



TPH-OIL CALIBRATION INSTRUCTIONS

U VF-500D Calibration Kit CAL-056H-500D using **HEXANE SOLVENT**

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CAL-056H-500D-SOPV1

Equipment Required

Sitelab TPH-Oil Calibration Kit
Part No. CAL-056H-500D

Use to calibrate analyzer for Total Petroleum Hydrocarbons. Detects TPH in the C15 to C50 carbon range. Kit includes:

- 3 Calibration standards
- 2 Reference standards
- 20 Cuvettes + other supplies

WARNING! This product contains hexane solvent (highly flammable). Use in a well ventilated area, handle with care, store at room temperature.

U VF-500D, Part No. 50200

- 8mm Cuvette Adapter
- Solvent Dispenser Bottle
- Hexane (not included).

Use "HPLC" grade or other high laboratory grade solvent.

- TPH Solid Standard (optional)

1. Set up Analyzer

Use with Channel A only!

Set STD VAL to 100 ppm

Press the ON/OFF button to turn on. The READY screen – or home screen - appears and should display the "A" Channel is selected. If not, press the A/B button to switch from B to A. Next, press the STD VAL button to check and confirm the TPH standard's concentration is set to 100 ppm. If not, then use the arrow keys to adjust the standard value and then press ENTER. Once the standard value and Channel are set, press the CAL button to begin the calibration process. Press the ESC button to abort the calibration at any time.

2. Use Hexane for Solvent Blank

Fill Cuvette with Hexane

Always use clean solvent to blank or "zero" the analyzer during the calibration process. Use the same solvent used to extract samples. Fill the solvent dispenser bottle with hexane and squirt into a glass cuvette about half full. Wipe the outside glass with a tissue wipe to remove any liquids or fingerprints. Place the blank into the cuvette adapter, insert into the analyzer and press the ENTER button when ready to test the blank. The analyzer will read the blank for a few moments, settle and then prompt you to the next step. Remove the blank from the cuvette adapter and empty contents into a waste jar.

3. Use the 100 ppm TPH Standard

Glass Cuvette
Cuvette Adapter

Tap the cuvette upside down onto a tissue wipe to remove any liquids to use for the calibration standard. Or, if you prefer to save the blank for reuse later, snap on a plug cap and use a new cuvette for testing the calibration standard. Pour the 100 ppm TPH Calibrator into the cuvette about half full. Wipe the outside glass clean with a tissue wipe, place into the cuvette holder, insert into analyzer and press the ENTER button. The analyzer will read the standard for a few moments and will prompt you to press ENTER again when calibration is complete. When finished, pour the calibrator back into its vial and throw out cuvette.

Check Calibration Diagnostic Data

Compare the %FS values to the factory calibration data.

%FS values should be close/similar each time the analyzer is calibrated to TPH.

After calibrating the analyzer or at any time, press the "DIAG" button to check the percent fluorescence scale (%FS) for the blank and the standard. These sensitivity values are very important.

The %FS-BLK value should be below 1 and close to zero. The %FS STD value using the 100 ppm TPH calibrator should be between 30 and 70; ideally within 10% compared to the factory calibration value. The 100 ppm Calibrator should produce similar %FS-STD values each time its used. If not, then prepare a new 100 ppm calibrator using the Reference Standard included with CAL-056H-500D. See the Certificate of Analysis for details and instructions.

Check Standards for Quality Control

Fill cuvette with Standard, press READ to analyze

Accuracy Ranges:

- 100 ppm Standard Reads 90 to 110 ppm
- 25 ppm Standard Reads 20 to 30 ppm
- 5 ppm Standard Reads 4 to 6 ppm

Check the analyzer for linearity and drift by testing the 100 ppm Calibrator at any time as if it were a sample. Readings should be close to 100 ppm. If the reading is below 90 ppm or above 110 ppm (or 10% off), then recalibrate the analyzer.

Test the 25 ppm Cal Check and 5 ppm Detection Limit standards too to confirm the analyzer is linear and accurate at the lower end of the curve. Readings should be close, within 20% for best performance. Remember, the standards are reusable! Pour back into their vials when finished or empty into a waste jar and dispose cuvette after use.

TPH Solid Standard

Use with Channel A only!

The U VF-500D includes a 100 ppm TPH Solid Standard. This device was specially "tuned" to read the same as the 100 ppm Calibrator used in CAL-056H-500D when the analyzer was factory calibrated. If its available, test the TPH Solid Standard after a new calibration is performed. If readings are close to 100 ppm (within 10%), the Solid Standard is accurate/performs well.

Certificate of Analysis

Includes Copy of MSDS

Sitelab's TPH Oil Calibration Kit includes a Certificate of Analysis. This document has important information about the product, including the preparation date, expiration date (6 months) and lot ID number. Instructions are provided to make new calibration standards using two Reference Standards provided. Use of a micro pipette is required.