



PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES (PFAS) RECOMMENDED MINIMUM LABORATORY ANALYTE LIST

Below is the minimum laboratory PFAS analyte list for analysis of fish, deer, and other animals, drinking water, groundwater, surface water, soil, wastewater effluent, and landfill leachate samples collected by Michigan's Departments of Environment, Great Lakes, and Energy, Health and Human Services, Agriculture and Rural Development, and Natural Resources. The recommended minimum analyte list for groundwater, surface water, and wastewater is found in the EPA Method 8327 column. The minimum analyte list for the testing of fish, deer and other animals is marked by the fish icon.

This minimum analyte list was developed based on the potential for these chemicals to be found in Michigan, the availability of the chemical standards used for testing, and the ability of available laboratories to test for these PFAS compounds. This list includes PFAS that can be tested for in drinking water using United States Environmental Protection Agency (USEPA) Method 533 or 537.1, which are the only methods that should be used when analyzing drinking water samples. Other testing methodologies may be used to test for PFAS in other media (not drinking water). EPA Method 8327 has undergone multi-lab validation and has been published under the Resource Conservation and Recovery Act (RCRA) program and is used by the EGLE laboratory to test surface water, groundwater, and wastewater.
















NOTE: Draft EPA Method 1633 is currently undergoing multi-laboratory validation as part of the Clean Water Act (CWA) method approval process. When a final PFAS analytical method for wastewater is published in 40 CFR Part 136, this method will be required for sampling conducted under the CWA, including National Pollutant Discharge Elimination (NPDES) permits. Until EPA Method 1633 is approved, other testing methodology may be utilized such as EPA Method 8327, ASTM Method D7979, or in-house laboratory developed methods (i.e., 537.1 "Modified").

This list is not exhaustive of PFAS found in Michigan's environment.










The fish icon (🐟) indicates compounds that are also currently being tested in fish tissue by the Department of Health and Human Services Laboratory.

Acronym / Analyte Name	Molecular Formula	CAS Number	Drinking Water Only		EPA Method 8327	For Clean Water Act – NPDES (i.e., wastewater, sludge, tissue, soil)	Draft EPA Method 1633	
			USEPA Method 537.1 Rev 2.0	USEPA Method 533				
PFTeDA Perfluorotetradecanoic acid	C ₁₃ F ₂₇ COOH	376-06-7	X		X	X	X	🐟
PFTrDA Perfluorotridecanoic acid	C ₁₂ F ₂₅ COOH	72629-94-8	X		X	X	X	🐟
PFDaA Perfluorododecanoic acid	C ₁₁ F ₂₃ COOH	307-55-1	X	X	X	X	X	🐟
PFUnA Perfluoroundecanoic acid	C ₁₀ F ₂₁ COOH	2058-94-8	X	X	X	X	X	🐟













**Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)
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Acronym / Analyte Name	Molecular Formula	CAS Number	Drinking Water Only		EGLE Lab – Groundwater, Surface Water, Wastewater	For Clean Water Act – NPDES (i.e., wastewater, sludge, tissue, soil)	
			USEPA Method 537.1 Rev 2.0	USEPA Method 533	EPA Method 8327	Draft EPA Method 1633	
PFDA Perfluorodecanoic acid	C ₉ F ₁₉ COOH	335-76-2	X	X	X	X	
PFNA Perfluorononanoic acid	C ₈ F ₁₇ COOH	375-95-1	X	X	X	X	
PFOA Perfluorooctanoic acid	C ₇ F ₁₅ COOH	335-67-1	X	X	X	X	
PFHpA Perfluoroheptanoic acid	C ₆ F ₁₃ COOH	375-85-9	X	X	X	X	
PFHxA Perfluorohexanoic acid	C ₅ F ₁₁ COOH	307-24-4	X	X	X	X	
PFPeA Perfluoropentanoic acid	C ₄ F ₉ COOH	2706-90-3		X	X	X	
PFBA Perfluorobutanoic acid	C ₃ F ₇ COOH	375-22-4		X	X	X	
PFDoS Perfluorododecansulfonic acid	C ₁₀ HF ₂₁ O ₃ S	79780-39-5				X	
PFDS Perfluorodecanesulfonic acid	C ₁₀ F ₂₁ SO ₃ H	335-77-3			X	X	
PFNS Perfluorononanesulfonic acid	C ₉ F ₁₉ SO ₃ H	68259-12-1			X	X	
PFOS Perfluorooctanesulfonic acid	C ₈ F ₁₇ SO ₃ H	1763-23-1	X	X	X	X	
PFHpS Perfluoroheptanesulfonic acid	C ₇ F ₁₅ SO ₃ H	375-92-8		X	X	X	
PFHxS Perfluorohexanesulfonic acid	C ₆ F ₁₃ SO ₃ H	355-46-4	X	X	X	X	
PFPeS Perfluoropentanesulfonic acid	C ₅ F ₁₁ SO ₃ H	2706-91-4		X	X	X	
PFBS Perfluorobutanesulfonic acid	C ₄ F ₉ SO ₃ H	375-73-5	X	X	X	X	

