



Featured Application: Semivolatiles on Rxi-SVOCms

Improve Semivolatiles Method Performance with Rxi-SVOCms Columns

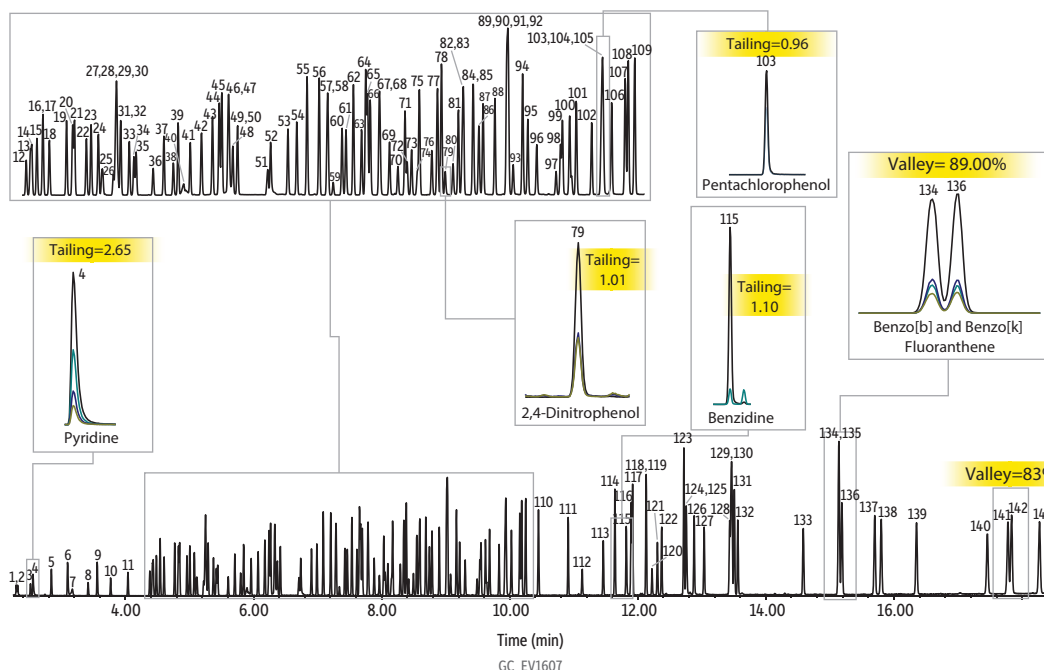
- Ensure accuracy and sensitivity with good peak shape, response, and resolution.
- Highly inert, ultra-low bleed column provides excellent results for active compounds at trace levels.
- Increase productivity with stable calibrations and consistent column-to-column performance.

Semivolatiles methods are essential parts of environmental testing programs, yet they can be difficult for labs to run efficiently because target analyte lists are extensive, and they contain different types of reactive compounds. To accurately report semivolatiles, particularly reactive ones, highly inert columns must be used to ensure good chromatography and stable calibrations. Rxi-SVOCms columns, which are designed specifically for semivolatiles analysis, feature optimized selectivity, exceptional inertness, and very low bleed, characteristics that result in improved analytical performance and increased lab productivity.

As shown below, good peak shapes and responses are obtained for a diverse array of reactive compounds, including acidic phenols (penta-chlorophenol and dinitrophenol) and amines (benzidine and pyridine), analytes that are typically problematic in semivolatiles methods. Split injection is used here and recommended because it minimizes the accumulation of active sites created by matrix components during actual sample analysis. Because the Rxi-SVOCms column is so inert, tailing is minimized, which improves peak shape and response, making accurate integration easy and reliable. Better chromatographic performance improves sensitivity and reproducibility, so calibrations pass for longer periods of time, and more samples can be analyzed before recalibration is needed.

In addition to improved performance for both basic and acidic reactive compounds, excellent resolution is seen for the neutral polycyclic aromatic hydrocarbons (PAH) that are most troublesome in semivolatiles methods. Critical pairs, such as indeno[1,2,3-cd]pyrene and dibenz[a,h]anthracene as well as benzo[b]fluoranthene and benzo[k]fluoranthene, are well resolved on the Rxi-SVOCms column, allowing for positive identification and accurate reporting. Consistent, high-quality chromatography makes using Rxi-SVOCms columns an effective way for labs to improve the performance of semivolatiles methods.

