x 0.53 mm, 0.10 µm
		70115	5 m x 0.53 mm, 0.20 µm

MXT®-1HT SimDist Column (Siltek®-treated stainless steel)

(nonpolar phases)

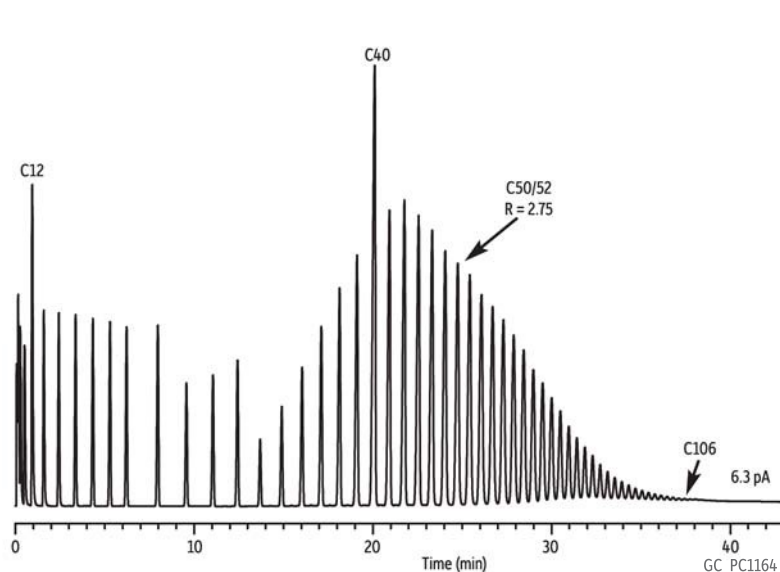
- Stable up to 450 °C—lowest bleed for longest column lifetime.
- Reliably meets all ASTM D6352, D7169, and D7500 specifications.
- 100% dimethyl polysiloxane phase allows easy comparisons to historical data.
- Individually tested for guaranteed performance.
- 7" coil diameter.



Accurate boiling point determination for medium and heavy fractions using GC simulated distillation requires columns and phase polymers that are robust enough to withstand high temperatures without significant degradation.

ID	df	temp. limits	5-Meter cat.#	10-Meter cat.#
0.53 mm	0.10 µm	-60 to 430/450 °C	70112	
	0.20 µm	-60 to 400/430 °C	70115	
	0.21 µm	-60 to 400/430 °C		70118
	0.88 µm	-60 to 380/430 °C	70131	70134
	1.00 µm	-60 to 380/400 °C		70130
	1.20 µm	-60 to 380/380 °C		70119
	2.65 µm	-60 to 360/400 °C		70132
	5.00 µm	-60 to 360/400 °C		70133

Hydrocarbons (C5-C106) on MXT®-1HT SimDist at 450 °C



Peaks	tr (min)		
1. C5	—	40. C70	30.002
2. C6	—	41. C72	30.489
3. C7	—	42. C74	30.906
4. C8	—	43. C76	31.414
5. C9	—	44. C78	31.862
6. C10	—	45. C80	32.294
7. C11	—	46. C82	32.719
8. C12	0.938	47. C84	33.132
9. C13	1.586	48. C86	33.529
10. C14	2.425	49. C88	33.927
11. C15	3.365	50. C90	34.310
12. C16	4.332	51. C92	34.689
13. C17	5.290	52. C94	35.059
14. C18	6.217	53. C96	35.423
15. C20	7.966	54. C98	35.773
16. C22	9.566	55. C100	36.120
17. C24	11.051	56. C102	36.463
18. C26	12.426	57. C104	36.793
19. C28	13.689	58. C106	37.118
20. C30	14.897		
21. C32	16.035		
22. C34	17.110		
23. C36	18.133		
24. C38	19.108		
25. C40	20.096		
26. C42	20.923		
27. C44	21.759		
28. C46	22.556		
29. C48	23.317		
30. C50	24.051		
31. C52	24.752		
32. C54	25.422		
33. C56	26.079		
34. C58	26.701		
35. C60	27.305		
36. C62	27.878		
37. C64	28.439		
38. C66	28.975		
39. C68	29.499		

Column MXT®-1HT SimDist, 5 m, 0.53 mm ID, 0.10 µm (cat.# 70112)
Sample Custom C5-C106 hydrocarbon standard
Diluent: Carbon disulfide
Conc.: 1%
Injection
Inj. Vol.: 0.5 µL cold on-column
Temp. Program: 53 °C to 450 °C at 10 °C/min (hold 5 min)
Oven
Oven Temp.: 50 °C to 450 °C at 10 °C/min (hold 5 min)
Carrier Gas He, constant flow
Flow Rate: 18 mL/min

Detector FID @ 450 °C
Make-up Gas
Flow Rate: 24 mL/min
Constant Column + Constant
Make-up: 42 mL/min
Make-up
Gas Type: N₂
Data Rate: 20 Hz
Instrument Shimadzu 2010 GC

MXT®-500 SimDist Column (Siltek®-treated stainless steel)

(nonpolar phase)

- Application-specific columns in unbreakable Siltek® treated stainless steel tubing meet all resolution criteria for high temperature simulated distillation.
- Stable to 430 °C.
- 4.5" standard coil diameter.

ID	df	temp. limits	6-Meter cat.#	price
0.53 mm	0.15 µm	-60 to 420/430 °C	70104	

Polywax® Calibration Materials

Description	qty.	cat.#	price
Polywax 655 calibration material	1 g	36225	
Polywax 1,000 calibration material	1 g	36227	

similar phases

UAC-DX30

**free literature**

GC Analysis of Petroleum Products
by Simulated Distillation, Using
MXT® SimDist Columns

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