

Take Your Food Testing to the Next Level

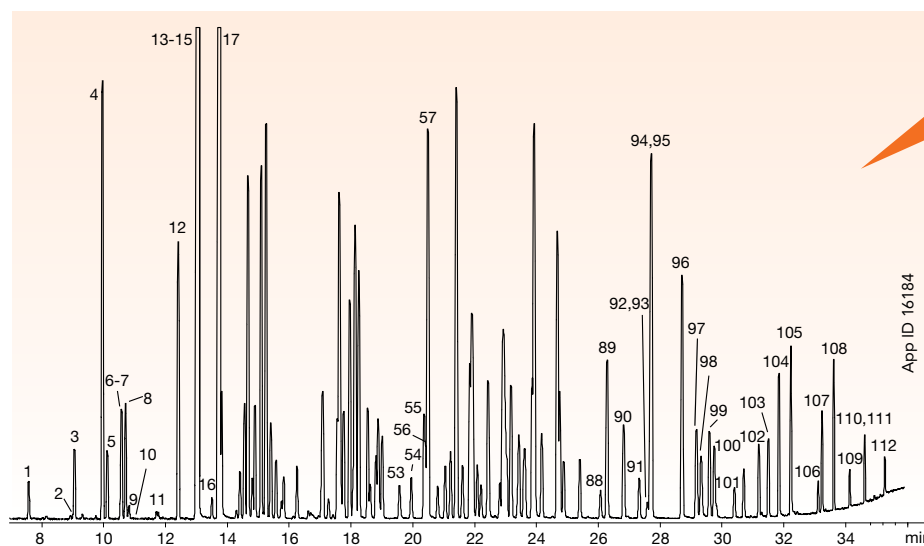
Using Zebron GC Columns

Featuring

- Pesticides
- FAMES
- Essential Oils
- Flavors
- And more.....



