

DEEP QA Workgroup Bulletin

Commercially available extracted internal standards for EPA Method 1633A
analysis of PFAS in environmental matrices

May 20, 2026

Purpose: This bulletin has been published to provide an easily accessible reference containing a list of standards that are commercially available for PFAS analysis. This list is subject to change regularly as the analytical industry continues to refine PFAS methodologies.

PFAS concentrations in samples are determined by isotope dilution or extracted internal standard (“EIS”) quantification using isotopically labeled compounds added to the sample prior to extraction.

- EIS quantification allows for the correction of the losses of target analytes that may occur during sample extraction, cleanup, and concentration.
- Isotope dilution calibration may also address matrix effects that lead to signal suppression or enhancement in the LC-MS/MS system that would otherwise lead to measurement bias.
- Isotopically labeled compound recoveries are determined by comparison to the responses of one of seven non-extracted internal standards (a.k.a., the “recovery” standards) and are used as general indicators of overall analytical quality.

The following list contains isotopes that are commercially available for use as EISs for PFAS analysis under EPA Method 1633A. This list is subject to change as more EISs become commercially available.

Target Analyte/PFAS Isotope	Acronym
Perfluoro-n-(¹³ C ₄)butanoic acid	MPFBA
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA

Target Analyte/PFAS Isotope	Acronym
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA
N-methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA
N-ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d ₃ -N-MeFOSAA
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d ₅ -N-EtFOSAA
2-(N-methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d ₇ -N-MeFOSE
2-(N-ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d ₉ -N-EtFOSE
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)propanoic acid	M3HFPO-DA
Sodium perfluoro-1-(2,3,4- ¹³ C ₃)butanesulfonate	M3PFBS
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS
Sodium 1H,1H,2H,2H-perfluoro(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS
Sodium 1H,1H,2H,2H-perfluoro(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS
Sodium 1H,1H,2H,2H-perfluoro(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS