

This application describes the separation of anionic surfactants and toluene in water.

In the Notification No. 261 from the Ministry of Health, Labour and Welfare, Appendix Table 24, a solid-phase extraction HPLC method is described for the analysis of anionic surfactants.

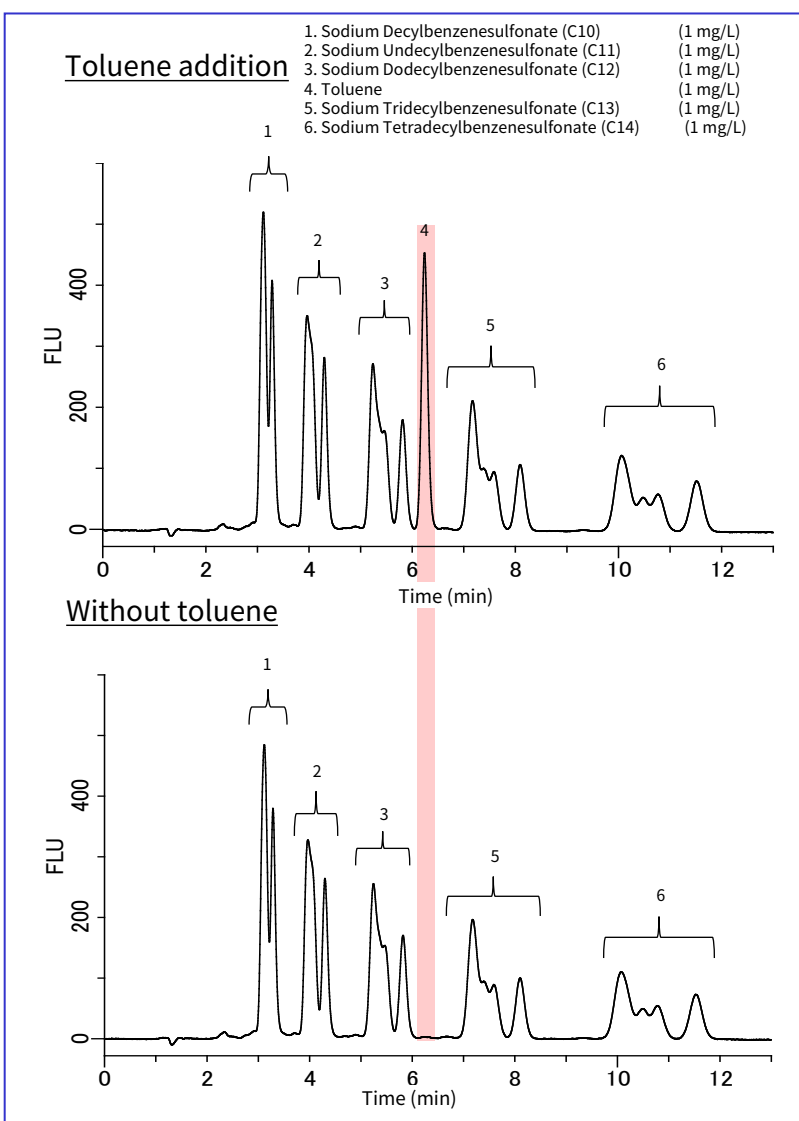
The cautionary note for this analysis is the potential for detection of toluene as a contaminant peak.

This is because the nonionic surfactant test and equipment used for toluene pretreatment can be shared, and the presence of toluene in the atmosphere can cause contamination.

Toluene and anionic surfactants were separated using Inertsil ODS-3, a highly retentive column.

(T.Tamura)

Example: Measurement of standard

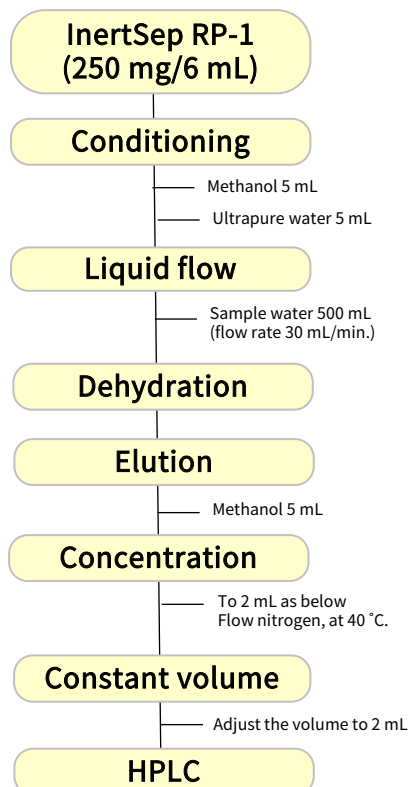


* Sodium alkylbenzenesulfonate which has the same number of carbons, also contains branched components and usually has more than one peak.

HPLC conditions

Column : Inertsil ODS-3 (5 μ m, 150 $\times$ 4.6 mm I.D.)
Elute : 0.1M NaClO₄ in CH₃CN/H₂O = 65/35, v/v (isocratic)
Flow rate : 1.0 mL/min
Column temperature : 40 $^{\circ}$ C
Detection : FL Ex 221nm Em 284 nm
 (GL-7453A FL Detector)
Injection volume : 10 μ L

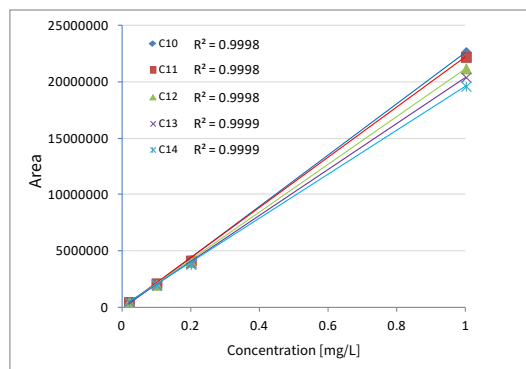
Example of pretreatment using solid-phase extraction



Spike recovery test results (reference value)

Compound	Recovery Rate, %	RSD, %
1. Sodium decylbenzenesulfonamide	102.1	4.1
2. Sodium undecylbenzenesulfonate	99.7	5.2
3. Sodium dodecylbenzenesulfonate	101.5	4.9
4. Sodium tetradecylbenzenesulfonate	98.6	7.0
5. Tetradecylbenzenesulphonic acid	97.0	6.4

Added concentrations are 20 ng/mL, $n=5$



Calibration curve

InertSep mini RP-1 250mg 100 /pk Cat. No. 5010-27000



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