Pesticide Screening by GC-MS



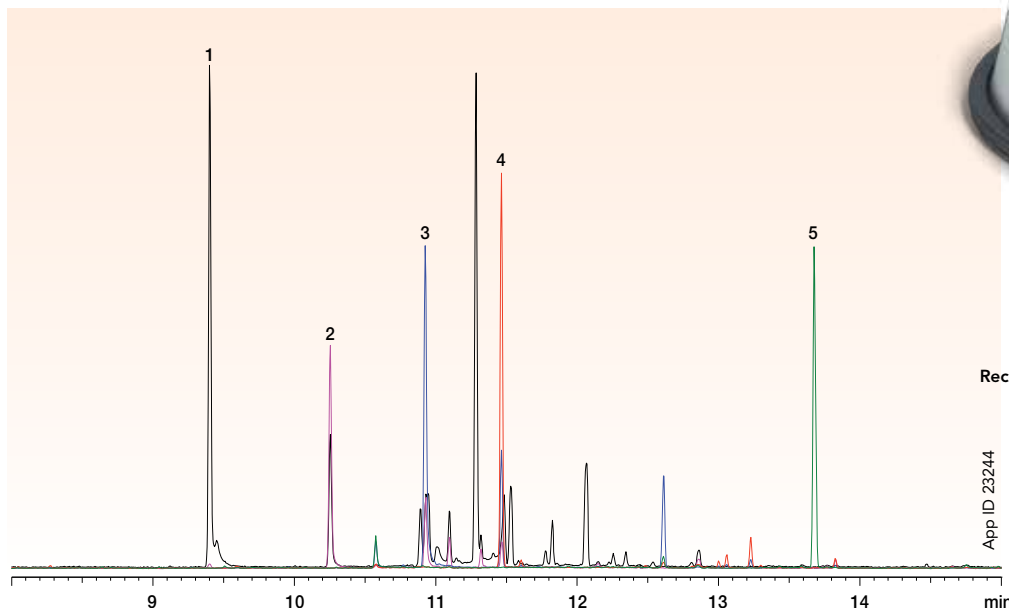
**112 pesticides
in a single run!**

- Column:** Zebtron™ ZB-MultiResidue™-1
- Dimensions:** 30 meter x 0.25 mm x 0.25 μm
- Part No.:** 7HG-G016-11
- Injection:** Splitless @ 260 °C, 1 μL
- Recommended Liner:** Zebtron PLUS Single Taper with Wool, 4 mm
- Liner Part No.:** AG2-0A11-05 (for Agilent® Systems)
- Septum:** AG0-4697 (PhenoRed™-400)
- Inlet Seal:** AG0-8620 (Easy Seals™)
- Carrier Gas:** Helium @ 0.9 mL/min (constant flow)
- Oven Program:** 80 °C for 0.5 min to 150 °C @ 10 °C/min to 240 °C @ 4 °C/min to 320 °C @ 15 °C/min for 3 min
- Detector:** MSD @ 320 °C; 45-400 amu
- Sample:** Analytes are 1 ppm in dichloromethane

