UVF-TRILOGY CALIBRATION INSTRUCTIONS

Using Sitelab CAL-BAP-COALTAR Standard for Testing Benzo[a]Pyrene

Need help? Call Toll Free 877-SITELAB or Dial (USA) 978-363-2299

CAL-BAP-COALTAR-TRILOGY-SOPV1

Equipment Required:

Use Sitelab UVF-Trilogy with PAHS UV Module Only!

CAL-BAP-COALTAR

BENZO[A]PYRENE COAL TAR STANDARDS (BaP)

Includes 2 Standards, 30 mL each:
- 50 ppb BaP Calibration Standard
- 5 ppb BaP QC Check Standard
- Ready to use, supplied in methanol

WARNING! Product is Highly Flammable!

Detection, Reporting Range: 5 to 50 ppb
Minimum Detection Limit: 1 ppb
Upper Linear Limit*: 75 ppb

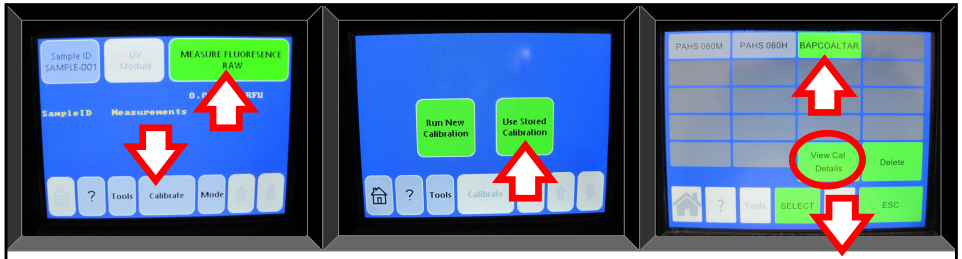
PAHS UV Module
Part No. 7200-MOD-PAHS
Detects U.S. EPA 16 Compounds

*Sample readings above the linear limit will "quench" or swamp the detector, producing low/poor response. Avoid testing extracts. Dilutions are required for analysis. In most cases, readings below the mid point do not quench.

Set up Analyzer:

Open the lid and insert the module firmly into position using the handle. Turn the instrument on using the switch in the back. Always choose "UV" when prompted to select and confirm the module being used is UV. Do not use absorbance, turbidity or other choices listed. Press "Calibrate" and then press "Run New Calibration" or "Use Stored Calibration." Trilogy can store up to 18 calibrations.

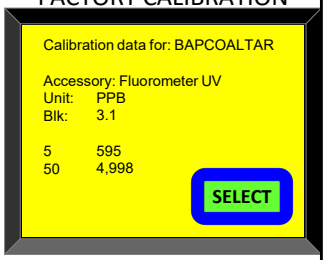
View Stored Calibrations:



When the device is first turned on, the home screen will display a green "Measure Fluorescence" button in the RFU mode. RFU is Raw Fluorescence Units (voltage).

If the analyzer is already factory calibrated or to retrieve a new calibration you created, press "Calibrate" and "Use Stored Calibration." Choose and select the "BAPCOALTAR" test. This screen allows you to view calibration details. RFU and concentration values should be linear and <20% RPD with slope of curve R^2 >0.995. Never press the "Delete" button or curve will be lost.

FACTORY CALIBRATION



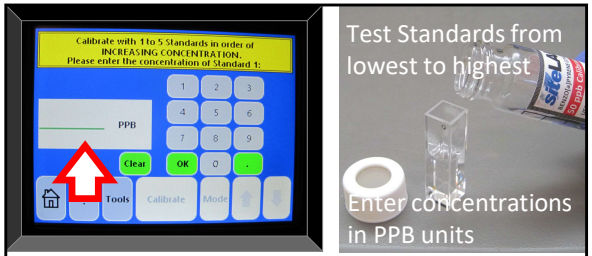
RFU response is displayed for Blank and 2 Standards

Start a New Calibration:

From the home screen, press "Calibrate" and "Run New Calibration." Select "PPB" for unit of measure. Fill the solvent dispenser bottle with methanol and fill the glass cuvette with solvent, about half full. Wipe the outside glass clean with a tissue wipe to remove liquids or fingerprints if necessary. Carefully place the cuvette into the PAHS UV module, close the lid and press the "OK" button.

The analyzer will measure the blank for a few seconds and briefly displays the RFU response. Once the new calibration is finished and saved, RFU values for the blank and standards can be viewed. When testing Benzo[a]Pyrene, blanks should have RFU values in the 3 to 10 range (each analyzer varies). Fluorescence of the blank is automatically subtracted from sample readings in Concentration Mode.

Test Calibration Standards:



CAL-BAP-COALTAR includes two standards used to create a linear, 2-point calibration curve. Start with the 5 ppb QC Check Standard first. Enter the ppb concentration when prompted, fill the glass cuvette half full, place into module, close the lid and press "OK". Pour the standard back into vial when finished; calibrators are reusable. Next, rinse the cuvette with solvent and measure the 50 ppb Calibration Standard. When completed, press "YES" to save and enter a name.

Quality Controls to Perform:

Acceptance Criteria
- 50 ppb Standard: *Reads 45 to 55 ppb*
- 5 ppb Standard: *Reads 4 to 6 ppb*
- Methanol Check: *Reads 0 or <0.1 ppb*

Test a standard like a sample at any time to confirm the analyzer is operating properly. Readings should be within 10%, no more than 20%, compared to the standard's concentration. Test a blank to confirm the methanol is clean. Readings should be close to zero. RFU values in blanks and standards should be close each time they're used and similar to the BaP factory calibration RFUs. Compare to print out showing calibration curve provided with your instrument.