Figure 1: Rxi-SVOCms columns provide outstanding chromatographic performance, producing good peak shape and resolution for problematic compounds.



Peaks	t _r (min)	Peaks	t _r (min)	Peaks	t _r (min)	Peaks	t _r (min)	Peaks	t _r (min)
1. (IS) 1,4-Dioxane-d8	2.30	30. Acetophenone	5.25	58. 1,2,4,5-Tetrachlorobenzene	7.29	87. 2-Naphthalamine	8.79	116. (SS) Pyrene-D10	11.90
2. 1,4-Dioxane	2.32	31. 4-Nitrosomorpholine	5.27	59. Isosafrole	7.34	88. Diethyl phthalate	8.90	117. Pyrene	11.92
3. N-Nitrosodimethylamine	2.52	32. o-Toluidine	5.29	60. 2,4,6-Trichlorophenol	7.43	89. Fluorene	9.01	118. (SS) p-Terphenyl-d14	12.13
4. Pyridine	2.56	33. Hexachloroethane	5.37	61. 2,4,5-Trichlorophenol	7.47	90. 4-Chlorophenyl phenyl ether	9.03	119. Aramite-1	12.13
5. Ethyl methacrylate	2.85	34. (SS) Nitrobenzene-D5	5.42	62. (SS) 2-Fluorobiphenyl	7.54	91. 2-Methyl-5-nitroaniline	9.03	120. Aramite-2	12.22
6. 2-Picoline	3.10	35. Nitrobenzene	5.44	63. Safrole	7.62	92. 4-Nitroaniline	9.03	121. Dimethylaminoazobenzene	12.31
7. N-Nitrosomethylmethanamine	3.16	36. N-Nitrosopiperidine	5.60	64. Biphenyl	7.65	93. 4,6-Dinitro-2-methylphenol	9.08	122. 4,4'-Dichlorobenzilate	12.37
8. Methyl methanesulfonate	3.42	37. Isophorone	5.71	65. 2-Chloronaphthalene	7.67	94. N-Nitrosodiphenylamine	9.17	123. 3,3'-Dimethylbenzidine	12.72
9. (SS) 2-Fluorophenol	3.56	38. 2-Nitrophenol	5.80	66. 1-Chloronaphthalene	7.70	95. N,N-Diphenylhydrazine	9.22	124. Butyl benzyl phthalate	12.75
10. N-Nitrosodiethylamine	3.77	39. 2,4-Dimethylphenol	5.85	67. Diphenyl ether	7.79	96. (SS) 2,4,6-Tribromophenol	9.30	125. Kepone	12.77
11. Ethyl methanesulfonate	4.04	40. Benzoic acid	5.91	68. 2-Nitroaniline	7.79	97. 1,3,5-Trinitrobenzene	9.49	126. Bis(2-ethylhexyl) adipate	12.88
12. Benzaldehyde	4.38	41. Bis(2-chloroethoxy)methane	5.96	69. 1,4-Naphthoquinone	7.88	98. Diallate	9.54	127. 2-(Acetylmino)fluorene	13.04
13. (SS) Phenol-d6	4.42	42. 2,4-Dichlorophenol	6.07	70. 1,2-Dinitrobenzene	7.97	99. Phenacetin	9.55	128. 3,3'-Dichlorobenzidine	13.43
14. Phenol	4.44	43. 1,2,4-Trichlorobenzene	6.18	71. Dimethyl phthalate	8.03	100. 4-Bromophenyl phenyl ether	9.62	129. Benz[a]anthracene	13.46
