BPX5 - A Capillary Column which will perform 80 % of all applications

WHAT IS BPX5?

BPX5 is a 5 % phenyl (equivalent) / 95 % methyl polysilphenylene / siloxane phase.

WHY USE A 5 % PHENYL PHASE?

It is estimated that 80 % of all analyses can be carried out on one column with one set of dimensions and film thickness. The 5 % phenyl column is still a non-polar column, but the small amount of phenyl content gives the phase a little edge in selectivity compared with the 100 % methyl phases.

The non-polar phases tend to have lower bleed and are more robust compared with polar phases.

WHAT CAN THE BPX5 COLUMN BE USED FOR?

The BPX5 is a multi-purpose column which can be used for a range of applications from non-polar components (such as those in gasoline) to polar components such as amines, pesticides, triglycerides, drugs and polycyclic aromatic hydrocarbons.

EQUIVALENT COLUMNS

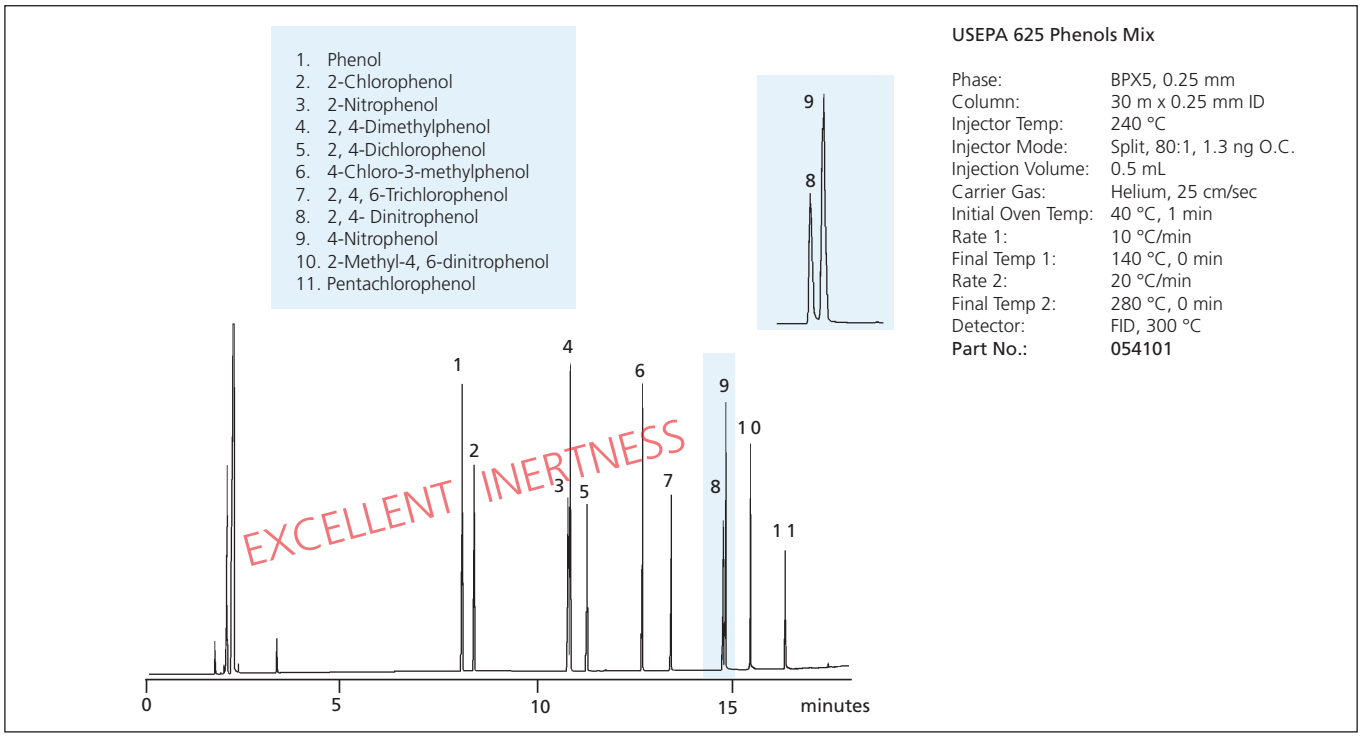
If you are using any 5 % phenyl column, BPX5 can replace it. The table below is an excellent replacement reference.

This column is a **direct replacement** for;

CP-SIL 8CB	MDN-5
CP-SIL 8CBms	PE-5
DB-5	PTE-5
DB5.625	Rtx-5
DB5-MS	Rtx-5MS
HP-5	SPB-5
HP-5MS	XTI-5
HP5-TA	ZB-5 (RH-5)
MDN-5S	007-5
HP-Ultra2	007-5MS

OPERATING TEMPERATURES

0.25 µm – 1.0 µm	-40 °C to 360 °C/370 °C
>1.0 µm	-40 °C to 350 °C/360 °C



USEPA 625 Phenols Mix

Phase:	BPX5, 0.25 mm
Column:	30 m x 0.25 mm ID
Injector Temp:	240 °C
Injector Mode:	Split, 80:1, 1.3 ng O.C.
Injection Volume:	0.5 mL
Carrier Gas:	Helium, 25 cm/sec
Initial Oven Temp:	40 °C, 1 min
Rate 1:	10 °C/min
Final Temp 1:	140 °C, 0 min
Rate 2:	20 °C/min
Final Temp 2:	280 °C, 0 min
Detector:	FID, 300 °C
Part No.:	**054101**

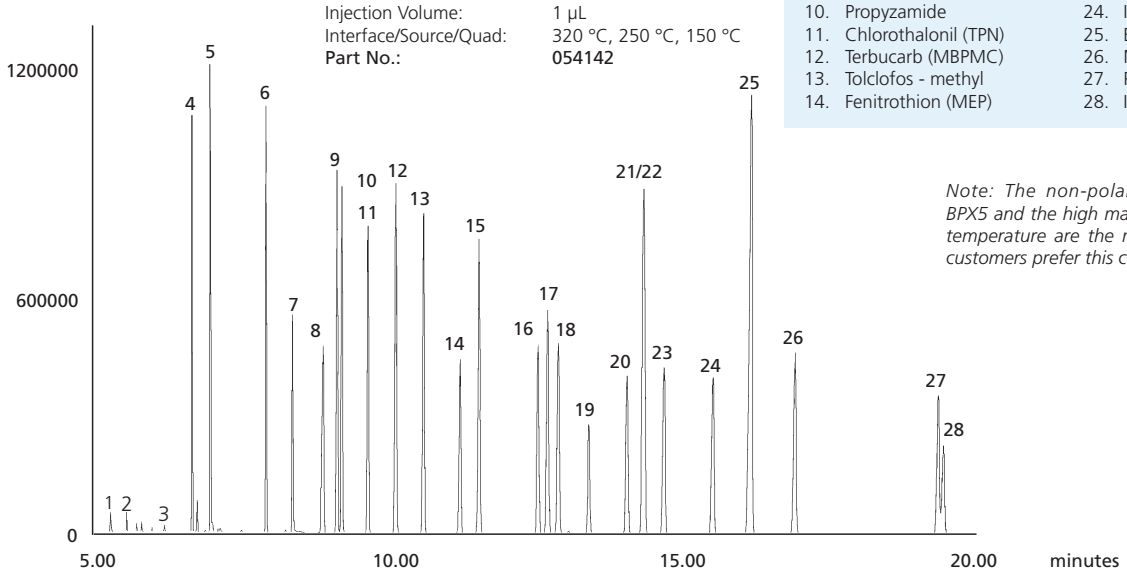
Phenols

SGE Analytical Science

Phase:	BPX5, 0.25 µm
Column:	30 m x 0.22 mm
Initial Temp.:	50 °C, 1 min
Rate 1:	30 °C/min
Temp 2:	190 °C
Rate2:	4 °C
Final Temp.:	280 °C, 5 min
Detector:	5973 MSD
Injector Mode:	Splitless, 1.0 min
Carrier Gas:	Helium, 35 cm/sec
Injection Volume:	1 µL
Interface/Source/Quad:	320 °C, 250 °C, 150 °C
Part No.:	**054142**

1. Methyldymron decomp. I
2. Methyldymron decomp. II
3. Trichlorfon (DEP)
4. Etridiazole
5. Chloroneb
6. Benfluralin
7. Pencycuron
8. Simazine (CAT)
9. Diazinon
10. Propyzamide
11. Chlorothalonil (TPN)
12. Terbucarb (MBPMC)
13. Tolclofos - methyl
14. Fenitrothion (MEP)
15. Chlorpyrifos
16. Pendimethalin
17. Isophenphos
18. Methyldymron
19. Captan
20. Butamifos
21. Napropamide
22. Flutolanil
23. Isoprothiolane
24. Isoxathion
25. Bensulide
26. Mepronil
27. Pyridaphenthion
28. Iprodione

Note: The non-polar nature of the BPX5 and the high maximum operating temperature are the main reasons our customers prefer this column.

