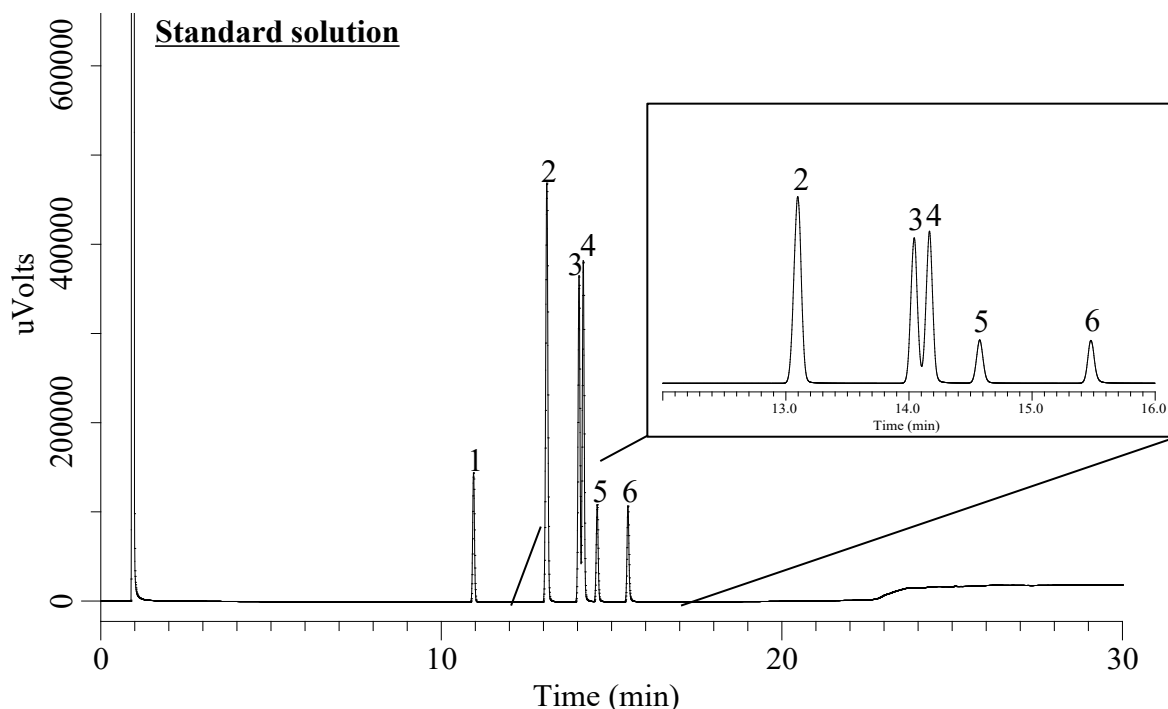


Analysis of Dipropylene Glycol

(Under the Condition of Draft for USP PF 50(4), Dipropylene Glycol)



Conditions

System : GC-4000 PlusH/FID
Column : InertCap WAX-HT (GL Sciences Inc.)
 0.53 mm I.D. x 30 m df = 1.2 µm
Col. Cat. No. : 1010 - 68746
Col. Temp. : 90 °C (2.0 min) - 6 °C/min - 210°C (0.5 min)
 - 100 °C/min - 245 °C (7.15 min)
Carrier Gas : H₂ 22 kPa, Constant pressure
Injection : Split 1 : 10
 250 °C
Detection : FID Auto Range
 250 °C
Sample : Standard
Sample Size : 1 µL

Analyte

1. 2,2,2-Trichloroethanol 2.5 mg/mL
 2. Dipropylene glycol isomer 1
 3. Dipropylene glycol isomer 2
 4. Dipropylene glycol isomer 3
 5. Dipropylene glycol isomer 4
 6. Dipropylene glycol isomer 5 total of 10 mg/mL for 2-6

Suitably requirements

Resolution (3, 4) : 1.24 (≥ 1.2)
 RSD of the peak area ratio of 1 and 2 (%) (n=5) : 0.87 (≤ 1.0)
 RSD of the peak area ratio of 1 and 3 (%) (n=5) : 0.22 (≤ 1.0)
 RSD of the peak area ratio of 1 and 4 (%) (n=5) : 0.096 (≤ 1.0)
 RSD of the peak area ratio of 1 and 5 (%) (n=5) : 0.15 (≤ 1.0)
 RSD of the peak area ratio of 1 and 6 (%) (n=5) : 0.12 (≤ 1.0)

Relative retention times
 2,2,2-Trichloroethanol 10.95/13.10 (0.84)
 Dipropylene glycol isomer 1 13.10/13.10 (1.00)
 Dipropylene glycol isomer 2 14.04/13.10 (1.07)
 Dipropylene glycol isomer 3 14.17/13.10 (1.08)
 Dipropylene glycol isomer 4 14.58/13.10 (1.11)
 Dipropylene glycol isomer 5 15.48/13.10 (1.18)