15. Aniline	4.48	44. (IS) Naphthalene-D8	6.24	72. 1,3-Dinitrobenzene	8.05	101. Hexachlorobenzene	9.69	130. (IS) Chrysene-D12	13.47
16. Bis(2-chloroethyl) ether	4.54	45. Naphthalene	6.27	73. 2,6-Dinitrotoluene	8.10	102. Atrazine	9.83	131. Chrysene	13.51
17. Pentachloroethane	4.54	46. 4-Chloroaniline	6.33	74. 1,4-Dinitrobenzene	8.15	103. Pentachlorophenol	9.93	132. Bis(2-ethylhexyl) phthalate	13.56
18. 2-Chlorophenol	4.60	47. 2,6-Dichlorophenol	6.34	75. Acenaphthylene	8.17	104. 4-Aminobiphenyl	9.94	133. Di-n-octyl phthalate	14.58
19. 1,3-Dichlorobenzene	4.77	48. Hexachloropropene	6.37	76. 3-Nitroaniline	8.29	105. Pentachloronitrobenzene	9.94	134. Benzo[b]fluoranthene	15.14
20. (IS) 1,4-Dichlorobenzene-D4	4.83	49. Hexachlorobutadiene	6.42	77. (IS) Acenaphthene-d10	8.35	106. Propylamide	10.03	135. 7,12-Dimethylbenzo[a]anthracene	15.14
21. 1,4-Dichlorobenzene	4.85	50. α,α-Dimethylphenethylamine	6.43	78. Acenaphthene	8.39	107. (IS) Phenanthrene-D10	10.16		
22. Benzyl alcohol	4.96			79. 2,4-Dinitrophenol	8.42	108. Phenanthrene	10.19	136. Benzo[k]fluoranthene	15.19
23. 1,2-Dichlorobenzene	5.01	51. Caprolactam	6.71	80. 4-Nitrophenol	8.50	109. Anthracene	10.25	137. Benzo[a]pyrene	15.70
24. 2-Methylphenol	5.08	52. N-Nitroso-N-butylamine	6.74	81. Pentachlorobenzene	8.55	110. Carbazole	10.45	138. (IS) Perylene-D12	15.80
25. Bis(2-chloroisopropyl)ether	5.12	53. 4-Chloro-3-methylphenol	6.91	82. 2,4-Dinitrotoluene	8.58	111. di-n-Butyl phthalate	10.91	139. 3-Methylcholanthrene	16.35
26. Nitrosopyrrolidine	5.22	54. Isosafrole	6.99	83. Dibenzofuran	8.60	112. 4-Nitroquinoline 1-oxide	11.13	140. Dibenz[a,j]acridine	17.46
27. 4-Methylphenol	5.24	55. 2-Methylnaphthalene	7.09	84. 1-Naphthalamine	8.69	113. Isodrin	11.46	141. Indeno[1,2,3-cd]pyrene	17.78
28. 3-Methylphenol	5.24	56. 1-Methylnaphthalene	7.21	85. 2,3,5,6-Tetrachlorophenol	8.69	114. Fluoranthene	11.64	142. Dibenz[a,h]anthracene	17.84
29. N-Nitrosodi-N-propylamine	5.25	57. Hexachlorocyclopentadiene	7.28	86. 2,3,4,6-Tetrachlorophenol	8.75	115. Benzidine	11.82	143. Benzo[ghi]perylene	18.27