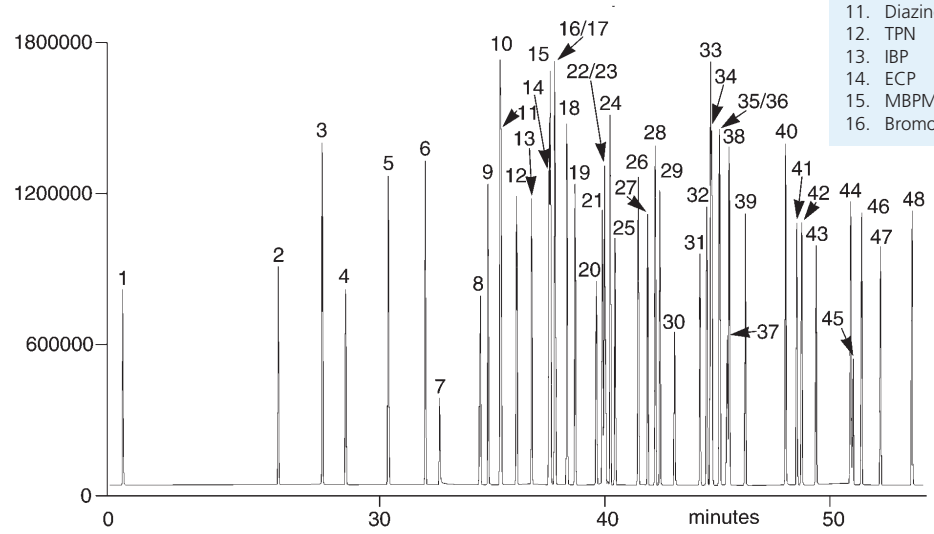


Pesticides - broad range pesticide mixture

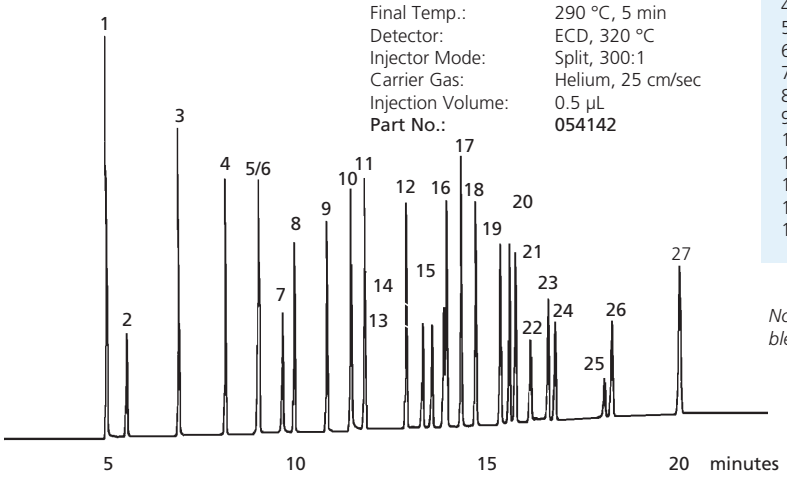
Phase:	BPX5, 0.2 5 µm
Column:	30 m x 0.25 mm ID
Initial Temp.:	50 °C, 1 min
Rate 1:	4 °C/min
Final Temp.:	280 °C, 1.5 min
Detector:	5973 MSD
Injector Mode:	Splitless, 0.50 min
Carrier Gas:	Helium, 33 cm/sec
Injection Volume:	0.5 µL
Part No.:	**054101**

Note: The BPX5 column is an ideal partner column to BP10 (1701 phase), BPX608, or a BPX50 column.

1. DDVP
2. Etridiazole
3. Chloroneb
4. Molinate
5. BPMC
6. Benfluralin
7. Pencycuron
8. Simazin
9. Diazinon-ox
10. Propyzamide
11. Diazinon
12. TPN
13. IBP
14. ECP
15. MBPMC
16. Bromobutide
17. MEP-ox
18. Tolclophos-Methyl
19. Simetryn
20. MEP
21. Esprocarb
22. Malathion
23. Probenazole
24. Chloropyrifos
25. Thiobancarb
26. Fthalide
27. Pendimethalin
28. Isofenfos
29. Methyl-Dymron
30. Captan
31. Butamifos
32. Napropamide
33. Flutolurin
34. Prethirachlor
35. Isoxathon-ox
36. Isoprothiolate
37. Tricyclazole
38. Buprofezine
39. Isoxathion
40. Mepron:1
41. Chloronitrofen
42. EDDP
43. EPN-ox
44. Pyridaphenthion
45. Iprodione
46. EPN
47. Bifenox
48. Mefenacet



Analysis of chlorine, phosphorous and nitrogen based pesticides

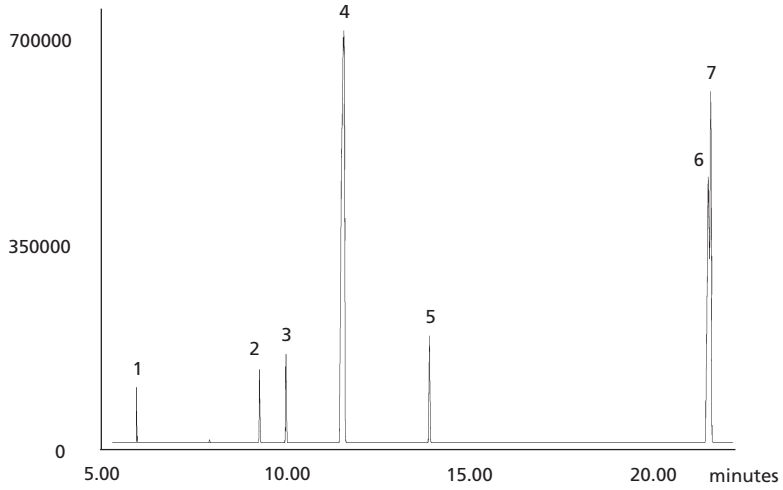


Phase:	BPX5, 0.25 µm
Column:	30 m x 0.22 mm ID
Initial Temp.:	160 °C
Rate 1:	7 °C/min
Final Temp.:	290 °C, 5 min
Detector:	ECD, 320 °C
Injector Mode:	Split, 300:1
Carrier Gas:	Helium, 25 cm/sec
Injection Volume:	0.5 µL
Part No.:	**054142**

1. Etridiazol
2. Chloroneb
3. Trifluralin
4. alpha-BHC
5. gamma-BHC
6. beta-BHC
7. Chlorothalonil
8. omega-BHC
9. Heptachlor
10. Chloropyrifos
11. Aldrin
12. Heptachlorepoxide
13. Captan
14. gamma-Chlordane
15. alpha-Chlordane
16. Endosulfan I
17. Dieldrin
18. p,p'-DDE
19. Endrin
20. Endosulfan II
21. p,p'-DDD
22. Endrin aldehyde
23. p,p'-DDT
24. Enosulfan sulfate
25. Endrin ketone
26. Methoxychlor
27. Mirex

