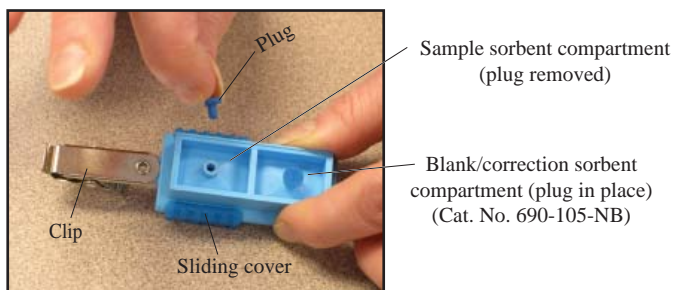




ULTRA Passive Samplers with or without Blank, Containing Charcoal Sorbent (Solvent Extraction) Cat. No. 690-105, 690-105-NB, or 690-205

Analysis

- a. For Cat. No. 690-105 or 690-105-NB (prefilled sampler): Remove the sampler from the resealable pouch and proceed to Step 2.
b. For Cat. No. 690-205 (sorbent in vial): Remove the lid from the vial and proceed to Step 4.
- Lay the sampler on a flat surface with the back of the sampler facing upward.
- With the clip oriented to the left, remove the plug from the compartment containing the sample sorbent (on left side, immediately above the diffusion holes).



- Hold the sampler or vial over a 3.7-ml glass vial. Use a larger vial if using more than 2 ml of solvent.
- Transfer the sorbent to a 3.7-ml or larger vial by tipping the sampler or vial upside down over the vial. Gently tap to remove any remaining sorbent.
- Add typically 2 ml of desorption solvent to the sorbent in the vial.
! Add the solvent slowly.
- Shake the sorbent for 30 minutes.
- Analyze the sample by gas chromatography with the detector specified in the method for the compound of interest.
- Analyze the blank/correction sorbent, as needed, by repeating Steps 2 through 8 for the sampler and Steps 1 and 4 through 8 for the sorbent vial.

Calculations

$$C = \frac{[(SW) - (BW)] (24.45 \times 10^6)}{(DE) (MW) (SR) (MIN) (PT)}$$

Where:

- C = Concentration of chemical (ppb)
SW = Sample weight by analysis (μg)
BW = Analyte weight in blank (μg)
PT = Pressure/temperature correction (*see below*)
DE = Desorption efficiency (*see below*)
MW = Molecular weight of chemical
SR = Sampling rate (ml/min)
MIN = Sampling time (minutes)

The equation above is correct for 25 C (298 K) and standard atmospheric pressure (760 mm Hg). To convert to other temperatures and pressures the correction factor is:

$$PT = (T_1/T_2)^{1.5} (P_2/P_1)$$

Where:

- T_1 = Sampling site temperature (in Kelvin)
 T_2 = 298 K
 P_1 = Sampling site pressure (in mm Hg)
 P_2 = 760 mm Hg

Desorption efficiency should be determined and expressed as a decimal (e.g., 98% = 0.98).

For sampling rates and desorption solvents, go to www.skcinc.com/catalog/passive-guide.php.

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