Column Rxi-SVOCms, 30 m, 0.25 mm ID, 0.25 µm (cat.# 16623)
Standard/Sample Revised SV internal standard mix (cat.# 31886)
 Revised B/N surrogate mix (cat.# 31888)
 Acid surrogate mix (cat.# 31063)
 8270 MegaMix standard (cat.# 31850)
 8270 Benzidines mix (cat.# 31852)
 Benzoic acid (cat.# 31879)
 Appendix IX mix #1, Revised (cat.# 32459)
 Appendix IX mix #2 (cat.# 31806)
Diluent: Dichloromethane
Conc.: 20 ng/µL
Injection
 Inj. Vol.: 1 µL split (split ratio 10:1)
 Liner: Topaz 4.0 mm ID single taper inlet liner with wool (cat.# 23303)
 Inj. Temp.: 250 °C
 Split Vent Flow Rate: 12 mL/min
Oven
 Oven Temp.: 40 °C (hold 0.5 min) to 280 °C at 20 °C/min to 330 °C at 6 °C/min (hold 4 min)
Carrier Gas
 Flow Rate: He, constant flow
 1.2 mL/min
Detector
 Mode: MS
 Scan

Scan Program:

Group	Start Time (min)	Scan Range (amu)	Scan Rate (scans/sec)
1	1.55	35-550	5.4

Transfer Line Temp.: 280 °C
 Analyzer Type: Quadrupole
 Source Type: Extractor
 Extractor Lens: 6 mm ID
 Source Temp.: 330 °C
 Quad Temp.: 150 °C
 Electron Energy: 70 eV
 Solvent Delay Time: 1.55 min
 Tune Type: DFTPP
 Ionization Mode: EI
Instrument Agilent 7890B GC & 5977A MSD
Sample Preparation Samples were aliquoted into amber 2 mL, 9 mm short-cap, screw-thread vials (cat.# 21143) containing glass Big Mouth inserts (cat.# 21782) and sealed with 2.0 mL, 9 mm short-cap, screw-vial closures (cat.# 23842).

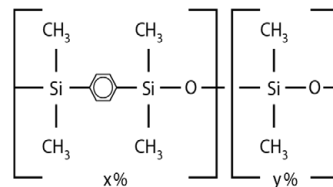
Featured Products

Reference Standards	Sample Handling	Analytical Column	Maintenance/Accessories
 Revised SV internal standard mix (cat.# 31886) Revised B/N surrogate mix (cat.# 31888) Acid surrogate mix (cat.# 31063) 8270 MegaMix standard (cat.# 31850) 8270 Benzidines mix (cat.# 31852) Benzoic acid (cat.# 31879) Appendix IX mix #1, Revised (cat.# 32459) Appendix IX mix #2 (cat.# 31806)	 Amber 2.0 mL, 9 mm short-cap, screw-thread vials (cat.# 21143) Big mouth vial inserts (cat.# 21782) 2.0 mL, 9 mm short-cap, screw-vial caps (cat.# 23842) 2.0 mL, 11 mm Crimp Vial Convenience Kits Resprep Resin SPE Disks (cat.# 26023) Resprep C18 & C8 SPE Disks (cat. # 24004, 24048, and 25988) ASE Cells ASE Caps & Parts	 Rxi-SVOCms, 30 m, 0.25 mm ID, 0.25 µm (cat.# 16623) Rxi Guard Columns	 SilTite µ-Union connectors Topaz 4.0mm ID single taper liner with wool (cat.# 23303) GC-MS Cleaning Kit (cat.# 27194) Leak Detector (cat.# 28500)

Rxi-SVOCms Columns (fused silica)

Proprietary 5% phenyl-type-phase

- Column chemistry optimized specifically to give premium performance for semivolatiles in complex matrices.
- Long column lifetime—restore performance with a quick trim instead of a time-consuming replacement.
- Outstanding inertness keeps calibrations passing and samples running.
- Excellent resolution of critical pairs for improved accuracy.
- Consistent column-to-column performance.
- Engineered to be a low-bleed GC-MS column.
- Temperature range: -60 °C to 340 °C.
- Equivalent to USP G27 and G36 phases.



ID	df	Length	Temp. Limits	qty.	Similar to Part #	cat.#
0.25 mm	0.25 µm	30 m	to 340/340 °C	ea.	Agilent 122-9732; Phenomenex 7HG-G027-11	16623

Other dimensions available at www.restek.com/Rxi-SVOCms



Rxi Guard/Retention Gap Columns (fused silica)

ID	Length	OD	qty.	Similar to Part #	cat.#
0.25 mm	5 m	0.37 ± 0.04 mm	ea.	Agilent CP802505; Phenomenex TAG-G000-00-GZO	10029
	5 m	0.37 ± 0.04 mm	6-pk.		10029-600
	10 m	0.37 ± 0.04 mm	ea.	Agilent CP802510; Phenomenex TCG-G000-00-GZO	10059
	10 m	0.37 ± 0.04 mm	6-pk.		10059-600
0.32 mm	5 m	0.45 ± 0.04 mm	ea.	Agilent CP803205; Phenomenex TAM-G000-00-GZO	10039
	5 m	0.45 ± 0.04 mm	6-pk.		10039-600
	10 m	0.45 ± 0.04 mm	ea.	Agilent CP803210; Phenomenex TCM-G000-00-GZO	10064
	10 m	0.45 ± 0.04 mm	6-pk.		10064-600



SGE SilTite μ-Union Connectors

- Reliably create permanent connections between fused silica analytical columns, guard columns, and retention gaps.
- SilTite FingerTite technology provides easy installation and a permanent leak-tight connection.
- Deactivated metal and zero-dead-volume design ensure optimal peak shapes.
- Robust connection is stable through extreme temperature and pressure cycling, making it ideal for use with mass spectrometers.

