



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

UCT Products:

**ECUNIPAH** (2000 mg unendcapped C18, 83 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 ( $\text{MeCl}_2$ )
- b. Wash with 4 x 10 mL aliquots of methanol ( $\text{MeOH}$ )
- 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  $\text{MeCl}_2$  and collect
- b. Rinse sample container with 5 mL of  $\text{MeCl}_2$ , add to cartridge and draw through
- c. Prepare a drying column/funnel containing 10-20 g sodium sulfate by rinsing with 10 mL of  $\text{MeCl}_2$  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  $\text{MeCl}_2$  and collect

#### **4) Sample Evaporation**

- a. Evaporate the extract using a gentle stream of N<sub>2</sub> 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

DCN-017009-191