

Table 2-5. USEPA PFAS Methods and PFAS Classifications

This table belongs with the ITRC PFAS Tech Reg Document. Listed below is a non-exhaustive, and periodically updated list of PFAS, along with the various standard analytical methods for measurement for which they are included. The ITRC intends to update this table periodically as new information is gathered.

The user is encouraged to visit the ITRC PFAS web page (<http://pfas-1.itrcweb.org>) to access the current version of this file. Please see ITRC Disclaimer <http://pfas-1.itrcweb.org/about-itrc/#disclaimer>.

Notes:

1. Compound names and acronyms are based on the analytical methods used to prepare the table.
2. The acronym PFECA is used for both per- and polyfluoroalkyl ether carboxylic acids and the acronym PFESA is used for both per- and polyfluoroalkyl ether sulfonic acids. When using these acronyms it is important to be clear as to the specific group of chemicals referenced (per or poly).
3. Method references are included below the table
4. EPA Method 537.1 (March 2020) has 4 additional analytes as compared to EPA Method 527 (September 2009), and noted in the table with an asterisk

Analyte	Abbreviation	CASRN	Draft EPA Method 1633 (July 2023)	SW-846 Method 8327 (July 2021)	EPA Method 537/537.1 (Sept 2009/Mar 2020)	EPA Method 533 (Dec 2019)	Class	Subclass	Group	Subgroup
Perfluorobutanoic acid	PFBA	375-22-4	X	X		X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluoropentanoic acid	PFPeA	2706-90-3	X	X		X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorohexanoic acid	PFHxA	307-24-4	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluoroheptanoic acid	PFHpA	375-85-9	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorooctanoic acid	PFOA	335-67-1	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorononanoic acid	PFNA	375-95-1	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA

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Perfluorodecanoic acid	PFDA	335-76-2	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluoroundecanoic acid	PFUnA	2058-94-8	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorododecanoic acid	PFDoA	307-55-1	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorotridecanoic acid	PFTTrDA	72629-94-8	X	X	X		Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorotetradecanoic acid	PFTA	376-06-7	X	X	X		Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFCA
Perfluorobutanesulfonic acid	PFBS	375-73-5	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
Perfluoropentanesulfonic acid	PFPeS	2706-91-4	X	X		X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
Perfluorohexanesulfonic acid	PFHxS	355-46-4	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
Perfluoroheptanesulfonic acid	PFHpS	375-92-8	X	X		X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
Perfluorooctanesulfonic acid	PFOS	1763-23-1	X	X	X	X	Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
Perfluorononanesulfonic acid	PFNS	68259-12-1	X	X			Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA

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Perfluorodecanesulfonic acid	PFDS	335-77-3	X	X			Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
Perfluorododecanesulfonic acid	PFDoS	79780-39-5	X				Nonpolymer	Perfluoroalkyl Substances	PFAAs	PFSA
1H,1H, 2H, 2H-Perfluorohexane sulfonic acid	4:2FTS	757124-72-4	X	X		X	Nonpolymer	Polyfluoroalkyl Substances	Fluorotelomer Substances	FTSA
1H,1H, 2H, 2H-Perfluorooctane sulfonic acid	6:2FTS	27619-97-2	X	X		X	Nonpolymer	Polyfluoroalkyl Substances	Fluorotelomer Substances	FTSA
1H,1H, 2H, 2H-Perfluorodecane sulfonic acid	8:2FTS	39108-34-4	X	X		X	Nonpolymer	Polyfluoroalkyl Substances	Fluorotelomer Substances	FTSA
Perfluorooctanesulfonamide	PFOSA	754-91-6	X	X			Nonpolymer	Perfluoroalkyl Substances	Perfluoroalkane Sulfonamides	Not applicable
N-methylperfluorooctanesulfonamide	NMeFOSA	31506-32-8	X				Nonpolymer	Polyfluoroalkyl Substances	Perfluoroalkane sulfonamido substances	MeFASA
N-ethylperfluorooctanesulfonamide	NEtFOSA	4151-50-2	X				Nonpolymer	Polyfluoroalkyl Substances	Perfluoroalkane sulfonamido substances	EtFASA
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	2355-31-9	X	X	X		Nonpolymer	Polyfluoroalkyl Substances	Perfluoroalkane sulfonamido substances	MeFASAA
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	2991-50-6	X	X	X		Nonpolymer	Polyfluoroalkyl Substances	Perfluoroalkane sulfonamido substances	EtFASAA

