

# Volatile Organics US EPA Method 8021 Rtx®-VGC

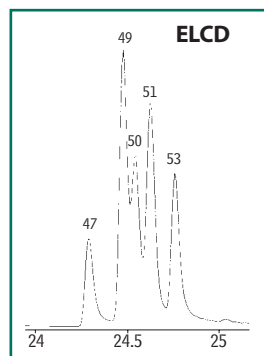
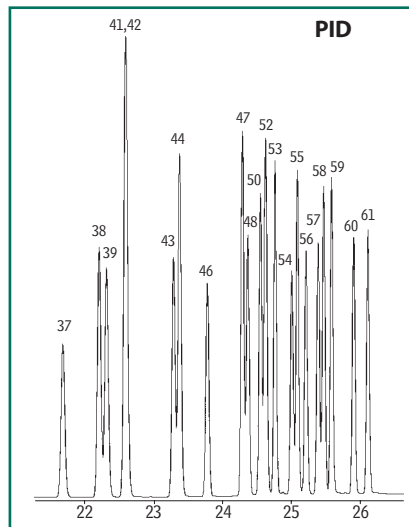
Primary column, dual-column analysis. Polymer specially designed for volatiles analysis by PID/ELCD.

## Rtx®-VGC

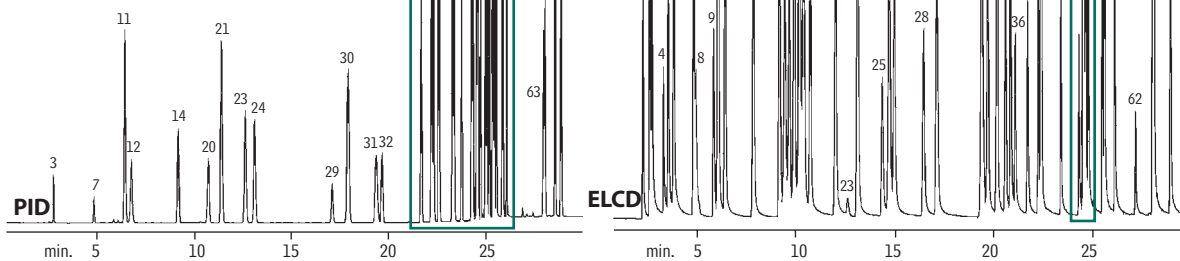
75m, 0.45mm ID, 2.55µm (cat.# 19409)

restek  
**innovation!**

- 35°C starting temperature for better resolution of early-eluting compounds.
- Excellent resolution of trihalomethanes.



Freon® 113  
included  
(peak 8)



GC\_EV00416

20ppb in 5mL of RO water.

Column: 75m, 0.45mm ID, 2.55µm Rtx®-VGC (cat.# 19409)  
Confirmation column: 75m, 0.45mm ID, 2.55µm Rtx®-VRX (cat.# 19309)  
Concentrator: Tekmar LSC-3000 Purge and Trap  
Trap: Vocab™ 3000  
Purge: 11 min. @ 40mL/min.  
Dry purge: 1 min. @ 40mL/min. (MCS by-passed with Silcosteel® tubing [cat.# 21035])  
Desorb preheat: 245°C  
Desorb: 250°C for 2 min.  
Bake: 260°C for 8 min.  
Interface: direct  
Transfer line: 0.32mm ID Siltek® tubing

GC: Finnigan 9001  
Oven temp.: 35°C (hold 4 min.) to 75°C @ 3°C/min. (hold 2 min.) to 175°C @ 21°C/min. to 205°C @ 35°C/min. (hold 5 min.)  
Carrier gas: helium 11mL/min., constant pressure  
Adjust dichlorodifluoromethane to a retention time of 2.28 min. @ 35°C on the Rtx®-VGC column.  
Detectors: µGold Tandem PID/HALL 2000  
PID: makeup 7mL/min., purge 7mL/min., set @ 0.35mV, base temp. 200°C.  
ELCD Hall 2000: RxnGas 25mL/min., RxnTemp. 940°C, propanol flow 470µL/min.

1. dichlorodifluoromethane	15. 2,2-dichloropropane	29. <i>cis</i> -1,3-dichloropropene	43. <i>o</i> -xylene	57. <i>p</i> -isopropyltoluene
2. chloromethane	16. bromochloromethane	30. toluene	44. styrene	58. 1,3-dichlorobenzene
3. vinyl chloride	17. chloroform	31. tetrachloroethene	45. bromoform	59. 1,4-dichlorobenzene
4. bromomethane	18. carbon tetrachloride	32. <i>trans</i> -1,3-dichloropropene	46. isopropylbenzene	60. <i>n</i> -butylbenzene
5. chloroethane	19. 1,1,1-trichloroethane	33. 1,1,2-trichloroethane	47. bromobenzene	61. 1,2-dichlorobenzene
6. trichlorofluoromethane	20. 1,1-dichloropropene	34. dibromochloromethane	48. <i>n</i> -propylbenzene	62. 1,2-dibromo-3-chloropropane
7. 1,1-dichloroethene	21. benzene	35. 1,3-dichloropropane	49. 1,1,2,2-tetrachloroethane	63. hexachlorobutadiene
8. Freon® 113	22. 1,2-dichloroethane	36. 1,2-dibromoethane	50. 2-chlorotoluene	64. 1,2,4-trichlorobenzene
9. allyl chloride	23. fluorobenzene (SS)	37. 1-chloro-3-fluorobenzene (SS)	51. 1,2,3-trichloropropane	65. naphthalene
10. methylene chloride	24. trichloroethene	38. chlorobenzene	52. 1,3,5-trimethylbenzene	66. 1,2,3-trichlorobenzene
11. <i>trans</i> -1,2-dichloroethene	25. dibromomethane	39. ethylbenzene	53. 4-chlorotoluene	
12. methyl <i>tert</i> -butyl ether	26. 1,2-dichloropropane	40. 1,1,1,2-tetrachloroethane	54. <i>tert</i> -butylbenzene	
13. 1,1-dichloroethane	27. bromodichloromethane	41. <i>m</i> -xylene	55. 1,2,4-trimethylbenzene	
14. <i>cis</i> -1,2-dichloroethene	28. 1-bromo-2-chloroethane (SS)	42. <i>p</i> -xylene	56. <i>sec</i> -butylbenzene	

Acknowledgement: Finnigan 9001 GC, µGold Tandem Photoionization/HALL® 2000 Electrolytic Conductivity Detector provided courtesy of Thermo Finnigan GC & GC/MS Division, 2215 Grand Avenue Pkwy, Austin, Texas 78728