Note: BPX5 column exhibits very low column bleed with selective detectors like ECD

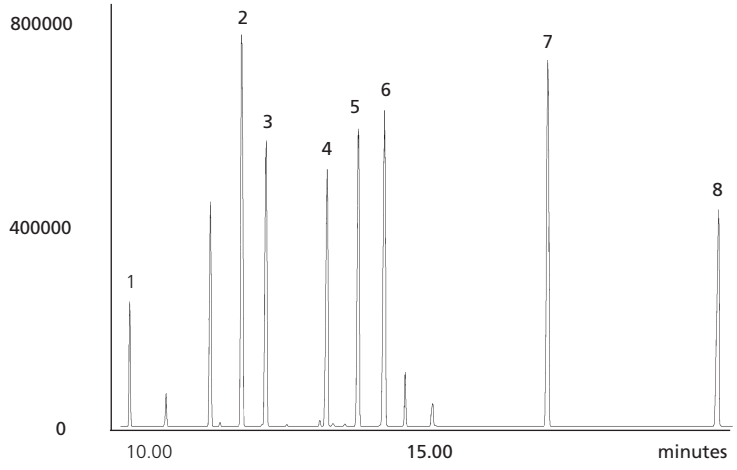
Pesticides - EPA method 608 and additional pesticides



1. DBCP
2. Etradiazole
3. Chloroneb
4. Propachlor
5. PCNB
6. Chlorobenzylate
7. Chloropropylate

Phase:	BPX5, 0.25 µm
Column:	30 m x 0.22 mm ID
Initial Temp.:	50 °C, 1 min
Rate 1:	30 °C/min
Temp 2:	150 °C
Rate2:	6 °C
Final Temp.:	260 °C
Detector:	5973 MSD
Injector Mode:	Splitless, 0.5 min
Carrier Gas:	Helium, 30 cm/sec
Injection Volume:	1 µL
Interface/Source/Squad:	320 °C, 250 °C ,150 °C
Part No.:	**054142**

USEPA method 608.1 - organochlorine pesticides

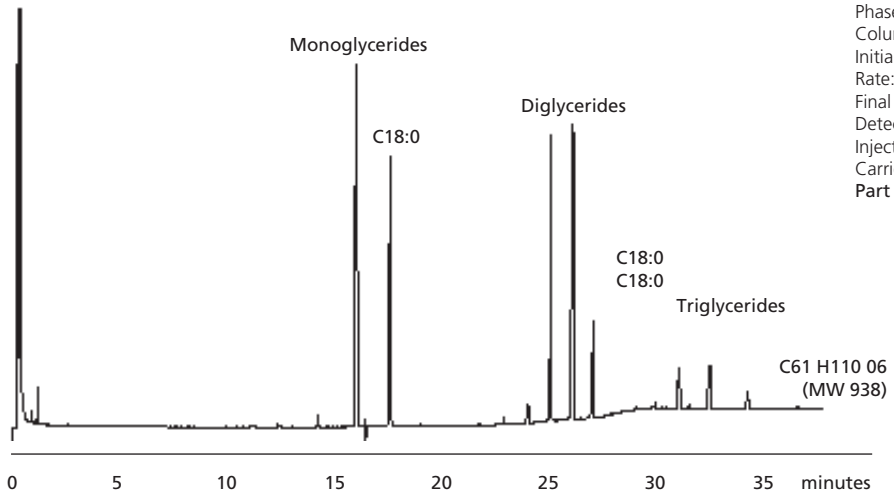


1. Demeton S
2. Diazinon
3. Disulfoton
4. Methyl Parathion
5. Malathion
6. Ethyl Parathion
7. Ethion
8. Methyl Azinphos

Phase:	BPX5, 0.25 µm
Column:	30 m x 0.22 mm ID
Initial Temp.:	50 °C, 1 min
Rate 1:	30 °C/min
Temp 2:	150 °C
Rate2:	10 °C
Final Temp.:	320 °C
Detector:	5973 MSD
Injector Mode:	Splitless, 0.5 min
Carrier Gas:	Helium, 30 cm/sec
Injection Volume:	1 µL
Interface/Source/Quad:	320 °C, 250 °C, 150 °C
Part No.:	**054142**

USEPA method 614 - organophosphorous pesticides

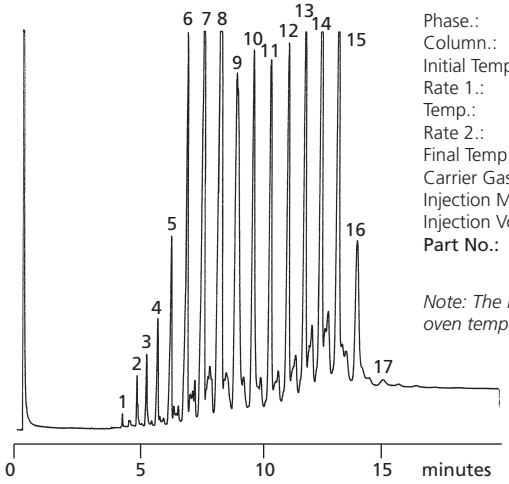
PRODUCT DATA



Phase:	BPX5, 0.25 µm
Column:	12 m x 0.32 mm ID
Initial Temp.:	80 °C, 1 min
Rate:	10 °C/min
Final Temp.:	365 °C, 10 min
Detector:	FID
Injector Mode:	On-Column
Carrier:	He, 10 psi
Part No.:	**054118**

Note: Triglycerides require high oven temperatures for elution. Therefore, the BPX5 column is the ideal choice for this analysis as these chromatograms show.

Triglycerides - analysis of mono, di, and triglycerides

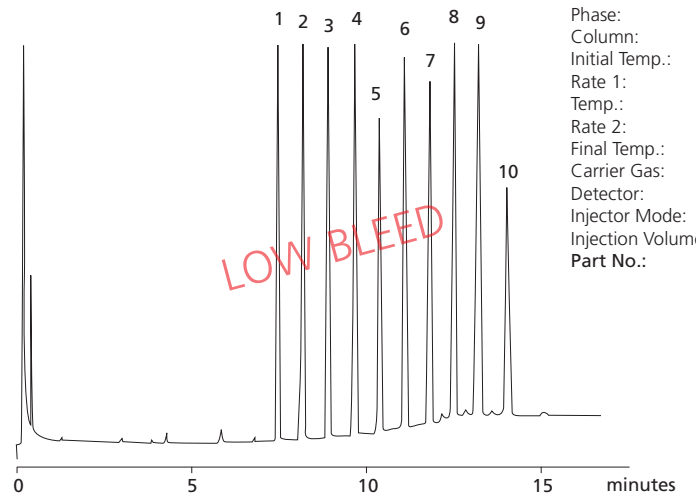


Phase.:	BPX5, 0.25 µm
Column.:	12 m x 0.53 mm ID
Initial Temp.:	100 °C, 0.5 min
Rate 1.:	50 °C/min
Temp.:	280 °C
Rate 2.:	10 °C/min
Final Temp.:	360 °C, 5 min
Carrier Gas.:	Helium, 6 psi
Injection Mode.:	On-Column
Injection Volume.:	1 µL
Part No.:	**054133**

Note: The low bleed nature of this column at high oven temperatures ensures reproducible analysis.