See entire analyte list and technical note at: www.phenomenex.com/search

TN-2021

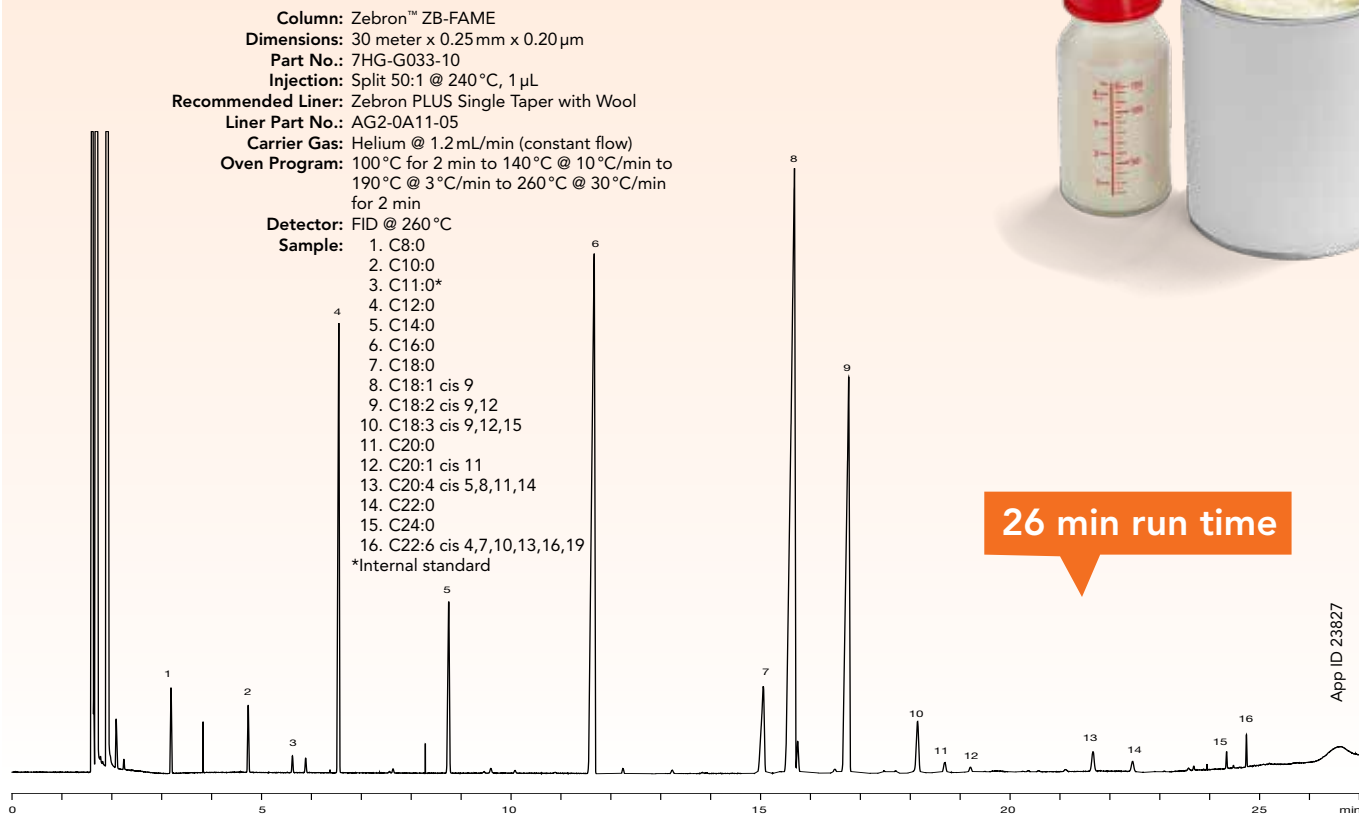
Melamine From Dog Food by GC-MS



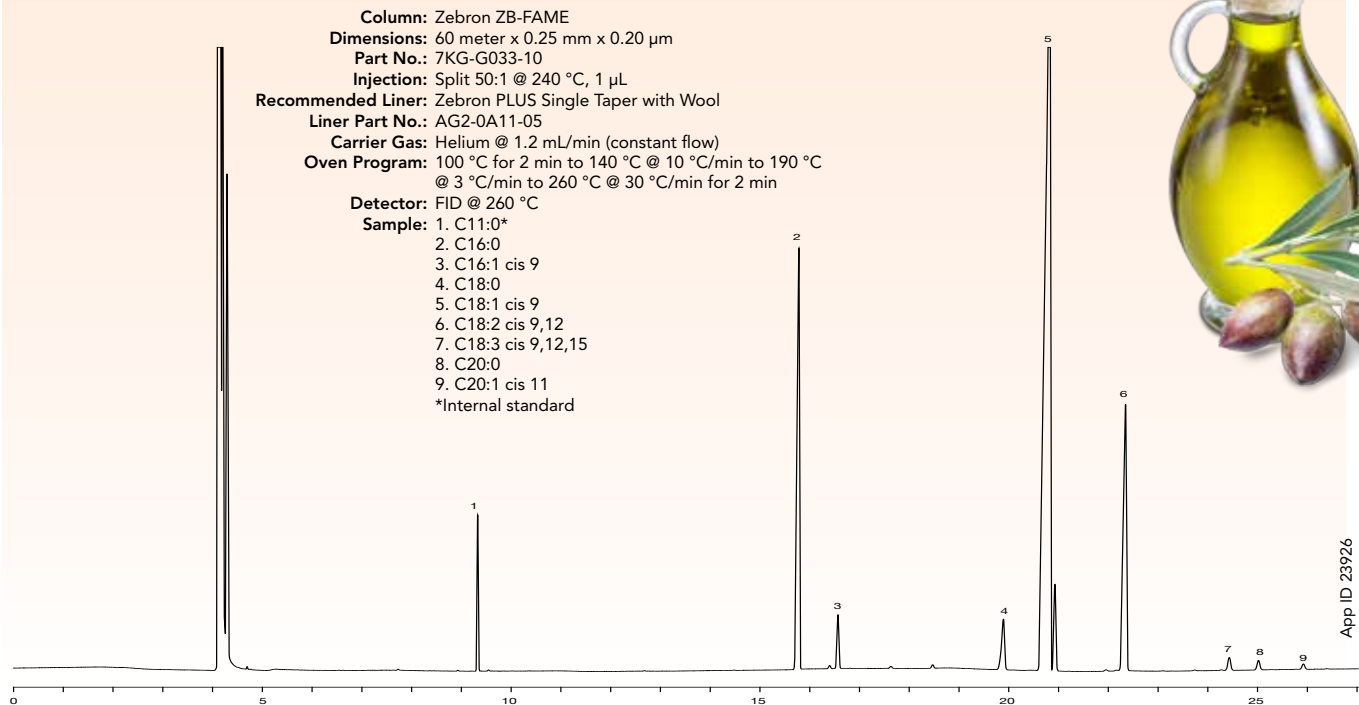
- Column:** Zebtron ZB-5MS^{PLUS}™
- Dimensions:** 30 meter x 0.25 mm x 0.25 μm
- Part No.:** 7HG-G030-11
- Injection:** Splitless @ 280 °C, 1 μL
- Recommended Liner:** Zebtron PLUS Single Taper Z-Liner™
- Liner Part No.:** AG2-0A13-05
- Carrier Gas:** Helium @ 1 mL/min (constant flow)
- Oven Program:** 75 °C for 1 min to 320 °C @ 15 °C/min hold for 4 min
- Detection:** MSD @ 320 °C
- Sample:**
 1. Cyanuric Acid
 2. Ammelide
 3. Ammeline
 4. Melamine
 5. Benzoguanamine

