Method Summary

PFAS in Milk Samples

The Vista Analytical Laboratory method utilizes isotope dilution and internal standard techniques using solid phase extraction (SPE) with liquid chromatography/mass spectrometry (LC/MS/MS).

A Method Blank, Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) are prepared with every preparation batch of 20 samples or less per matrix type.

An aliquot of milk is spiked with a solution of carbon-labeled Internal Standards. The samples are sonicated with Acetic Acid/Acetonitrile. The samples are centrifuged and the supernatant is decanted and diluted with PFAS-free reagent water before being passed through a conditioned solid phase extraction cartridge.

The cartridge is washed with reagent water and methanol:water before drying under vacuum for ~10 minutes. The cartridge is eluted with methanol and basic methanol and concentrated to near-dryness with nitrogen.

The eluant is passed through an ENVI-Carb™ cartridge and concentrated to near-dryness. Recovery standard is added.

Reversed-phase liquid chromatography is used to separate compounds of interest. The LC/MS/MS instrument is operated in negative ion ionization using multiple reaction monitoring (MRM) for quantitative analysis. Peak area is used for quantitation. An initial 9-point calibration curve is analyzed to demonstrate the linearity of the analytical system over the calibration range and verified with a continuing calibration verification standard per analytical sequence (10 samples). Unique precursor-product ions are monitored for each compound at specific retention times. The reporting limits correspond to the low point of the current calibration curve; they can be adjusted based on project requirements.

Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520
Fax (916) 673-0106