PEAK No.	TRIGLYCERIDE CARBON No.	COMPOSITION (%)
1	T24	0.12
2	T26	0.41
3	T28	0.64
4	T30	1.30
5	T32	2.61
6	T34	5.99
7	T36	11.22
8	T38	13.49
9	T40	10.55
10	T42	7.36
11	T44	6.90
12	T46	7.10
13	T48	8.41
14	T50	10.49
15	T52	9.34
16	T54	3.95
17	T56	0.22

Triglyceride distribution in milk fat

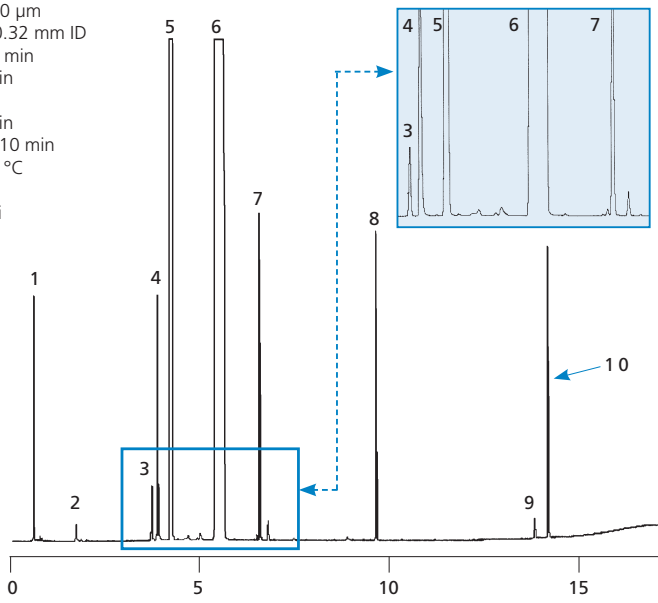


Phase:	BPX5, 0.25 µm
Column:	12 m x 0.53 mm ID
Initial Temp.:	100 °C, 0.5 min
Rate 1:	50 °C/min
Temp.:	280 °C
Rate 2:	10 °C/min
Final Temp.:	360 °C, 5 min
Carrier Gas:	Helium, 6 psi
Detector:	FID
Injector Mode:	On-Column
Injection Volume:	1 µL
Part No.:	**054133**

PEAK No.	TRIGLYCERIDE CARBON No.
1	T36
2	T38
3	T40
4	T42
5	T44
6	T46
7	T48
8	T50
9	T52
10	T54

Standard mixture of triglycerides

Phase:	BPX5, 1.0 µm
Column:	12 m x 0.32 mm ID
Initial Temp.:	50 °C, 1 min
Rate 1:	15 °C/min
Final Temp.1:	120 °C
Rate 2:	20 °C/min
Final Temp.2:	330 °C, 10 min
Detector:	FID, 380 °C
Injector:	Split
Carrier Gas:	He, 4 psi
Part No.:	**054127**



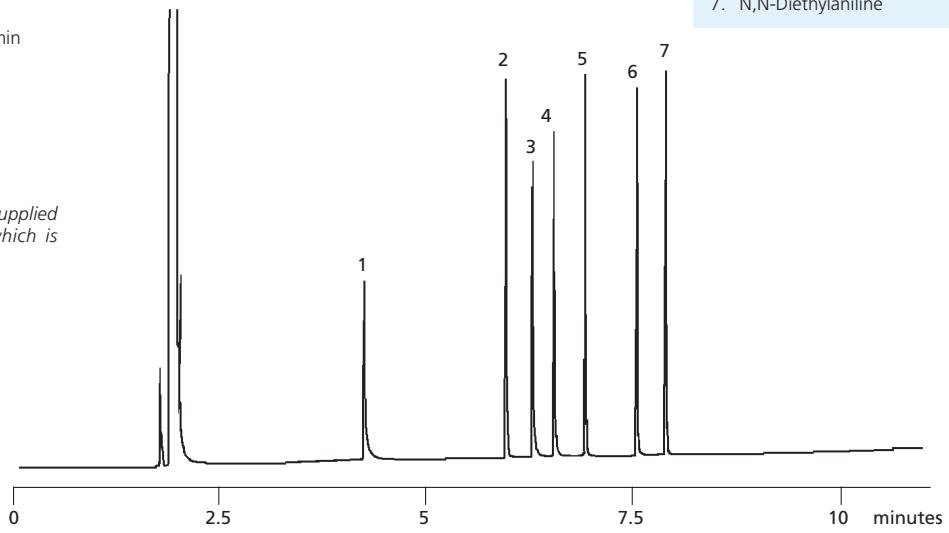
1. Methanol
2. Cyclohexane
3. Cyclohexanone
4. Cyclohexylamine
5. Cyclohexanol
6. Aniline
7. Toluidine
8. Unknown
9. Diaminodiphenylmethane
10. p,p - Diaminodiphenyl-methane
11. Unknown

Note: Thick film BPX5 column provides excellent separation with high temperature compatibility

Amines - analysis of aniline impurities

Phase:	BPX5, 0.25 mm
Column:	30 m x 0.25 mm ID
Injector Temp:	240 °C
Injector Mode:	Split, 80:1, 3.25 ng On Col
Injection Volume:	0.5 µL
Carrier Gas:	Helium, 30 cm/sec @ 40 °C
Initial Oven Temp:	40 °C, 1 min
Rate 1:	20 °C/min
Final Temp 1:	240 °C, 0 min
Rate 2:	na
Final Temp 2:	na
Detector:	FID, 300 °C
Part No.:	**054101**

Note: Every BPX5 column is supplied with a test chromatogram which is produced from that column.



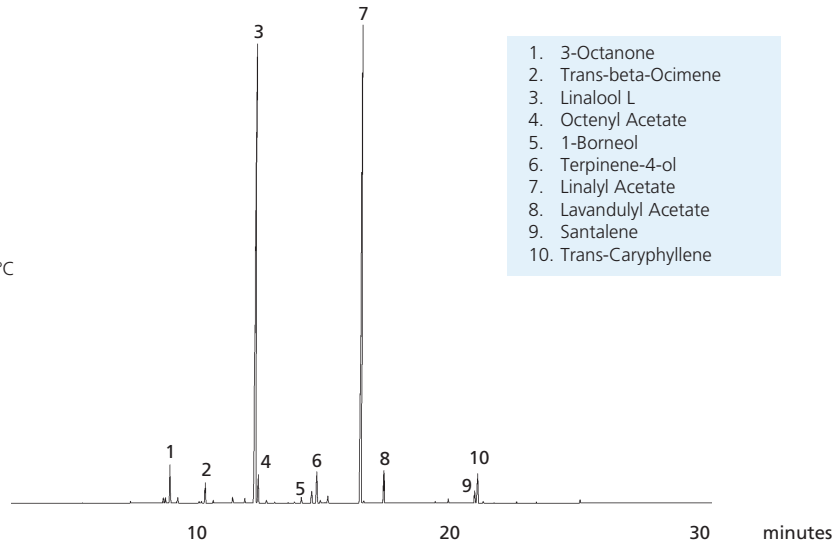
1. Aniline
2. 2-methylpiperidine
3. N,N-Dimethylaniline
4. Benzylamine
5. α-Phenylethylamine
6. 2,6-Dimethylaniline
7. N,N-Diethylaniline

Analysis of aromatic amines

PRODUCT DATA

Phase:	BPX5, 0.25 µm
Column:	30 m x 0.25 mm ID
Initial Temp.:	45 °C
Initial Hold Time:	1 min
Rate 1:	5 °C/min
Temp 2:	250 °C
Temp 1 Hold Time:	15 min.
Detector:	5973 MSD
Injector Mode:	Split (50:1)
Injector Temp:	250 °C
Carrier Gas:	Helium, 35 cm/sec @ 45 °C
Injection Volume:	1 µL
Concentration (ng/mL)	1:20 dilution in DCM
GC model:	HP 6890 GC, 5973 MSD
Interface/Source/Quad:	320 °C, 250 °C, 106 °C
Part No.:	**054101**