Includes	Fits Column ID	Vendor cat.#	qty.	cat.#
μ-Union connectors (2); double taper ferrules (5); and installation tools	0.32 mm to 0.32 mm	073563RE	kit	23882
μ-Union connectors (2); double taper ferrules (5); and installation tools	0.18/0.25 mm to 0.18/0.25 mm	073560RE	kit	23885
μ-Union connectors (2); double taper ferrules (5); and installation tools	0.18/0.25 mm to 0.32 mm	073561RE	kit	23886

Topaz 4.0 mm ID Single Taper Inlet Liner w/ Wool

for Agilent GCs equipped with split/splitless inlets



ID x OD x Length	Packing	qty	Similar to Part #	cat.#
4.0 mm x 6.5 mm x 78.5 mm	Quartz Wool	5-pk.	Agilent 5062-3587 (ea.); 5183-4693 (5-pk.); 5183-4694 (25-pk.); 5190-2293 (ea.); 5190-3163 (5-pk.); 5190-3167 (25-pk.); 5190-3171 (100-pk.)	23303

Revised SV Internal Standard Mix

(7 components)

Acenaphthene-d10 (15067-26-2)
 Chrysene-d12 (1719-03-5)
 1,4-Dichlorobenzene-d4 (3855-82-1)
 1,4-Dioxane-d8 (17647-74-4)

Naphthalene-d8 (1146-65-2)
 Perylene-d12 (1520-96-3)
 Phenanthrene-d10 (1517-22-2)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
4000 µg/mL each in methylene chloride, 1 mL/ampul	Yes	6 months	71 months	Ambient	10 °C or colder	ea.	31886



Revised B/N Surrogate Mix

(4 components)

2-Fluorobiphenyl (321-60-8)
Nitrobenzene-d5 (4165-60-0)

p-Terphenyl-d14 (1718-51-0)
Pyrene-d10 (1718-52-1)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
5000 µg/mL each in methylene chloride, 1 mL/ampul	Yes	6 months	71 months	Ambient	10 °C or colder	ea.	31888



Acid Surrogate Mix (4/89 SOW)

(3 components)

2-Fluorophenol (367-12-4)
Phenol-d6 (13127-88-3)

2,4,6-Tribromophenol (118-79-6)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
10,000 µg/mL each in methanol, 1 mL/ampul	Yes	6 months	60 months	Ambient	10 °C or colder	ea.	31063

8270 MegaMix Standard

(76 components)

Acenaphthene (83-32-9)
Acenaphthylene (208-96-8)
Aniline (62-53-3)
Anthracene (120-12-7)
Azobenzene (103-33-3)*
Benz[a]anthracene (56-55-3)
Benzo[a]pyrene (50-32-8)
Benzo[b]fluoranthene (205-99-2)
Benzo[g,h,i]perylene (191-24-2)
Benzo[k]fluoranthene (207-08-9)
Benzyl alcohol (100-51-6)
Benzyl butyl phthalate (85-68-7)
Bis(2-chloroethoxy)methane (111-91-1)
Bis(2-chloroethyl)ether (111-44-4)
Bis(2-ethylhexyl)adipate (103-23-1)
Bis(2-ethylhexyl)phthalate (117-81-7)
4-Bromophenyl phenyl ether (101-55-3)
Carbazole (86-74-8)
4-Chloroaniline (106-47-8)
4-Chloro-3-methylphenol (59-50-7)
2-Chloronaphthalene (91-58-7)
2-Chlorophenol (95-57-8)
4-Chlorophenyl phenyl ether (7005-72-3)
Chrysene (218-01-9)
Dibenz[a,h]anthracene (53-70-3)
Dibenzofuran (132-64-9)
1,2-Dichlorobenzene (95-50-1)
1,3-Dichlorobenzene (541-73-1)
1,4-Dichlorobenzene (106-46-7)
2,4-Dichlorophenol (120-83-2)
Diethylphthalate (84-66-2)
2,4-Dimethylphenol (105-67-9)
Dimethylphthalate (131-11-3)
Di-*n*-butyl phthalate (84-74-2)
1,2-Dinitrobenzene (528-29-0)
1,3-Dinitrobenzene (99-65-0)
1,4-Dinitrobenzene (100-25-4)
4,6-Dinitro-2-methylphenol (Dinitro-*o*-cresol) (534-52-1)