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			USEPA Method 537.1 Rev 2.0	USEPA Method 533	EPA Method 8327	Draft EPA Method 1633	
PFOSA Perfluorooctanesulfonamide	C ₈ F ₁₇ SO ₂ NH ₂	754-91-6			X	X	
8:2 FTS Fluorotelomer sulfonic acid 8:2	C ₈ F ₁₇ CH ₂ CH ₂ SO ₃	39108-34-4		X	X	X	
6:2 FTS Fluorotelomer sulfonic acid 6:2	C ₆ F ₁₃ CH ₂ CH ₂ SO ₃	27619-97-2		X	X	X	
4:2 FTS Fluorotelomer sulfonic acid 4:2	C ₄ F ₉ CH ₂ CH ₂ SO ₃	757124-72-4		X	X	X	
NEtFOSAA 2-(N-Ethylperfluorooctanesulfonamido)acetic acid	C ₈ F ₁₇ SO ₂ N(C ₂ H ₅)CH ₂ COOH	2991-50-6	X		X	X	
NMeFOSAA 2-(N-Methylperfluorooctanesulfonamido)acetic acid	C ₈ F ₁₇ SO ₂ N(CH ₃)CH ₂ COOH	2355-31-9	X		X	X	
NMeFOSA N-methyl perfluorooctanesulfonamide	C ₉ H ₄ F ₁₇ NO ₂ S	31506-32-8				X	
NEtFOSA N-ethyl perfluorooctanesulfonamide	C ₁₀ H ₆ F ₁₇ NO ₂ S	4151-50-2				X	
NMeFOSE N-methyl perfluorooctanesulfonamidoethanol	C ₁₁ H ₈ F ₁₇ NO ₃ S	24448-09-7				X	
NEtFOSE N-ethyl perfluorooctanesulfonamidoethanol	C ₁₂ H ₁₀ F ₁₇ NO ₃ S	1691-99-2				X	
HFPO-DA Hexafluoropropylene oxide dimer acid	C ₆ HF ₁₁ O ₃	13252-13-6	X	X	X	X	
11CI-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	C ₁₀ HF ₂₀ ClSO ₄	763051-92-9	X	X	X	X	
9CI-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	C ₈ HF ₁₆ ClSO ₄	756426-58-1	X	X	X	X	

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			USEPA Method 537.1 Rev 2.0	USEPA Method 533	EPA Method 8327	Draft EPA Method 1633	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	C ₇ H ₂ F ₁₂ O ₄	919005-14-4	X	X	X	X	
PFPPrS Perfluoropropanesulfonic acid	C ₃ HF ₇ O ₃ S	423-41-6					
NFDHA Nonafluoro-3,6-dioxaheptanoic acid	C ₅ HF ₉ O ₄	151772-58-6		X		X	
PFEESA Perfluoro(2-ethoxyethane)sulfonic acid	C ₄ HF ₉ O ₄ S	113507-82-7		X		X	
PFMPA Perfluoro-3-methoxypropanoic acid	C ₄ HF ₇ O ₃	377-73-1		X		X	
PFMBA Perfluoro-4-methoxybutanoic acid	C ₅ HF ₉ O ₃	863090-89-5		X		X	
3:3 FTCA 2H,2H,3H,3H-Perfluorohexanoic acid	C ₆ H ₅ F ₇ O ₂	356-02-5			X	X	
5:3 FTCA 2H,2H,3H,3H-Perfluorooctanoic acid	C ₈ H ₅ F ₁₁ O ₂	914637-49-3			X	X	
7:3 FTCA 2H,2H,3H,3H-Perfluorodecanoic acid	C ₁₀ H ₅ F ₁₅ O ₂	812-70-4			X	X	
PFECHS Perfluoro-4-ethylcyclohexanesulfonic Acid	C ₈ HF ₁₅ O ₃ S	133201-07-7			X		
PFBSA Perfluorobutylsulfonamide	C ₄ H ₂ F ₉ NO ₂ S	30334-69-1			X		
PFHxSA Perfluorohexanesulfonamide	C ₆ H ₂ F ₁₃ NO ₂ S	41997-13-1			X		

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Laboratories Providing PFAS Analytical Services

(The list that turns up in the search results from the following links does not constitute an endorsement of those firms on the list, nor is it a statement against any firm not on the list. Additionally, the capacity of the labs to provide services consistent with EGLE's recommendations above has not been verified and these details should be addressed prior to contracting with the laboratories below.)

The National Environmental Laboratory Accreditation Management System has a list of laboratories approved under various certification programs. Using US EPA Method 537.1 for PFAS in drinking water for example, type in 537.1 in the Method box to get a list of approved laboratories: <https://lams.nelac-institute.org/Search>.

Another list of PFAS Drinking Water laboratories may be accessed at: [PFAS Response - Laboratories Offering Home Testing \(michigan.gov\)](#)

The **United States Department of Defense, Environmental Laboratory Accreditation Program (US DoD ELAP)** maintains a list of labs for the determination of PFAS in various environmental media other than drinking water on the Defense Environmental Network Information Exchange (DENIX) server: <http://www.denix.osd.mil/edqw/accreditation/accreditedlabs/>

Contact Information

Questions regarding PFAS in general, contact:

EGLE Environmental Assistance Center

(800) 662-9278

MDHHS General Information

(517) 373-3740

Questions regarding laboratory information, contact:

EGLE Drinking Water Analysis Laboratory

(517) 335-8184

MDHHS Chemistry & Toxicology Division

(517) 335-9490