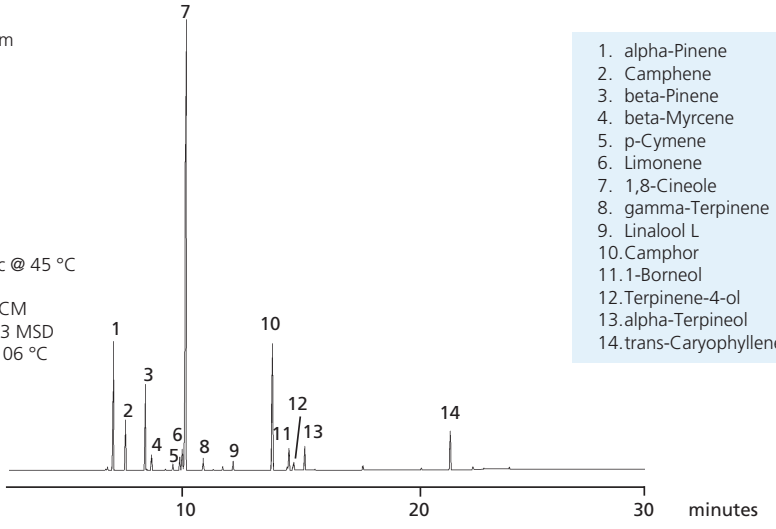
Note: The 5 % phenyl BPX5 column is the perfect partner with a BP20 column for essential oil analysis.



1. 3-Octanone
2. Trans-beta-Ocimene
3. Linalool L
4. Octenyl Acetate
5. 1-Borneol
6. Terpinene-4-ol
7. Linalyl Acetate
8. Lavandulyl Acetate
9. Santalene
10. Trans-Caryphyllene

Fragrance - analysis of lavender essential oil

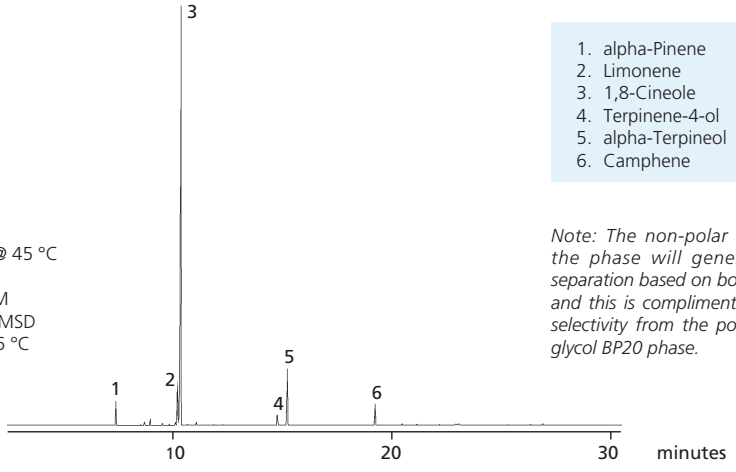
Phase:	BPX5, 0.25 µm film
Column:	30 x 0.25 mm ID
Initial Temp.:	45 °C
Initial Hold Time:	1 min
Rate 1:	5 °C/min
Temp 2:	250 °C
Temp 1 Hold Time:	15 min
Detector:	5973 MSD
Injector Mode:	Split (50:1)
Injector Temp:	250 °C
Carrier Gas:	Helium, 35 cm/sec @ 45 °C
Injection Volume:	1 µL
Concentration (ng/mL)	1:20 dilution in DCM
GC model:	HP 6890 GC, 5973 MSD
Interface/Source/Quad:	320 °C, 250 °C, 106 °C
Part No.:	**054101**



1. alpha-Pinene
2. Camphene
3. beta-Pinene
4. beta-Myrcene
5. p-Cymene
6. Limonene
7. 1,8-Cineole
8. gamma-Terpinene
9. Linalool L
10. Camphor
11. 1-Borneol
12. Terpinene-4-ol
13. alpha-Terpineol
14. trans-Caryophyllene

Analysis of rosemary essential Oil

Phase:	BPX5, 0.25 µm film
Column:	30m x 0.25 mm ID
Initial Temp.:	45 °C
Initial Hold Time :	1 min
Rate 1:	5 °C/min
Temp 2:	250 °C
Temp 1 Hold Time:	15 min
Detector:	5973 MSD
Injector Mode:	Split (50:1)
Injector Temp:	250 °C
Carrier Gas:	Helium, 35 cm/sec @ 45 °C
Injection Volume :	1 mL
Concentration (ng/mL)	1:20 dilution in DCM
GC model:	HP 6890 GC, 5973 MSD
Interface/Source/Quad:	320 °C, 250 °C, 106 °C
Part No.:	**054101**

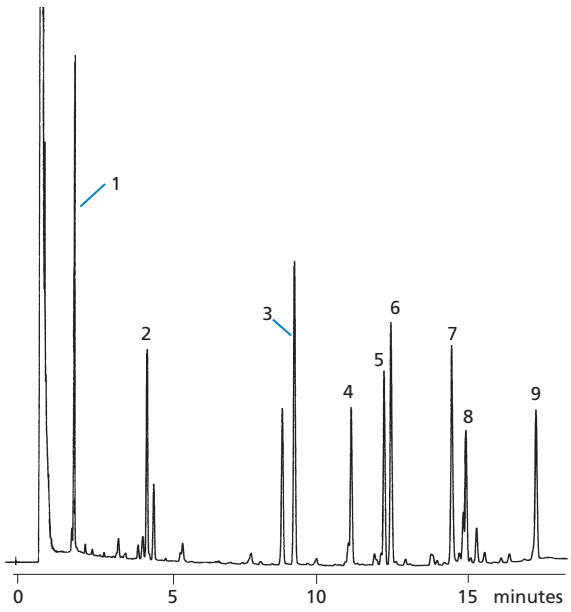


1. alpha-Pinene
2. Limonene
3. 1,8-Cineole
4. Terpinene-4-ol
5. alpha-Terpineol
6. Camphene

Note: The non-polar nature of the phase will generally give separation based on boiling point and this is complimentary to the selectivity from the polyethylene glycol BP20 phase.

Analysis of eucalyptus essential Oil

Phase:	BPX5, 1.0 µm
Column:	25 m x 0.53 mm ID
Initial Temp.:	120 °C
Rate:	10 °C/min
Final Temp.:	310 °C
Detector:	FID
Injector:	Split, 240 °C
Carrier Gas:	H_2, 2 psi
Part No.:	**054131**

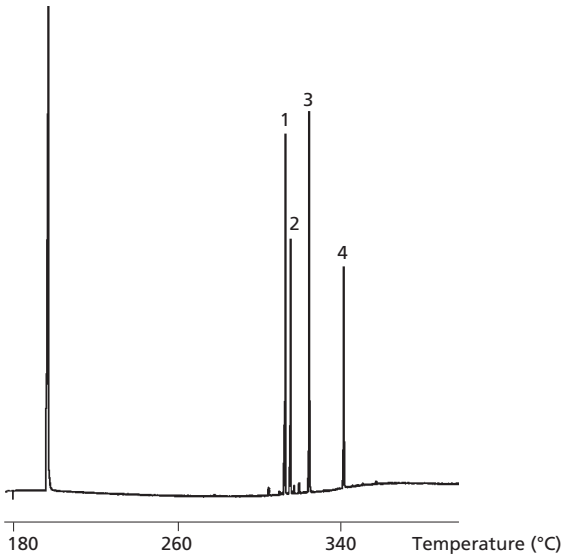


1. Methamphetamine
2. Phendimetrazine
3. Phencyclidine
4. Mepivocaine
5. Methaqualone
6. Amitriptyline
7. Codeine
8. Diazepam
9. Fentanyl

Note: A high degree of inertness and the high maximum operating temperature (for semi-volatile drugs), makes the BPX5 column suitable for this class of compounds.