2,4-Dinitrophenol (51-28-5)
2,4-Dinitrotoluene (121-14-2)
2,6-Dinitrotoluene (606-20-2)
Di-*n*-octyl phthalate (117-84-0)
Diphenylamine (122-39-4)**
Fluoranthene (206-44-0)
Fluorene (86-73-7)
Hexachlorobenzene (118-74-1)
Hexachlorobutadiene (87-68-3)
Hexachlorocyclopentadiene (77-47-4)
Hexachloroethane (67-72-1)
Indeno[1,2,3-*cd*]pyrene (193-39-5)
Isophorone (78-59-1)
1-Methylnaphthalene (90-12-0)
2-Methylnaphthalene (91-57-6)
2-Methylphenol (*o*-cresol) (95-48-7)
3-Methylphenol (*m*-cresol) (108-39-4)
4-Methylphenol (*p*-cresol) (106-44-5)
Naphthalene (91-20-3)
2-Nitroaniline (88-74-4)
3-Nitroaniline (99-09-2)
4-Nitroaniline (100-01-6)
Nitrobenzene (98-95-3)
2-Nitrophenol (88-75-5)
4-Nitrophenol (100-02-7)
N-Nitrosodimethylamine (62-75-9)
N-Nitroso-di-*n*-propylamine (621-64-7)
2,2'-Oxybis(1-chloropropane) (108-60-1)
Pentachlorophenol (87-86-5)
Phenanthrene (85-01-8)
Phenol (108-95-2)
Pyrene (129-00-0)
Pyridine (110-86-1)
2,3,4,6-Tetrachlorophenol (58-90-2)
2,3,5,6-Tetrachlorophenol (935-95-5)
1,2,4-Trichlorobenzene (120-82-1)
2,4,5-Trichlorophenol (95-95-4)
2,4,6-Trichlorophenol (88-06-2)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1000 µg/mL each in methylene chloride (3-methylphenol and 4-methylphenol at 500 µg/mL), 1 mL/ampul	Yes	6 months	18 months	Ambient	0 °C or colder	ea.	31850

*1,2-diphenylhydrazine (8270-listed analyte) decomposes to azobenzene (mix component) in the injector.

**N-nitrosodiphenylamine (8270-listed analyte) decomposes to diphenylamine (mix component) in the injector.



Easier calibration! 8270 MegaMix and 8270 Matrix Spike Mix include 3-methylphenol and 4-methylphenol at 1/2x concentration of other components.



8270 Benzidines Mix

(3 components)

Benzidine (92-87-5)

3,3'-Dichlorobenzidine (91-94-1)

3,3'-Dimethylbenzidine (*o*-tolidine) (119-93-7)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
2000 µg/mL each in methylene chloride, 1 mL/ampul	Yes	6 months	55 months	Ambient	10 °C or colder	ea.	31852

Benzoic Acid

Benzoic acid (65-85-0)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
65-85-0	2000 µg/mL in methylene chloride, 1 mL/ampul	Yes	6 months	48 months	Ambient	10 °C or colder	ea.	31879

Appendix IX Mix #1, Revised

(17 components)

2-Acetylaminofluorene (53-96-3)

4-Aminobiphenyl (92-67-1)

p-Dimethylaminoazobenzene (60-11-7)

3,3'-Dimethylbenzidine (*o*-tolidine) (119-93-7)

