

TRACE™ TR-1701

Capillary GC Column

Key Words

- G46
- Mid-Polarity
- Pesticides
- 14%
Cyanopropylphenyl

Introduction

The TRACE TR-1701 column from Thermo Electron Corporation is a popular mid-polarity column that sits between the TR-50MS and the TR-35MS in polarity. It is characterized by low bleed and high temperature stability compared with other similar columns. The cyano and phenyl groups increase polarity of the column while offering alternative selectivity. This makes the TR-1701 column especially suited for confirmational analysis when used in conjunction with a column of a different polarity, such as the TRACE TR-5MS. The TR-1701 is ideal for pesticide and other environmental applications.



Phase Type

14% Cyanopropylphenyl Polysiloxane

Maximum Temperatures

280°C/300°C for all film thicknesses

USP Category

G46

Cross Reference of Competitor Phases

DB-1701, Rtx-1701, HP-1701, BP10, OV-1701, 007-1701
CP-Sil 19 CB

Applications

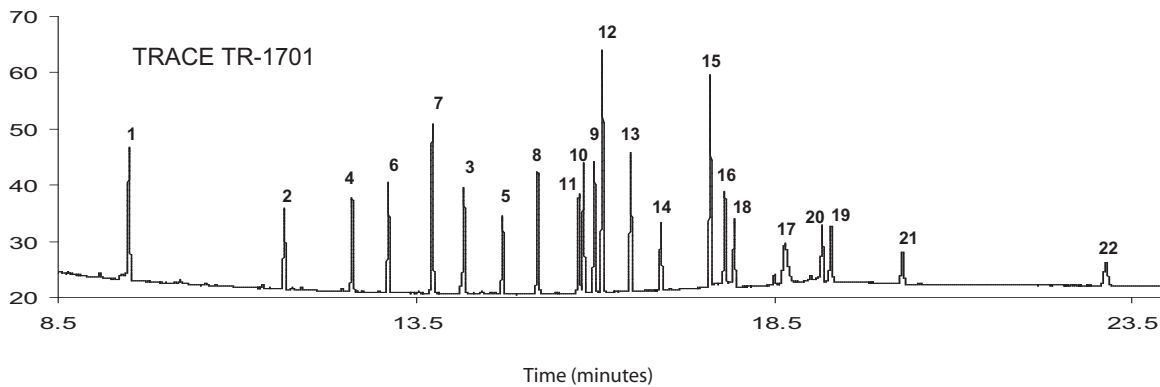
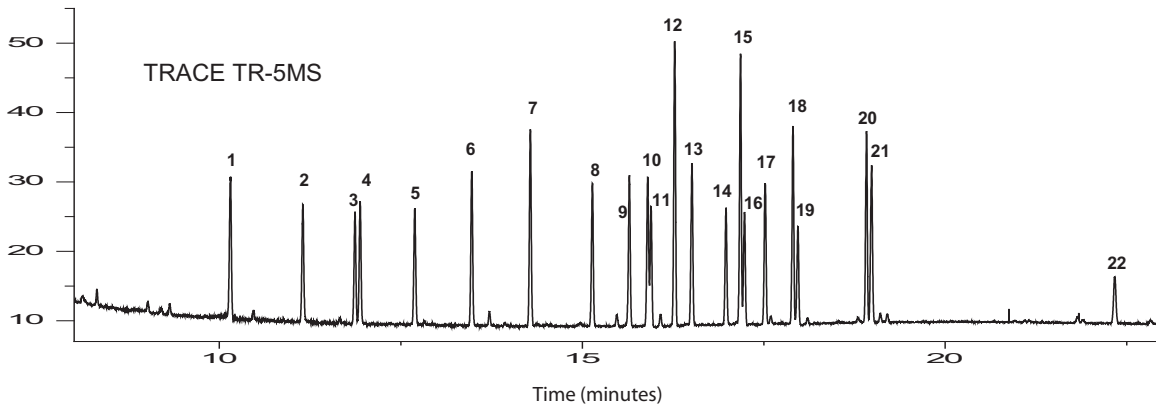
Ideal for many applications, the TRACE TR-1701 is particularly useful for the analysis of pesticides, PCBs, PAHs, organic acids, drugs and steroids. The different selectivity of the TR-1701 column is particularly useful for the analysis of pesticides and other applications where a different elution order is required for confirmation purposes as shown in Figure 1. The analysis of organochlorine pesticides on both the TR-5MS and TR-1701 highlights the different retention characteristics that can be achieved. By using a comparison of the retention times on the two columns, the reliability of analyte identification is greatly improved.

TR-1701 Product Information

ID (mm)	FILM THICKNESS (µm)	LENGTH (m)	PART NUMBER
0.25	0.25	15	260Q130P
0.25	0.25	30	260Q142P
0.25	0.25	60	260Q154P
0.32	0.25	15	260Q131P
0.32	0.25	30	260Q143P
0.32	0.25	60	260Q155P
0.32	0.5	30	260Q224P

Analysis and Confirmation of Organochlorine Pesticides

Injector Temp:	240 °C	1:	2,4,5,6-Tetrachloro-m-xylene (IS)
Injection Volume:	1 µL	2:	α-BHC
Injection Type:	Splitless, 0.5 min	3:	β-BHC
Purge On (Split)	Vent: 60 mL/min	4:	γ-BHC
Liner Type:	Single taper	5:	δ-BHC
		6:	Heptachlor
Carrier Gas:	Helium	7:	Aldrin
Constant Flow:	On	8:	Heptachlorepoxyde
Pressure:	14.1 psi	9:	γ-Chlordane
Column Flow:	1.3 mL/min	10:	α-Chlordane
Linear Velocity:	30 cm/sec at 40 °C	11:	Endosulfan A
		12:	p,p'-DDE
Initial Temp:	40°C, 1 min	13:	Dieldrin
Rate 1:	30 °C/min	14:	Endrin
Final Temp 1:	190°C, 3 min	15:	p,p'-DDD
Rate 2:	10 °C/min	16:	Endosulfan B
Final Temp 2:	300°C, 5 min	17:	Endrin Aldehyde
		18:	p,p'-DDT
Detector:	FID, 310°C	19:	Endosulfan Sulphate
		20:	Methoxychlor
		21:	Endrin Ketone
		22:	Decachlorobiphenyl (IS)



In addition to these offices, Thermo Electron Corporation maintains a network of representative organizations throughout the world.

Australia
+61 2 9898 1244

Austria
+43 1 333 50340

Belgium
+32 2 482 30 30

Canada
+1 800 532 4752

China
+86 10 5850 3588

France
+33 1 60 92 48 00

Germany
+49 6103 4080

Italy
+39 02 950 591

Japan
+81 45 453 9100

Netherlands
+31 76 587 98 88

Nordic
+46 8 556 468 00

South Africa
+27 11 570 1840

Spain
+34 91 657 4930

Switzerland
+41 61 48784 00

UK
+44 1442 233555

USA
+1 800 532 4752

www.thermo.com

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