Pharmaceuticals - basic drug screen (10-20 ng/component)

Phase:	BPX5, 0.25 µm
Column:	25 m x 0.22 mm ID
Intial Temp.:	180 °C
Rate:	8 °C/min
Final Temp.:	350 °C, 10 min
Detector:	FID
Sensitivity:	32 x 10^{-12} AFS
Injection Mode:	Split
Carrier Gas:	H_2, 10 psi
Part No.:	**054113**

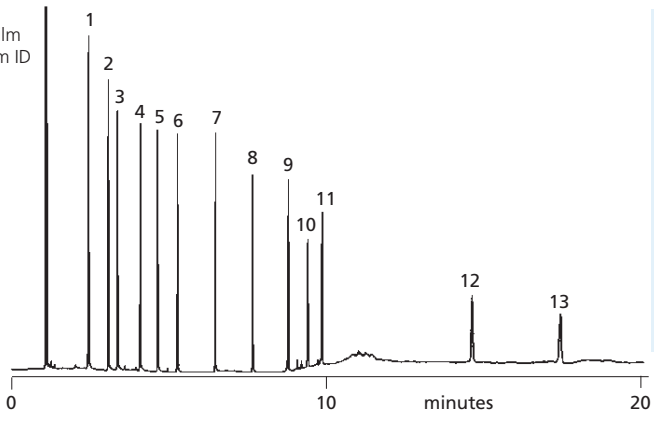


1. Testosterone
2. Pregnenolone
3. Progesterone
4. Cholesterol

Note: Whether your particular application is forensic screening or pharmaceutical testing, the BPX5 phase is ideal.

Steroid analysis (underivatised)

Phase:	BPX5, 0.5 µm film
Column:	25 m x 0.32 mm ID
Initial Temp:	180 °C, 0 min
Rate:	15 °C/min
Final Temp:	350 °C, 5 min
Detector:	FID
Sensitivity:	140 x 10^{-12} AFS
Injection Mode:	Split
Carrier Gas:	H_2, 6 psi
Part No.:	**054125**



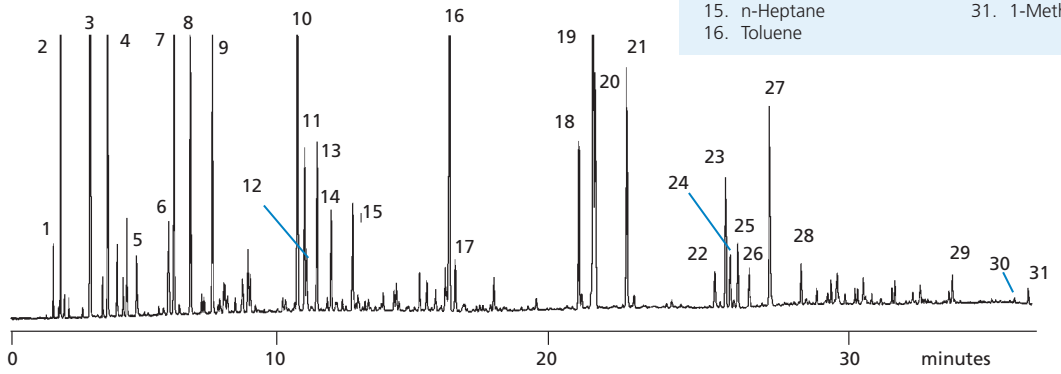
1. Dimethyl Phthalate
2. Diethyl Phthalate
3. Diisopropyl Phthalate
4. Dipropyl Phthalate
5. Diisobutyl Phthalate
6. Dibutyl Glutarate
7. Dipropyl Phthalate
8. Dihexyl Phthalate
9. Diheptyl Phthalate
10. Branched Dinonyl Phthalate
11. Dioctyl Phthalate
12. Diundecyl Phthalate
13. Didodecyl Phthalate

Phthalates - analysis of dimethyl esters of phthalate esters

PRODUCT DATA

Phase:	BPX5, 0.25 µm film
Column:	25 m x 0.22 mm ID
Initial Temp:	-20 °C, 1 min
Rate 1:	4 °C/mn
Temp 2:	40 °C
Rate 2:	8 °C/min
Final Temp:	150 °C
Detector:	FID
Sensitivity:	10 x 10^{-12} AFS
Injection Mode:	Split
Carrier Gas:	H_2, 10 psi
Part No.:	054113

1. iso-Butane
2. n-Butane
3. iso-Pentane
4. n-Pentane
5. 2,2-Dimethylbutane
6. 2,3-Dimethylbutane
7. 2-Methylpentane
8. 3-Methylpentane
9. n-Hexane
10. Benzene
11. 2-Methylhexane
12. 2,3-Dimethylpentane
13. 3-Methylhexane
14. 2,2,4-Trimethylpentane
15. n-Heptane
16. Toluene
17. 2,3-Dimethylhexane
18. Ethylbenzene
19. m-Xylene
20. p-Xylene
21. o-Xylene
22. n-Propylbenzene
23. 1-Methyl-3-ethylbenzene
24. 1-Methyl-4-ethylbenzene
25. 1,3,5- Trimethylbenzene
26. 1-Methyl-2-ethylbenzene
27. 1,2,4- Trimethybenzene
28. 1,2,3-Trimethyllbenzene
29. Naphthalene
30. 2-Methylnaphthalene
31. 1-Methylnaphthalene



Petroleum - leaded gasoline

ORDERING INFORMATION

ID mm	Film µm	10 metre	15 metre	30 metre	60 metre
0.1	0.10	054099	-	-	-
0.22	0.25	-	-	054142	-
0.25	0.25	-	054100	054101	054102
0.25	0.50	-	-	0541025	-
0.25	1.00	-	054121	054122	054123
0.32	0.25	-	054144	054145	054146
0.32	0.50	-	-	0541205	-
0.32	1.00	-	054152	054153	054154
0.53	0.50	-	-	0541345	-
0.53	1.00	-	054147	054148	054158
0.53	1.50	-	0541347	0541348	-
0.53	3.00	-	054159	054160	-

ID mm	Film µm	12 metre	25 metre	50 metre
0.15	0.25	054103	054104	054105
0.15	0.40	054107	054108	-
0.22	0.25	054112	054113	054114
0.22	1.00	-	054116	054117
0.32	0.25	054118	054119	054120
0.32	0.50	054124	054125	054126
0.32	1.00	054127	054128	054129
0.32	3.00	-	054136	-
0.53	0.25	054133	054134	-
0.53	1.00	054130	054131	054132
0.53	3.00	054138	054139	-

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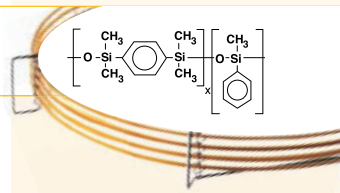
BP5

ID (mm)	Film Thickness (µm)	Length (m)	Temperature Limits (°C)	Part No.
0.25	0.25	60	-60 to 320/340	054184
0.25	1	60	-60 to 320/340	054215
0.32	0.25	12	-60 to 320/340	054179
0.32	0.25	15	-60 to 320/340	054176
0.32	0.25	25	-60 to 320/340	054180
0.32	0.5	25	-60 to 320/340	054186
0.32	1	25	-60 to 320/340	054192
0.32	0.25	30	-60 to 320/340	054177
0.32	0.5	30	-60 to 320/340	054216
0.32	1	30	-60 to 320/340	054189
0.32	0.5	50	-60 to 320/340	054187
0.32	1	50	-60 to 320/340	054193
0.32	0.25	60	-60 to 320/340	054178
0.32	1	60	-60 to 320/340	054188
0.53	1	12	-60 to 320/340	054197
0.53	1	15	-60 to 320/340	054194
0.53	1.5	15	-60 to 320/340	054199
0.53	1	25	-60 to 320/340	054198
0.53	0.5	30	-60 to 320/340	0541935
0.53	1	30	-60 to 320/340	054195
0.53	5	30	-60 to 280/300	054196
0.53	1.5	60	-60 to 280/300	054204

Expert Tip :
If the injection port temperature is not specified in the method, 250 °C is usually the recommended temperature.