Fast FAMES Analysis

Fatty Acids from Infant Formula by GC-FID



Fatty Acids from Olive Oil by GC-FID

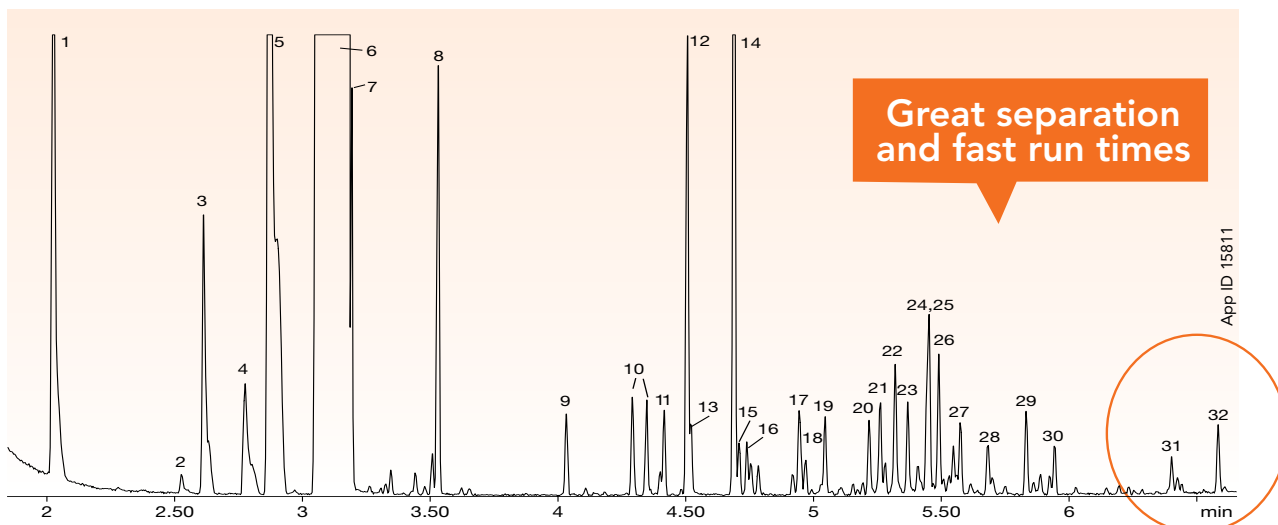


Essential Oils from Oranges by GC-MS

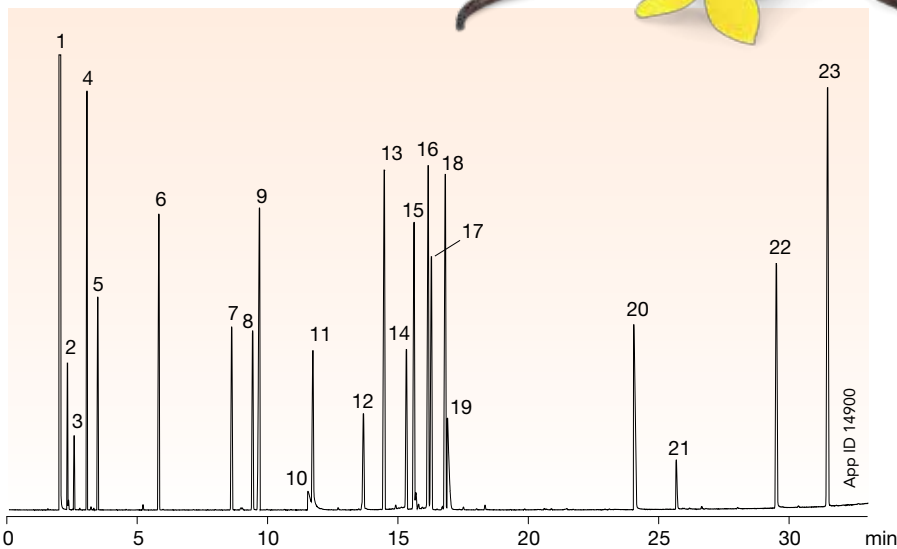
Cold-Pressed Orange Oil

Column: Zebron™ ZB-WAX^{PLUS}™
Dimensions: 10 meter x 0.10 mm x 0.10 μm
Part No.: 7CB-G013-02
Injection: Split 20:1 @ 220 °C, 0.2 μL
Recommended Liner: Zebron PLUS Straight Z-Liner™
Liner Part No.: AG2-0A00-05
Carrier Gas: Helium @ 0.3 mL/min (constant flow)
Oven Program: 35 °C for 1 min to 250 °C @ 30 °C/min for 5 min
Detector: MSD; 45-450 amu
Sample:

- | | | | |
|-------------------|---------------------|-------------------------------|--------------------|
| 1. α-Pinene | 9. Nonanal | 17. Germacrene | 25. Citral |
| 2. β-Pinene | 10. Limonene Oxides | 18. Caryophyllene | 26. Carvone |
| 3. Sabinene | 11. Citronellal | 19. trans-p-Mentha-2,8-dienol | 27. Cadinene |
| 4. 3-Carene | 12. Decanal | 20. cis-p-Mentha-2,8-dienol | 28. Perillaldehyde |
| 5. β-Myrcene | 13. α-Cubebene | 21. Geraniol | 29. trans-Carveol |
| 6. Limonene | 14. Linalool | 22. α-Terpineol | 30. cis-Carveol |
| 7. β-Phellandrene | 15. β-Cubebene | 23. Dodecanal | 31. Perillol |
| 8. Octanal | 16. Octanol | 24. Valencene | 32. Octanoic acid |



Flavors Screening by GC-MS



Column: Zebron ZB-WAX
Dimensions: 30 meter x 0.32 mm x 0.25 μm
Part No.: 7HG-G007-11
Injection: Split 100:1 @ 250 °C, 1.0 μL
Recommended Liner: Zebron PLUS Straight Z-Liner™
Liner Part No.: AG2-0A00-05
Carrier Gas: Helium @ 1 mL/min (constant flow)
Oven Program: 50 °C to 250 °C @ 6 °C/min for 3 min
Detector: MSD @ 275 °C

- Sample:**
1. Acetone
 2. Ethyl acetate
 3. Ethanol
 4. Decane
 5. Ethyl butyrate
 6. Limonene
 7. 2,3-Dimethylpyrazine
 8. (Z)-3-Hexenol
 9. Tetradecane
 10. Acetic acid
 11. Decanal
 12. Propylene glycol
 13. Ethyl decanoate
 14. Neral
 15. α-Terpineol
 16. Neryl Acetate
 17. Geraniol
 18. Decanol
 19. Valeric acid
 20. Nonanoic acid
 21. Decanoic acid
 22. Vanillin
 23. Anthracene

Test mix courtesy of Frutarom (UK) Ltd., Flavour Chemistry Laboratory.

