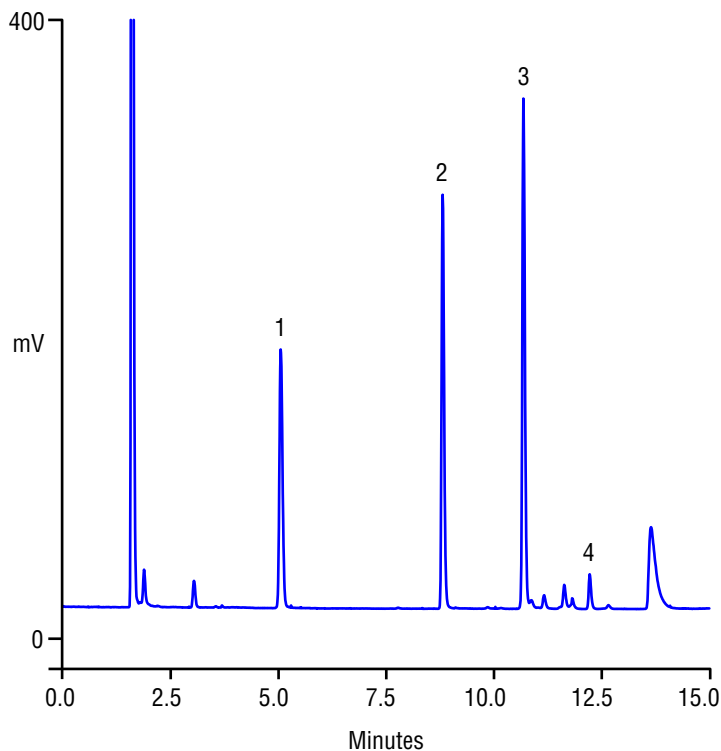


Benzalkonium in Spray Disinfectant on the Acclaim Surfactant Column



Column: Acclaim® Surfactant, 3 µm
 Dimensions: 3.0 × 150 mm
 System: UltiMate® 3000 RSLC
 Mobile Phases: A: 100 mM acetic acid adjusted to pH 5.0 with ammonium hydroxide
 B: Acetone
 Gradient Times (min): -4.0 0.0 1.0 13.5 17.0
 %A: 65 65 65 30 30
 %B: 35 35 35 70 70
 Flow Rate: 0.425 mL/min
 Injection: 4 µL
 Temperature: 25 °C
 Detection: ELSD, spray chamber 55 °C, drift tube 65 °C

Peaks:
 1. Saccharin
 2. C₁₂ Bz Me₂ N⁺
 3. C₁₄ Bz Me₂ N⁺
 4. C₁₆ Bz Me₂ N⁺

Sample: Lysol® spray disinfectant containing 0.1% alkylbenzyltrimethylammonium saccharinate in ethanol.

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The Acclaim Surfactant column provides superior performance for the analysis of benzalkonium-type disinfectants. Since the method here uses evaporative light scattering detection, acetonitrile may be replaced by acetone, which is more available, less expensive, and less toxic. Acetone has only slightly higher viscosity than acetonitrile, and similar selectivity for this application. With the use of a 3 mm i.d. column, the mobile phase consumption can be reduced by 55% compared to the 4.6 mm i.d. column format.