GC Capillary Columns | 5% Phenyl Polysilphenylene-siloxane

BPX5



- High temperature.
- General purpose GC column – suitable for over 80% of all routine analyses performed by gas chromatography.
- Very low bleed – ideal for trace analysis.
- Non-polar.
- Extremely inert.
- Ideal for GC-MS.
- 360 – 370 °C upper temperature limit – dependent on film thickness.

Recommended column for General Purpose use.

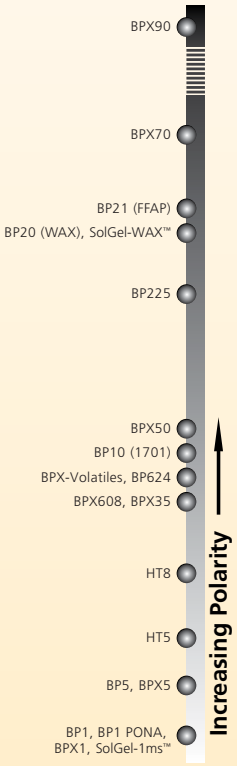
Especially Suitable for these Industries:	All Industries
Areas:	Ultra trace analyses, pesticides/herbicides, hydrocarbons, solvents, phenols, amines, GC/MS and other specific detector applications. Applications ENV62, ARO09, ENV20, ENV03, ENV48, ENV59, ENV84, FOO21, FLA14, FLA16, FLA15, FLA12 FLA13, ENV54, PET22, SOL33 PHA06, PHA08, PHA15.
Suitable Replacement for:	DB-5, DB-5ms, DB-5.625, XTI-5, Rtx-5ms, Ultra-2, HP-5, HP-5MS, HP5-TA, SPB-5, MDN-5S, CP-Sil8CB, Rxt-Sil 5MS, AT-5ms, VB-5, ZB-5, VF-5ms.

ID (mm)	Film Thickness (µm)	Length (m)	Temperature Limits (°C)	Part No.
0.1	0.1	10	-40 to 360/370	054099
0.15	1.2	10	-40 to 360/370	054106
0.15	0.25	12	-40 to 360/370	054103
0.15	0.4	12	-40 to 360/370	054107
0.15	0.25	25	-40 to 360/370	054104
0.15	0.4	25	-40 to 360/370	054108

Expert Tip :
If you're having problems with solvent focusing, or early eluting peaks seem broad or lopsided in splitless injection, then try using a column with a thicker film.

BPX5

ID (mm)	Film Thickness (µm)	Length (m)	Temperature Limits (°C)	Part No.
0.15	0.15	30	-40 to 360/370	054110
0.15	0.25	50	-40 to 360/370	054105
0.18	0.18	40	-40 to 360/370	054229
0.22	0.25	12	-40 to 360/370	054112
0.22	0.25	25	-40 to 360/370	054113
0.22	1	25	-40 to 360/370	054116
0.22	0.25	30	-40 to 360/370	054142
0.22	0.25	50	-40 to 360/370	054114
0.22	1	50	-40 to 360/370	054117
0.25	0.25	7	-40 to 360/370	054149
0.25	0.1	15	-40 to 360/370	0542170
0.25	0.25	15	-40 to 360/370	054100
0.25	1	15	-40 to 360/370	054121
0.25	0.1	30	-40 to 360/370	0541011
0.25	0.25	30	-40 to 360/370	054101
0.25	0.5	30	-40 to 360/370	0541025
0.25	1	30	-40 to 360/370	054122
0.25	0.25	60	-40 to 360/370	054102
0.25	1	60	-40 to 360/370	054123
0.32	1	6	-40 to 360/370	0541261
0.32	0.25	12	-40 to 360/370	054118
0.32	0.5	12	-40 to 360/370	054124
0.32	1	12	-40 to 360/370	054127
0.32	0.25	15	-40 to 360/370	054144
0.32	1	15	-40 to 360/370	054152
0.32	0.25	25	-40 to 360/370	054119
0.32	0.5	25	-40 to 360/370	054125
0.32	1	25	-40 to 360/370	054128
0.32	3	25	-40 to 350/360	054136
0.32	0.25	30	-40 to 360/370	054145
0.32	0.5	30	-40 to 360/370	0541205
0.32	1	30	-40 to 360/370	054153
0.32	0.25	50	-40 to 360/370	054120
0.32	0.5	50	-40 to 360/370	054126
0.32	1	50	-40 to 360/370	054129
0.32	0.25	60	-40 to 360/370	054146
0.32	1	60	-40 to 360/370	054154
0.53	0.25	12	-40 to 360/370	054133
0.53	1	12	-40 to 360/370	054130
0.53	3	12	-40 to 350/360	054138
0.53	0.5	15	-40 to 360/370	0541344
0.53	1	15	-40 to 360/370	054147
0.53	1.5	15	-40 to 350/360	0541347
0.53	3	15	-40 to 350/360	054159
0.53	0.25	25	-40 to 360/370	054134
0.53	1	25	-40 to 360/370	054131
0.53	3	25	-40 to 350/360	054139
0.53	0.5	30	-40 to 360/370	0541345
0.53	1	30	-40 to 360/370	054148
0.53	1.5	30	-40 to 350/360	0541348
0.53	3	30	-40 to 350/360	054160
0.53	1	50	-40 to 360/370	054132
0.53	1	60	-40 to 360/370	054158



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TECHNICAL ARTICLE

BPX5

The Universal Capillary Column

What is BPX5?

BPX5 is a 5% phenyl (equivalent) / 95% methyl polysilphenylene / siloxane phase.

Why use a 5% phenyl phase?

It is estimated that 80% of all analyses could be carried out on one column with one set of dimensions and film thickness. The 5% phenyl column is still a non-polar column but the small amount of phenyl content gives the phase a little edge in selectivity compared with the 100% methyl phases.

The non-polar phases tend to have lower bleed and are more robust compared with the more polar phases.

What can the BPX5 column be used for?

The BPX5 is a multi-purpose column which can be used for a range of applications from non-polar components (such as those in gasoline) to polar components such as amines, pesticides, triglycerides, drugs and polycyclic aromatic hydrocarbons.

For further information and details of conditions of the following chromatograms please request Publication No: AP-0069-C.

Figure 1. EPA Phenols (5ng)

Phenols

Phase: BPX5, 0.25µm
Column: 25m x 0.22mm I.D.

For conditions request Publication No: AP-0069-C.

1. Phenol
2. 2-Chlorophenol
3. 2-Nitrophenol
4. 2, 4-Dimethylphenol
5. 2, 4-Dichlorophenol
6. 4-Chloro-3-methylphenol
7. 2, 4, 6-Trichlorophenol
8. 2, 4- Dinitrophenol
9. 4-Nitrophenol
10. 2-Methyl-4, 6-Dinitrophenol
11. Pentachlorophenol

Part No. 054113

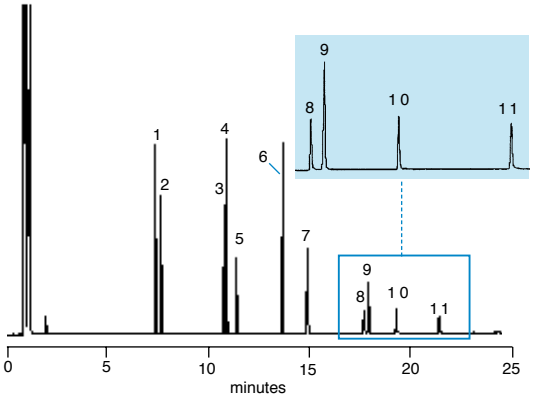


Figure 2. Triglycerides in Milk Fat

Triglycerides

Phase: BPX5, 0.25µm
Column: 12m x 0.53mm I.D.

For conditions request Publication No: AP-0069-C.

