

APPLICATIONS

Residual Solvents Testing in Cannabis using Zebron™ ZB-624PLUS™ GC Column

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Overview

Cannabis extracts and concentrates contain residual solvents as a result of the extraction process. Consequently, these residual solvents are now present also in the final product for consumption. To ensure safety and quality of cannabis products, residual solvents testing is necessary. Developed is a GC-FID method for residual solvents using a Zebron ZB-624PLUS GC column which offers great selectivity for polar and nonpolar solvents and provides an upper temperature limit of 300/320 °C which gives steady baseline at higher temperatures.

GC-FID Conditions

Same conditions for all separations

Column: Zebron ZB-624PLUS

Dimensions: 30 meter x 0.25 mm x 1.40 µm

Part No.: 7HG-G040-27

Injection: Split 10:1 @ 200 °C, 1 µL

Recommended Liner: Zebron PLUS Straight Z-Liner™

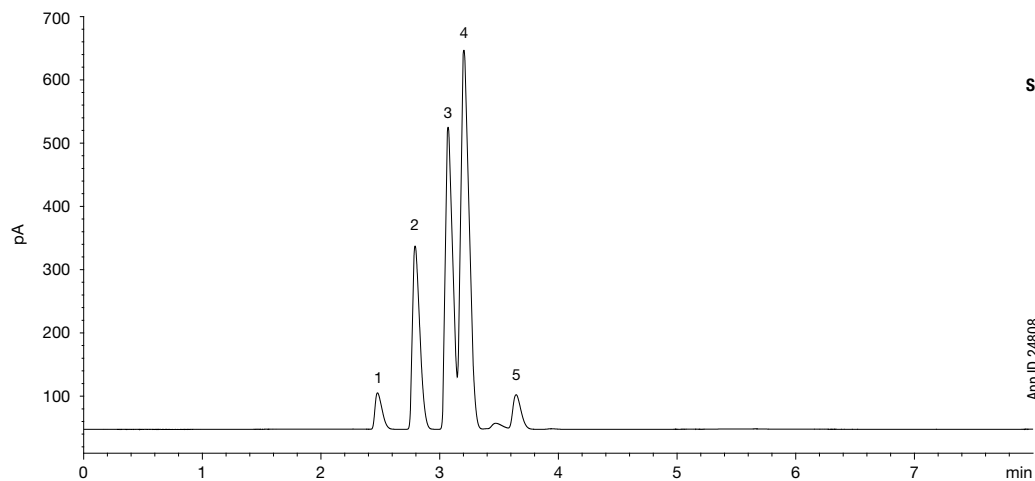
Liner Part No.: AG2-0A03-05 (for Agilent® and Thermo Scientific® systems)

Carrier Gas: Helium @ 1.0 mL/min (constant flow)

Oven Program: 35 °C for 4 min, 50 °C @ 20 °C/min for 1 min, 160 °C @ 10 °C/min for 4 min, 300 °C @ 15 °C/min for 5 min

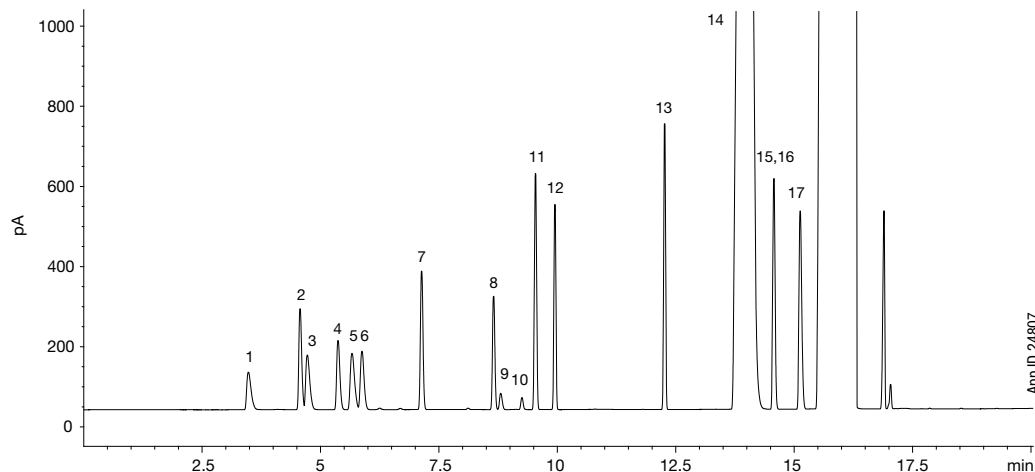
Detector: FID @ 240 °C

Figure 1.
Low Boiling Cannabis Residual Solvents



Sample: 1. Propane
2. 2-Methylpropane
3. n-Butane
4. Neopentane
5. Ethylene Oxide

Figure 2.
Cannabis Residual Solvents (17 mix)




Sample: 1. Methanol
2. n-Pentane
3. Ethanol
4. 2-Propanol
5. Acetone
6. Acetonitrile
7. n-Hexane
8. THF
9. Chloroform
10. Carbon Tetrachloride
11. n-Heptane
12. Benzene
13. Toluene
14. Dimethylformamide
15. m-Xylene
16. p-Xylene
17. o-Xylene



APPLICATIONS

Ordering Information Zebron™ PLUS GC Inlet Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 5890, 6890 and 7890 Models						
Straight Z-Liner™ 	Dirty samples, Volatiles, High initial oven temperatures	S/SL	4 x 78.5	PLUS Inert	AG2-0A03-01	ea
					AG2-0A03-05	5/pk
					AG2-0A03-25	25/pk

Ordering Information

Zebron ZB-624^{PLUS}™ GC Columns

ID(mm)	df(µm)	Temp. Limits °C	Part No.
20-Meter			
0.18	1.00	-20 to 300/320	7FD-G040-22
30-Meter			
0.25	1.40	-20 to 300/320	7HG-G040-27
0.32	1.80	-20 to 300/320	7HM-G040-31
0.53	3.00	-20 to 300/320	7HK-G040-36
60-Meter			
0.25	1.40	-20 to 300/320	7KG-G040-27
0.32	1.80	-20 to 300/320	7KM-G040-31
0.53	3.00	-20 to 300/320	7KK-G040-36

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., 7HG-G040-27-B. Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

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