



Polysulfide oil standards

VHG Labs offers a broad line of sulfur QC samples, drift monitors, and calibration sets made from polysulfide oil for XRF and other sulfur analysis techniques.

Our polysulfide oil standards are extremely stable, making them the ideal choice for instrument drift correction and quality control monitoring, especially when measuring ultralow sulfur levels. ASTM D2622 and D4294 specify the use of polysulfide oil standards for drift monitors and QC samples.

Polysulfide oil is also ideal for the manufacture of instrument calibration standard sets for use with ASTM methods D2622, D4294, D5453, D7039, D7212, D7220 and other sulfur analysis methods.

VHG's refined polysulfide oil was selected for its high purity, low viscosity, and complete solubility in a wide variety of petroleum products. VHG polysulfide oil standards are prepared by serial mass dilution of the polysulfide oil with sulfur-free matrices. These standards feature low volatility, minimal diffusion

into sample films, stability when exposed to x-rays from modern, high-wattage XRF spectrometers, and extended shelf life. In fact, they are fully guaranteed for three years.

Each VHG polysulfide oil standard is analyzed and certified with traceability to NIST SRM 2724b.

VHG drift and quality control polysulfide oil standards are packaged in 1L glass bottles, and calibration standard sets are packaged in 50mL or 20mL glass bottles. Other sizes are available and custom concentrations can be formulated upon request.

Maintaining an X-ray fluorescence sulfur calibration for ultra low sulfur analysis of fuels requires three measurements to ensure the instrument is stable and operating correctly.

Quality control

The analysis of sulfur in petroleum products requires demonstrating consistency in analytical control. A QC sample is typically measured once or twice per shift.

Drift correction

Proper drift correction is essential to the long term viability of the calibration curve. Drift correction can be run daily, weekly, or whenever quality control analysis falls outside acceptable limits.

Blank measurement

Measuring a blank is necessary, especially when analyzing low levels of sulfur. Most analysts measure a blank specimen routinely throughout the day as a means to ensure low concentration performance. VHGBLANKs are certified for ultra low sulfur concentrations.

Calibration sets

Polysulfide Oil Standards also make excellent calibration standards. VHGBLANKs offers calibration standard sets, made from polysulfide oil, for the analysis of ultra low levels of sulfur as found in clean fuels and ultra low sulfur diesel fuel and also for the analysis of higher levels of sulfur as found in crude and residual oils.

Description	Product No.
QC Samples	
Sulfur @ 5µg/g, polysulfide oil, 1L	VHG-PS13M-5-1L
S @ 10µg/g, polysulfide oil, 1L	VHG-PS13M-10-1L
S @ 25µg/g, polysulfide oil, 1L	VHG-PS13M-25-1L
Drift Monitors	
S @ 100µg/g, polysulfide oil, 1L	VHG-PS13M-100-1L
S @ 500µg/g, polysulfide oil, 1L	VHG-PS13M-500-1L
S @ 1,000µg/g, polysulfide oil, 1L	VHG-PS13M-1000-1L
Blank	
Polysulfide oil blank	VHG-OIL-13-1L
Calibration Sets	
Sulfur standard set (low concentrations). Set of 13 calibration standards with sulfur @ 0, 1, 2.5, 5, 10, 25, 50, 75, 100, 250, 500, 750, 1000µg/g made from high purity polysulfide oil, 50mL each	VHG-PS13M-SET1-13X50
Sulfur standard set (high concentrations). Set of 12 calibration standards with sulfur @ 0, 0.1, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5 and 5 wt% made from high purity polysulfide oil, 50mL each	VHG-PS13M-SET2-12x50
Sulfur standard set (low concentrations). Set of 6 calibration standards with sulfur @ 0, 10, 25, 50, 100 and 250µg/g, made from high purity polysulfide oil, 50mL each	VHG-PS13M-SET3A-6X50
Ultra low sulfur EPA qualification set set of 40 calibration standards with 10 sulfur standards @ 5 and 15µg/g each, and 500µg/g each, and 20 @ 1 µg/g, made from high-purity polysulfide oil, 20mL each	VHG-PS13M-SET4-40X20
High sulfur EPA qualification set set of 40 calibration standards with 10 sulfur standards @ 100 and 500µg/g each, and 20 @ 300µg/g, made from high-purity polysulfide oil, 20ml each	VHG-PS13M-SET5-40X20

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