Ordering Information



Zebtron™ ZB-FAME GC Columns

Length (m)	ID (mm)	df (μm)	Temp. Limits (°C)	Part No.
20	0.18	0.15	-20 to 280	7FD-G033-05
30	0.25	0.20	-20 to 280	7HG-G033-10
60	0.25	0.20	-20 to 280	7KG-G033-10

Zebtron ZB-5MS^{PLUS}™ GC Columns

Length (m)	ID (mm)	df (μm)	Temp. Limits (°C)	Part No.
15	0.25	0.25	-60 to 325/350	7EG-G030-11
20	0.18	0.18	-60 to 325/350	7FD-G030-08
20	0.18	0.36	-60 to 325/350	7FD-G030-53
30	0.25	0.25	-60 to 325/350	7HG-G030-11
30	0.25	0.50	-60 to 325/350	7HG-G030-17
30	0.25	1.00	-60 to 325/350	7HG-G030-22
30	0.32	0.25	-60 to 325/350	7HM-G030-11
30	0.32	1.00	-60 to 325/350	7HM-G030-22
60	0.25	0.25	-60 to 325/350	7KG-G030-11

ZB-MultiResidue™ GC Columns

ZB-MultiResidue-1 GC Columns

Length (m)	ID (mm)	df (μm)	Temp. Limits (°C)	Part No.
20	0.18	0.18	-60 to 320/340	7FD-G016-08
30	0.25	0.25	-60 to 320/340	7HG-G016-11
30	0.32	0.25	-60 to 320/340	7HM-G016-11
30	0.32	0.50	-60 to 320/340	7HM-G016-17
30	0.53	0.50	-60 to 320/340	7HK-G016-17

ZB-MultiResidue-2 GC Columns

Length (m)	ID (mm)	df (μm)	Temp. Limits (°C)	Part No.
30	0.25	0.20	-60 to 320/340	7HG-G017-10
30	0.32	0.25	-60 to 320/340	7HM-G017-11
30	0.53	0.50	-60 to 320/340	7HK-G017-17

Ordering Information



Zebron™ ZB-WAXPLUS™ GC Columns

Length (m)	ID (mm)	df (μm)	Temp. Limits (°C)	Part No.
10	0.10	0.10	20 to 250/260	7CB-G013-02
15	0.25	0.25	20 to 250/260	7EG-G013-11
15	0.53	1.00	20 to 230/240	7EK-G013-22
20	0.18	0.18	20 to 250/260	7FD-G013-08
30	0.25	0.25	20 to 250/260	7HG-G013-11
30	0.25	0.50	20 to 250/260	7HG-G013-17
30	0.32	0.25	20 to 250/260	7HM-G013-11
30	0.32	0.50	20 to 250/260	7HM-G013-17
30	0.32	1.00	20 to 230/240	7HM-G013-22
30	0.53	1.00	20 to 230/240	7HK-G013-22
60	0.25	0.15	20 to 250/260	7KG-G013-05
60	0.25	0.25	20 to 250/260	7KG-G013-11
60	0.25	0.50	20 to 250/260	7KG-G013-17
60	0.32	0.25	20 to 250/260	7KM-G013-11
60	0.32	0.50	20 to 250/260	7KM-G013-17
60	0.53	1.00	20 to 230/240	7KK-G013-22

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., 7HG-G013-11-B. Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

Zebron ZB-FFAP GC Columns

Length (m)	ID (mm)	df (μm)	Temp. Limits (°C)	Part No.
15	0.25	0.25	40 to 250/260	7EG-G009-11
15	0.32	0.25	40 to 250/260	7EM-G009-11
15	0.32	0.50	40 to 250/260	7EM-G009-17
15	0.53	1.00	40 to 250/260	7EK-G009-22
30	0.25	0.25	40 to 250/260	7HG-G009-11
30	0.32	0.25	40 to 250/260	7HM-G009-11
30	0.32	0.50	40 to 250/260	7HM-G009-17
30	0.32	1.00	40 to 250/260	7HM-G009-22
30	0.53	1.00	40 to 250/260	7HK-G009-22
50	0.32	0.50	40 to 250/260	7JM-G009-17
60	0.25	0.25	40 to 250/260	7KG-G009-11

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., 7HG-G009-11-B. Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

guarantee

If Zebron columns do not provide you with equivalent or better separations as compared to any other GC column of the same phase and comparable dimensions, return the column with comparative data within 45 days for a FULL REFUND.

More GC columns, kits, and accessories available at
www.phenomenex.com/GC

Take Your Food Testing to the Next Level

Using Zebron GC Columns

www.phenomenex.com/FoodGC

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