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N-methylperfluorooctanesulfonamido ethanol	NMeFOSE	24448-09-7	X				Nonpolymer	Polyfluoroalkyl Substances	Perfluoroalkane sulfonamido substances	MeFASE
N-ethylperfluorooctanesulfonamido ethanol	NEtFOSE	1691-99-2	X				Nonpolymer	Polyfluoroalkyl Substances	Perfluoroalkane sulfonamido substances	EtFASE
Hexafluoropropylene oxide dimer acid (GenX)	HFPO-DA	13252-13-6	X		X*	X	Nonpolymer	Perfluoroalkyl Substances	Perfluoroalkyl ether acid	PFECA
4,8-Dioxa-3H-perfluorononanoic acid	ADONA	919005-14-4	X		X*	X	Nonpolymer	Polyfluoroalkyl Substances	Polyfluoroalkyl ether acid	PFECA
Perfluoro-3-methoxypropanoic acid	PFMPA	377-73-1	X			X	Nonpolymer	Perfluoroalkyl Substances	Perfluoroalkyl ether acid	PFECA
Perfluoro-4-methoxybutanoic acid	PFMBA	863090-89-5	X			X	Nonpolymer	Perfluoroalkyl Substances	Perfluoroalkyl ether acid	PFECA
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	151772-58-6	X			X	Nonpolymer	Perfluoroalkyl Substances	Perfluoroalkyl ether acid	PFECA
9-Chlorohexadecafluoro-3-oxanonane-1- sulfonic acid (F-53B Major)	9Cl-PF3ONS	756426-58-1	X		X*	X	Nonpolymer	Polyfluoroalkyl Substances	Chloropolyfluoro-alkyl ether acid	PFESA
11-Chloroeicosafluoro-3-oxaundecane-1- sulfonic acid (F-53B Minor)	11Cl- PF3OUdS	763051-92-9	X		X*	X	Nonpolymer	Polyfluoroalkyl Substances	Chloropolyfluoro-alkyl ether acid	PFESA
Perfluoro(2-ethoxyethane)sulfonic acid	PFEEESA	113507-82-7	X			X	Nonpolymer	Perfluoroalkyl Substances	Perfluoroalkyl ether acid	PFESA
3-Fluoropropyl propanoic acid	3:3 FTCA	356-02-5	X				Nonpolymer	Polyfluoroalkyl Substances	Fluorotelomer Substances	FTCA

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2H, 2H, 3H, 3H-Perfluorooctanoic acid	5:3 FTCA	914637-49-3	X				Nonpolymer	Polyfluoroalkyl Substances	Fluorotelomer Substances	FTCA
3-Perfluoroheptyl propanoic acid	7:3 FTCA	812-70-4	X				Nonpolymer	Polyfluoroalkyl Substances	Fluorotelomer Substances	FTCA

USEPA Method References:

USEPA. 2023. 4th Draft Method 1633. Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA 821-D-23-001. Washington, DC: USEPA Office of Water (4303T). <https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas#draft-method-1633>.

USEPA. 2021. Method 8327 Per- and Polyfluoroalkyl Substances (PFAS) by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). Washington, D.C.: USEPA. <https://www.epa.gov/hw-sw846/sw-846-test-method-8327-and-polyfluoroalkyl-substances-pfas-liquid-chromatographytandem>.

USEPA. 2009. Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). USEPA Method 537, Rev 1.1, EPA 600-R-08-092: USEPA.

USEPA. 2018. Method 537.1: Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). Washington, D. C.: Office of Research and Development U.S. Environmental Protection Agency, National Center for Environmental Assessment.

USEPA. 2019. Method 533: Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry. EPA/815-B-19-20. Cincinnati, OH. <https://www.epa.gov/sites/production/files/2019-12/documents/method-533-815b19020.pdf>.

Family Hierarchy Legend