PEAK No.	TRIGLYCERIDE CARBON No.	COMPOSITION (%) *
1	T24	0.12
2	T26	0.41
3	T28	0.64
4	T30	1.30
5	T32	2.61
6	T34	5.99
7	T36	11.22
8	T38	13.49
9	T40	10.55
10	T42	7.36
11	T44	6.90
12	T46	7.10
13	T48	8.41
14	T50	10.49
15	T52	9.34
16	T54	3.95
17	T56	0.22

Part No. 054113

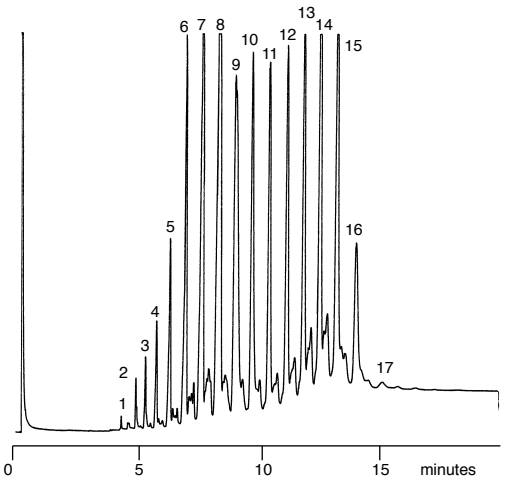
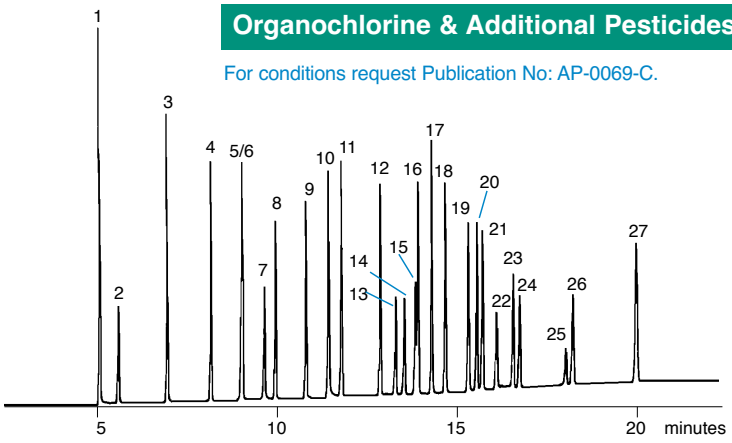


Figure 3. Analysis of EPA method 608 and additional Pesticides

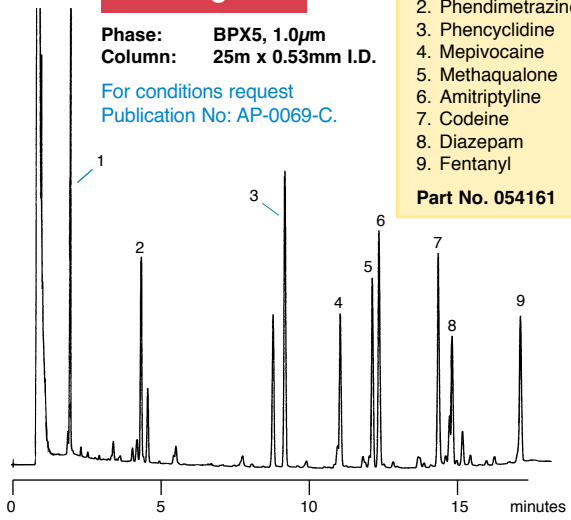


Phase: BPX5, 0.25µm
Column: 30m x 0.25mm ID

1. Etridiazol
2. Chloroneb
3. Trifluralin
4. alpha-BHC
5. gamma-BHC
6. beta-BHC
7. Chlorothalonil
8. delta-BHC
9. Heptachlor
10. Chloropyrifos
11. Aldrin
12. Heptachlorepoxide
13. Captan
14. gamma-Chlordane
15. alpha-Chlordane
16. Endosulfan I
17. Dieldrin
18. p,p-DDE
19. Endrin
20. Endosulfan II
21. p,p'-DDD
22. Endrin aldehyde
23. p,p'-DDT
24. Enosulfan sulfate
25. Endrin ketone
26. Methoxychlor
27. Mirex

Part No. 054101

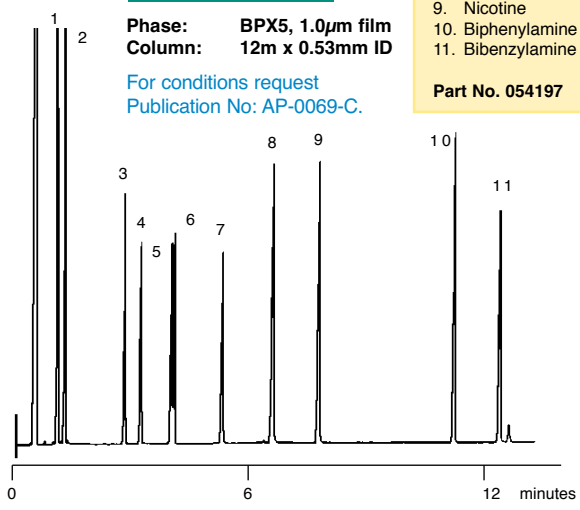
Figure 4. Basic Drug Screen (10-20ng/component)



1. Methamphetamine
2. Phendimetrazine
3. Phencyclidine
4. Mepivocaine
5. Methaqualone
6. Amitriptyline
7. Codeine
8. Diazepam
9. Fentanyl

Part No. 054161

Figure 5. Aromatic Amines



1. Pyridine
2. 2-Methyl Pyridine
3. Aniline
4. Benzylamine
5. o-Toluidine
6. m-Toluidine
7. 2,6-Dimethylaniline
8. 1,4-Phenyldiamine
9. Nicotine
10. Biphenylamine
11. Bibenzylamine

Part No. 054197

BPX5 CAPILLARY COLUMNS ORDERING INFORMATION

Description	Part No.	Description	Part No.
10m x 0.1mm ID - BPX5, 0.1µm	**054099**	60m x 0.22mm ID - BPX5, 0.25µm	**054143**
30m x 0.25mm ID - BPX5, 0.25µm	**054101**	15m x 0.32mm ID - BPX5, 0.25µm	**054144**
60m x 0.25mm ID - BPX5, 0.25µm	**054102**	30m x 0.32mm ID - BPX5, 0.25µm	**054145**
30m x 0.25mm ID - BPX5, 0.5µm	**0541025**	60m x 0.32mm ID - BPX5, 0.25µm	**054146**
50m x 0.15mm ID - BPX5, 0.25µm	**054105**	15m x 0.53mm ID - BPX5, 1µm	**054147**
30m x 0.32mm ID - BPX5, 0.5µm	**0541205**	30m x 0.53mm ID - BPX5, 1µm	**054148**
15m x 0.25mm ID - BPX5, 1µm	**054121**	15m x 0.32mm ID - BPX5, 1µm	**054152**
30m x 0.25mm ID - BPX5, 1µm	**054122**	30m x 0.32mm ID - BPX5, 1µm	**054153**
60m x 0.25mm ID - BPX5, 1µm	**054123**	60m x 0.32mm ID - BPX5, 1µm	**054154**
30m x 0.53mm ID - BPX5, 0.5µm	**0541345**	60m x 0.53mm ID - BPX5, 1µm	**054158**
15m X 0.53mm ID - BPX5,1.5µm	**0541347**	15m x 0.53mm ID - BPX5, 3µm	**054159**
30m x 0.53mm ID - BPX5, 1.5µm	**0541348**	30m x 0.53mm ID - BPX5, 3µm	**054160**
15m x 0.22mm ID - BPX5, 0.25µm	**054141**	60m x 0.53mm ID - BPX5, 3µm	**054164**
30m x 0.22mm ID - BPX5, 0.25µm	**054142**	**For the complete list of BPX5 columns request AP-0069-C**	