α,α -Dimethylphenethylamine (phentermine) (122-09-8)

1-Naphthylamine (1-aminonaphthalene) (134-32-7)

2-Naphthylamine (2-aminonaphthalene) (91-59-8)

N-Nitrosodibutylamine (924-16-3)

N-Nitrosodiethylamine (55-18-5)

N-Nitrosomethylethylamine (10595-95-6)

N-Nitrosomorpholine (59-89-2)

N-Nitrosopiperidine (100-75-4)

N-Nitrosopyrrolidine (930-55-2)

5-Nitro-*o*-toluidine (99-55-8)

1,4-Phenylenediamine (106-50-3)

2-Picoline (109-06-8)

o-Toluidine (95-53-4)

Conc. in Solvent	CRM?	DEA Status	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
2000 µg/mL each in methylene chloride, 1 mL/ampul	Yes	Exempt	6 months	55 months	Ambient	0 °C or colder	ea.	32459

Appendix IX Mix #2

(32 components)

Acetophenone (98-86-2)

Aramite (140-57-8)

Atrazine (1912-24-9)

Benzaldehyde (100-52-7)

Biphenyl (92-52-4)

ϵ -Caprolactam (105-60-2)

Chlorobenzilate (510-15-6)

1-Chloronaphthalene (90-13-1)

Diallate (2303-16-4)

Dibenz[*a,j*]acridine (224-42-0)

2,6-Dichlorophenol (87-65-0)

7,12-Dimethylbenz[*a*]anthracene (57-97-6)

1,4-Dioxane (123-91-1)

Diphenyl ether (101-84-8)

Ethyl methacrylate (97-63-2)

Ethyl methanesulfonate (62-50-0)

Hexachloropropene (1888-71-7)

Isodrin (465-73-6)

Isosafrole (*cis* & *trans*) (120-58-1)

Kepone (143-50-0)

3-Methylcholanthrene (56-49-5)

Methyl methanesulfonate (66-27-3)

1,4-Naphthoquinone (130-15-4)

4-Nitroquinoline-N-oxide (56-57-5)

Pentachlorobenzene (608-93-5)

Pentachloroethane (76-01-7)

Pentachloronitrobenzene (Quintozone) (82-68-8)

Phenacetin (62-44-2)

Propylamide (23950-58-5)

Safrole (94-59-7)

1,2,4,5-Tetrachlorobenzene (95-94-3)

1,3,5-Trinitrobenzene (99-35-4)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1000 µg/mL each in methylene chloride, 1 mL/ampul	Yes	6 months	18 months	Ambient	0 °C or colder	ea.	31806

Resprep-C18 and Resprep-C8 SPE Disks

Description	Diameter	Packing	qty.	cat.#
Resprep SPE Disks	47 mm	Resprep-C8	24-pk.	24048
	47 mm	Resprep-C18	20-pk.	24004
	90 mm	Resprep-C18	12-pk.	25988



24048

Resprep disks & flow filters extract analytes of interest at high flow rates and significantly reduce clogging.

Extraction Cell Bodies

for ASE Systems

Description	Instrument	Material	Volume	qty.	Similar to Part #	cat.#
Extraction Cell Body	for ASE 150/350	Stainless Steel	1 mL	ea.	Thermo/Dionex 068261	25993
	for ASE 200	Stainless Steel	1 mL	ea.	Thermo/Dionex 054973	26110
	for ASE 150/350	Stainless Steel	5 mL	ea.	Thermo/Dionex 068262	25994
	for ASE 200	Stainless Steel	5 mL	ea.	Thermo/Dionex 054974	26112
	for ASE 150/350	Stainless Steel	10 mL	ea.	Thermo/Dionex 068263	25995
	for ASE 200	Stainless Steel	11 mL	ea.	Thermo/Dionex 048820	26114
	for ASE 150/350	Stainless Steel	22 mL	ea.	Thermo/Dionex 068264	25996
	for ASE 200	Stainless Steel	22 mL	ea.	Thermo/Dionex 048821	26098
	for ASE 200	Stainless Steel	33 mL	ea.	Thermo/Dionex 048822	26116
	for ASE 100/300 and 150/350	Stainless Steel	34 mL	ea.	Thermo/Dionex 056646	26176
	for ASE 100/300 and 150/350	Stainless Steel	66 mL	ea.	Thermo/Dionex 056696	26178
	for ASE 100/300 and 150/350	Stainless Steel	100 mL	ea.	Thermo/Dionex 056693	26132



For our full line of SPE and ASE sample extraction products, visit www.restek.com

2.0 mL, 9 mm Short-Cap, Screw-Thread Vials (vial only)

Fit all 2.0 mL, 12 x 32 mm, screw-thread 9 mm/425 vial-based autosamplers.

