Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Solid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection*

UCT Part Numbers:
ECUNIPAH (2000 mg unendcapped C18, 83 mL cartridge)

Or

EUC1812M15 (2000 mg unendcapped C18, 15 mL cartridge)
CUC181M6 (1000 mg unendcapped C18, 6 mL cartridge)

ECSS25K (Anhydrous Sodium Sulfate)

EPA Method 550.1

Procedure

1. **Cartridge Preparation**

    a) Wash with 4 x 10 mL aliquots of methylene chloride (MeCl$_2$)

    b) Wash with 4 x 10 mL aliquots of methanol (MeOH)

    c) Wash with 2 x 10 mL aliquots of reagent water

    Do not let the cartridge dry out after step 1) c. otherwise repeat starting at 1) b.

2. **Sample Extraction**

    a) Adjust the vacuum setting for a flow rate of 10-15 mL per minute

    b) Add the 1 liter sample to the cartridge

    c) Rinse sample bottle with reagent water, add to cartridge and draw through

    d) Dry cartridge by drawing full vacuum for 10 minutes

3. **Sample Elution and Drying**

    a) Elute the cartridge dropwise by using 2 x 5 mL aliquots of MeCl$_2$ and collect

    b) Rinse sample container with 5 mL of MeCl$_2$, add to cartridge and draw through

    c) Prepare a drying column/funnel containing 10-20 g sodium sulfate by rinsing with 10 mL of MeCl$_2$ and discard

    d) Add the eluate to the drying column, draw through and collect

    e) Rinse the eluate vial and drying column with a 2 x 5 mL aliquot of MeCl$_2$ and collect

4. Sample Evaporation

a) Evaporate the extract using a gentle stream of N_2 with a water bath or heating block temperature of 40°C. Evaporate to about 1.0 mL

b) Add 3.0 mL of acetonitrile (ACN)

c) Concentrate to a final volume of 0.5 mL

5. Sample Analysis

a) Inject 5 - 100 µL into an HPLC

*See "Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Solid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection", W. J. Bashe & T.V. Baker (Technology Applications, Inc, Environmental Monitoring Systems Laboratory, US Environmental Protection Agency, Cincinnati, OH