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PER- AND POLY-FLUOROALKYL SUBSTANCES

A Guide to PFAS by 537 Modified

Eurofins TestAmerica provides data defensibility along with the nation's leading PFAS capabilities and services.

Do you have concerns about data defensibility when using a non-EPA method?

Currently there are no EPA-approved methods for PFAS analysis of matrices other than finished drinking water. For all other matrices, a 537 modified method, using isotope dilution, is commonly used and is widely accepted as the gold standard in quantitation for challenging contaminants such as these.

As there remains some variation across the environmental laboratory community in the deployment of this modified analysis, ***a great deal of attention should be paid to the methodology employed and the quality assurance protocols applied by the supporting laboratory.***

With this lack of standardization, some states and corporations have suggested using a DoD certified laboratory for both DoD and non-federal work. The reason being, the DoD has performed extensive review and validation of laboratories performing 537 Modified as defined by their QSM, thus increasing confidence in the protocols being employed and the results obtained.

Our Sacramento, CA laboratory is accredited for per and polyfluoroalkyl substances (PFAS) in accordance with the Department of Defense's Quality Systems Manual (QSM) version 5.1 Table B-15 as well as primary NELAC and state specific accreditations.

There are a multitude of parameters and best practices to confirm with your laboratory when 537M is being applied. Are you asking your lab some of these key questions?

1. Is isotope dilution, including an isotopically labeled analog of each target analyte, where commercially available, and recovery correction employed?

2. Are secondary ion transitions and their ratios being used to improve method selectivity and reduce the potential for false positives?

3. Are all available branched and linear quantitation standards being used to improve the accuracy and reproducibility of analytical results?

4. Are appropriate cleanups being used for all matrices?

5. Are solid samples being sufficiently homogenized prior to a rigorous sample extraction method?

6. Are whole bottle sample extractions performed along with a methanol rinse of the container?

7. Is a chromatography gradient which sufficiently separates branched and linear isomers employed?

8. How many years of LCMS and isotope dilution experience do the analysts have?

9. What redundancy and control measures do you have in place to manage contamination events?

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