Description	Type	Volume	Color	Size	qty.	Similar to Part #	cat.#
Short-Cap Vial, w/White Graduated Marking Spot	9-425 Screw-Thread	2.0 mL	Amber	12 x 32 mm	1000-pk.	Agilent 5183-2069	21143



Inserts for 2.0 mL, 11 mm Crimp-Top, 2.0 mL, 9 mm Short-Cap, Screw-Thread, and 2.0 mL, 10 mm Big Mouth Screw-Thread Vials

Description	Volume	Material	Used with	qty.	cat.#
Big Mouth Insert, w/Bottom Spring	50 µL	Glass	2.0 mL, 11 mm Crimp-Top, 2.0 mL, 9 mm Short-Cap, Screw-Thread Vials	1000-pk.	21782



2.0 mL, 9 mm Short-Cap, Screw-Vial Closures (Polypropylene, preassembled)

Type	Cap Size	Color	Septa Material	qty.	cat.#
Ribbed, Screw-Thread	9-425	Blue	PTFE/Silicone, for Agilent 7693A	1000-pk.	23842



24668

2.0 mL, 11 mm Crimp Vial Convenience Kits (Vials, Caps, & Septa)

Vials packaged in a clear-lid tray. Caps with septa packaged in a plastic bag.

Description	Includes	qty.	cat.#
Crimp Vial Convenience Kit,	Clear 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	100-pk.	24671
	Clear 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	1000-pk.	24672
	Amber 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	100-pk.	24673
	Amber 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	1000-pk.	24674
	Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	100-pk.	21196
	Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	1000-pk.	21197
	Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	100-pk.	21198
	Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	1000-pk.	21199
	Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	100-pk.	24646
	Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	1000-pk.	24647
	Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	100-pk.	24648
	Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	1000-pk.	24649



21196

Restek Electronic Leak Detector

New and improved! Prevent small leaks from causing big problems with a Restek leak detector.

- Detects a broad range of gases and indicates leak severity with both an LED display and audible tone.
- No more waiting for a full charge—can be operated during charging or used up to 12 hours between charges.
- Charging kit includes both universal AC power adaptor and USB charging cable, so you can charge anywhere, anytime.
- Pinpoint very small gas leaks quickly and accurately before they cause damage and downtime.
- Compact, handheld unit is easy to operate and convenient to use anywhere you need to check for leaks.



28500

Description	Includes	qty.	cat.#
Restek Electronic Leak Detector	carrying case, universal AC power adaptor [U.S., UK, Europe, Australia, Japan], 6-ft USB charging cable	ea.	28500

Avoid using liquid leak detectors on a GC! Liquids can be drawn into the system and/or into the leak detector.

*Caution: The Restek electronic leak detector should only be used to detect trace amounts of hydrogen in a noncombustible environment. It is NOT designed for determining leaks in a combustible environment. A combustible gas detector should be used for determining combustible gas leaks under any condition. When using it to detect hydrogen, the Restek electronic leak detector may only be used for determining trace amounts in a GC environment.

GC-MS Cleaning Kit

Poor sensitivity, loss of sensitivity at high masses, or high multiplier gain during an auto-tune are all indicators that your mass spectrometer source may need to be cleaned. Restek has assembled all of the necessary components for cleaning and polishing your ion source.

Description	qty.	cat.#
Mass Spec Cleaning Kit with Rotary Tool	kit	27194

Note: cat.# 27194 contains a rotary tool with a rechargeable Li-ion battery that requires a 110 V power supply and a US-style (Type A) outlet to charge.



27194