Versatility and Utility of PFAS Secondary Source Standards

for PFAS10001 – PFAS Secondary Source Std, Wastewater/Solids

and PFAS10002 – PFAS Secondary Source Std, Drinking Water

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Product design and use options

In the context of the increasing scarcity and quality concerns of PFAS standards, Waters ERA Secondary Source Standards provide a significant technical solution. These standards are designed to enhance laboratory efficiency by improving the accuracy of routine quality control and streamlining processes. They are suitable for various applications, including Internal Calibration Verification (ICV), Laboratory Control Sample (LCS), Matrix Spike (MS), and Limit of Quantitation (LOQ) studies. The standards feature a comprehensive list of analytes and concentrations that align with PFAS method calibration curves, offering precise verification capabilities. This technical overview highlights the versatility and utility of Secondary Source Standards in daily PFAS analysis.

Designed with versatility in mind

Since the product is sufficiently homogeneous, any subsample using calibrated measuring devices maintains the validity of the stated concentrations and uncertainties.

Independent Calibration Verification (ICV)

To use this product as an ICV, simply dilute the concentrate in your chosen solvent to a concentration that fits within your calibration range, and you are all set for analysis. As they are prepared independently from the calibration standard, the Secondary Source Standards can serve as an ICV to help ensure the accuracy of your calibration curve.

Laboratory Control Sample (LCS)

To prepare a laboratory control sample (LCS) in water or soil matrices, spike your reagent water or other "clean" soil matrix at a concentration that fits within your calibration or linear range. Your LCS is now ready for extraction and analysis following your standard procedures. This will help you assess the performance of your extraction processes.

<u>Matrix Spike (MS)</u>

To prepare a matrix spike (MS) in aqueous or soil samples, first determine your desired concentration levels. Then, calculate the dilution scheme needed to spike your field samples at the frequency specified by your analytical batch size. Once spiked, your MS samples are ready for extraction and analysis. To identify any potential analytical matrix interferences and remove bias from your extraction process, you can also spike your field sample extracts.

<u>Limit of Quantitation (LOQ)</u>

For Limit of Quantitation (LOQ) studies, after calculating your estimated method detection limits (MDLs), you can use the Secondary Source Standards to confirm your LOQ's. Spike your reagent water or "clean" soil matrix at a concentration that closely matches your MDLs. Then, analyze as per your usual process and compare the results to your criteria for establishing LOQ's.

Supporting Quality Assurance

The Waters ERA Secondary Source Standards are designed to enhance laboratory efficiency and accuracy in PFAS analysis. These standards support a variety of quality control processes:

- **Independent Calibration Verification (ICV)**: Dilute the concentrate to fit within your calibration range to ensure calibration curve accuracy.

- **Laboratory Control Sample (LCS)**: Spike reagent water or clean soil matrices to assess extraction process performance.

- **Matrix Spike (MS)**: Spike field samples to identify matrix interferences and remove bias.

- **Limit of Quantitation (LOQ)**: Confirm LOQs by spiking samples at concentrations matching your method detection limits.

These standards offer a comprehensive list of analytes and concentrations, making them highly adaptable tools for routine quality control and verification in PFAS analysis.