General Purpose Intermediate Polarity Capillary GC Columns

When to Use a General Purpose Column
Supelco's general purpose columns are ideal when the application does not demand the low bleed, selectivity, and high efficiency that our special purpose columns provide. Using a general purpose column may be a cost-effective way to perform preliminary investigations.

When to Use an Intermediate Polarity Column
If unable to separate critical compounds after trying non-polar and polar columns, the next step is to run the analysis on an intermediate polarity column. Intermediate polarity columns offer unique polarities that may separate critical compounds.

Column Choices
**SPB™-20**: The phenyl content, 20%, produces different elution order for polar compounds, making these columns ideal for providing confirmational identification.

**SPB-35**: The higher phenyl content, 35%, is useful for analyses of polar compounds, because these compounds are retained longer relative to non-polar compounds.

**Equity™-1701**: The mixed functionality, 14% cyanopropylphenyl, provides unique elution order characteristics relative to phenyl polymethylsiloxane phases.

**SPB-50**: These columns have the highest phenyl content, 50%, of the common phenyl-containing series of phases, making these columns useful for analyses of polar materials and providing confirmational information.

Common Industrial Solvents Analysis on Equity-1701

<table>
<thead>
<tr>
<th>Column</th>
<th>Oven Temperature</th>
<th>Injection Temperature</th>
<th>Carrier Gas</th>
<th>Injection Volume</th>
<th>Detectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity-1701</td>
<td>30 m x 0.32 mm I.D., 1.0 µm (28199-U)</td>
<td>35 °C (8 min.), 4 °C/min. to 130 °C (2 min.)</td>
<td>He, 25 cm/sec. constant @ 35 °C</td>
<td>0.5 µL, split 200:1</td>
<td>FID, 250 °C</td>
</tr>
</tbody>
</table>

**1. Methanol**
**2. Methyl formate**
**3. Ethanol**
**4. Acetone**
**5. 2-Propanol**
**6. Ethyl formate**
**7. 1,1-Dichloroethylene**
**8. Methylene chloride**
**9. Methyl acetate**
**10. 1-Propanol**
**11. trans-1,2-Dichloroethylene**
**12. 1,1-Dichloroethane**
**13. 2-Propanol**
**14. sec-Butanol**
**15. Hexane**
**16. Ethyl acetate**
**17. Chloroform**
**18. Tetrahydrofuran**
**19. Isobutanol**
**20. 2-Methoxyethanol**
**21. 1,2-Dichloroethane**
**22. 1,1,1-Trichloroethane**
**23. Isopropyl acetate**
**24. n-Butanol**
**25. Benzene**
**26. Carbon tetrachloride**
**27. 2-Nitropropane**
**28. Trichloroethylene**
**29. 1,4-Dioxane**
**30. 2-Ethoxyethanol**
**31. n-Propyl acetate**
**32. 4-Methyl-2-pentanone**
**33. Isopropyl alcohol**
**34. Dimethylformamide**
**35. Toluene**
**36. Isobutyl acetate**
**37. 2-Hexanone**
**38. Mesityl oxide**
**39. Tetrachloroethene**
**40. n-Butyl acetate**
**41. Diacetone alcohol**
**42. Chlorobenzene**
**43. 5-Methyl-2-hexanone**
**44. Ethyl benzene**
**45. m-Xylene**
**46. p-Xylene**
**47. Isoamyl acetate**
**48. Cyclohexanol**
**49. Styrene**
**50. o-Xylene**
**51. 1,1,2,2-Tetrachloroethane**
**52. 2-Ethoxyethyl acetate**
**53. Butyl cellosolve**
**54. n-Amyl acetate isomers**
**55. 2-Methylcyclohexanol isomers**
**56. 1,2-Dichlorobenzene**
**57. 2-Ethoxyethanol (Cellosolve®)**
**58. 4-Methyl-2-pentanone**
**59. Isobutanol**

G001999
General Purpose Capillary Columns Offer...

- individual testing for efficiency, inertness, and retention
- a report showing the column performance before it left Supelco
- compact foam lined packaging that takes up less shelf space and protects the column during shipping and storage
- a compact, specially designed cage that minimizes column wear and fits better in newer, smaller ovens

**SPB-20**

Phase: bonded; poly(20% diphenyl/80% dimethylsiloxane)

Temp. Limits: -25 °C to 300 °C

<table>
<thead>
<tr>
<th>Length (m)</th>
<th>D_i (µm)</th>
<th>Beta</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>250</td>
<td>24086</td>
</tr>
<tr>
<td>0.32 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>63</td>
<td>24196-U</td>
</tr>
<tr>
<td>0.53 mm I.D. Fused Silica</td>
<td>0.50</td>
<td>265</td>
<td>25329-U</td>
</tr>
</tbody>
</table>

**SPB-35**

Phase: bonded; poly(35% diphenyl/65% dimethylsiloxane)

Temp. Limits: 0 °C to 300 °C

<table>
<thead>
<tr>
<th>Length (m)</th>
<th>D_i (µm)</th>
<th>Beta</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>250</td>
<td>24092</td>
</tr>
<tr>
<td>0.32 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>320</td>
<td>24094</td>
</tr>
<tr>
<td>0.53 mm I.D. Fused Silica</td>
<td>0.50</td>
<td>265</td>
<td>25331</td>
</tr>
</tbody>
</table>

**SPB-50**

Phase: bonded; poly(50% diphenyl/50% dimethylsiloxane)

Temp. Limits: 30 °C to 310 °C

<table>
<thead>
<tr>
<th>Length (m)</th>
<th>D_i (µm)</th>
<th>Beta</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>250</td>
<td>24181</td>
</tr>
<tr>
<td>0.32 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>320</td>
<td>24187</td>
</tr>
<tr>
<td>0.53 mm I.D. Fused Silica</td>
<td>0.50</td>
<td>265</td>
<td>25363</td>
</tr>
</tbody>
</table>

**Equity-1701**

Phase: bonded; poly(14% cyanopropylphenyl/86% dimethylsiloxane)

Temp. Limits: 0.25 and 0.32 mm I.D.: subambient to 280 °C
0.53 mm I.D.: subambient to 260 °C

<table>
<thead>
<tr>
<th>Length (m)</th>
<th>D_i (µm)</th>
<th>Beta</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>250</td>
<td>28343-U</td>
</tr>
<tr>
<td>0.32 mm I.D. Fused Silica</td>
<td>0.25</td>
<td>320</td>
<td>28381-U</td>
</tr>
<tr>
<td>0.53 mm I.D. Fused Silica</td>
<td>0.5</td>
<td>265</td>
<td>28399-U</td>
</tr>
</tbody>
</table>

**Trademarks**

Equity, SPB, Supelco — Sigma-Aldrich Co.
Cellosolve — Union Carbide Corp.

For expert answers to your questions contact our Technical Service Department:

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