



State of Michigan
DEPARTMENT OF HEALTH AND HUMAN SERVICES
Lansing

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02/11/2022

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Dear study_legal_nam,

Thank you for participating in the PFAS in Firefighters of Michigan Surveillance (PFOMS) project. We appreciate your time and dedication to this project. This mailing includes several important pieces of information about your PFAS blood test results, including factsheets that can help you read your results. Please read each piece and call us at 844-464-7327, if you have any questions.

What Your Results Can Tell You

We tested your blood for 39 types of PFAS. **Table 1 (PFAS Blood Test Results and NHANES Comparison Ranges)** included in this mailing shows your blood test results. These results tell how much of each type of PFAS was in your blood at the time it was collected. Scientific studies show that most people in the United States have PFAS in their blood. Your blood test results table (Table 1) includes the most recent PFAS blood levels of people in the U.S. who were part of the National Health and Nutrition Examination Survey (NHANES). NHANES is conducted by the Centers for Disease Control and Prevention (CDC). This information will help you compare your results to other people living in the U.S.

What Your Results Cannot Tell You

Your test results cannot tell you whether any past, present, or future health problems are related to PFAS found in your blood. Your results also cannot tell you the source of any PFAS found in your blood, or how much PFAS may have been in your blood in the past.

Supporting Documents

We have included three handouts with information to help you better understand your results:

- **How to Read Your PFAS Blood Test Results:** Factsheet that explains your results table
- **PFAS Exposure and Your Health:** Factsheet that describes health effects associated with PFAS
- **Talking to Your Doctor about Exposure to PFAS:** Factsheet with information on talking with your healthcare provider about PFAS

Your Personal Test Results are Kept Private and Confidential

MDHHS will protect your personal test results to the fullest extent allowed by law. Anything written publicly about the project will only share group results. It will not include information that could identify any participant, such as name or address. We can provide you with a copy of any report written when it is available.

Thank you again for your participation. If you have any questions about your results, please call us at 844-464-7327 or contact us by email at mdhhs-pfoms@michigan.gov.

Sincerely,

PFOMS Team
Michigan Department of Health and Human Services

Enclosures:

- How to Read Your PFAS Blood Test Results (Factsheet)
- PFAS Exposure and Your Health (Factsheet)
- Talking to Your Doctor about Exposure to PFAS (Factsheet)

For More Information

- If you have questions about your results, call us at 844-464-7327 and ask to speak with PFOMS staff or email us at mdhhs-pfoms@michigan.gov. Visit Michigan.gov/DEHBio for more information about PFOMS.
- The National Health and Nutrition Examination Survey (NHANES) Fourth Report can be found at CDC.gov/Exposurereport/PDF/FourthReport_UpdatedTables_Volume2_Mar2021-508.pdf. The section on PFAS starts on page 253.
- The State of Michigan PFAS Action Response Team (MPART) website serves as the main resource for public information on PFAS contamination in Michigan. Visit Michigan.gov/PFASresponse.
- The Agency for Toxic Substances and Disease Registry (ASTDR) website includes information about PFAS and health. Visit ATSDR.CDC.gov/PFAS.
- The United States Environmental Protection Agency (U.S. EPA) website includes PFAS information, U.S. EPA actions, and links to other resources. Visit EPA.gov/PFAS.

Table 1. PFAS Blood Test Results and NHANES Comparison Ranges

Name: pfname, pfname
Collection Date: 2021-10-14

Name of PFAS	Your Result (µg/L)	NHANES Reference Range 50th - 95th Percentile (µg/L) ^{1,2,3}
PFOA - total Perfluorooctanoic acid	2.61	1.47-3.87
<i>n</i>-PFOA - linear isomer of PFOA	2.61	1.4-3.8
<i>Sb</i> -PFOA - branched isomer of PFOA	Not Detected	<LOD-0.2
PFOS - total Perfluorooctane sulfonic acid	62.5	4.7-15.1
<i>n</i>-PFOS - linear isomer of PFOS	25.4	3.2-11
<i>Sm</i>-PFOS - branched isomer of PFOS	37.0	1.4-4.6
PFOSA - Perfluorooctane sulfonamide	Not Detected	<LOD-<LOD
Me-FOSAA - 2-(N-methyl-perfluorooctane sulfonamido) acetic acid	0.10	0.1-0.6
Et-FOSAA - 2-(N-ethyl-perfluorooctane sulfonamido) acetic acid	Not Detected	<LOD-0.11
PFBS - Perfluorobutane sulfonic acid	0.12	<LOD-<LOD
PFHpA - Perfluoroheptanoic acid	0.21	<LOD-0.1
PFDoA - Perfluorododecanoic acid	Not Detected	<LOD-<LOD
PFUnA - Perfluoroundecanoic acid	0.12	0.1-0.4
PFDA - Perfluorodecanoic acid	0.28	0.2-0.6
PFNA - Perfluorononanoic acid	1.62	0.4-1.4
PFPrS - Perfluoropropane sulfonic acid	Not Detected	Not Available

¹Centers for Disease Control and Prevention (CDC). (2021) Fourth National Report on Human Exposure to Environmental Chemicals: Updated Tables, March 2021, Volume 2. Retrieved from: <https://www.cdc.gov/exposurereport/> Data extracted from NHANES tables 50th to 95th percentiles among people 12-19 years old. Reference ranges are reported from the most recent data available for each PFAS analyte. Note, if a particular PFAS was not reported in the Fourth Report, data from the CDC (1994) Third Report on Human Exposure to Environmental Chemicals was used, if available.

²Early Release: Per- and Polyfluorinated Substances (PFAS) Tables, NHANES 2011-2018 | CDC

³Notes: "µg/L" means "micrograms per liter", "<" means less than, ">" means greater than, "LOD" means limit of detection, "not available" means the PFAS has not been tested among NHANES participants.

Name of PFAS	Your Result (µg/L)	NHANES Reference Range 50th - 95th Percentile (µg/L) ^{1,2,3}
PFTeA - Perfluorotetradecanoic acid	Not Detected	Not Available
PFTriA - Perfluorotridecanoic acid	Not Detected	Not Available
PFHxA - Perfluorohexanoic acid	Not Detected	<LOD-<LOD
PFPeA - Perfluoropentanoic acid	Not Detected	Not Available
PFBA - Perfluorobutanoic acid	0.02	Not Available
PFDS - Perfluorodecane sulfonic acid	Not Detected	Not Available
PFNS - Perfluorononane sulfonic acid	Not Detected	Not Available
PFHpS - Perfluoroheptane sulfonic acid	2.03	0.2-1
PFHxS - total Perfluorohexane sulfonic acid	16.6	1.2-3.8
L-PFHxS – linear isomer of PFHxS	16.6	Not Available
Br-PFHxS – branched isomer of PFHxS	Not Detected	Not Available
PFPeS - Perfluoropentanesulfonic acid	0.26	Not Available
FtS 8:2 - Fluorotelomer sulphonic acid 8:2	Not Detected	Not Available
FtS 6:2 - Fluorotelomer sulphonic acid 6:2	0.06	Not Available
FtS 4:2 - Fluorotelomer sulphonic acid 4:2	Not Detected	Not Available
PFBSA - Perfluorobutanesulfonamide	Not Detected	Not Available
PFHxSA - Perfluorohexanesulfonamide	Not Detected	Not Available
5:3 FTCA - 2H,2H,3H,3H-perfluorooctanoic acid (3-perfluoropentyl propanoic acid)	Not Detected	Not Available
3:3 FTCA - 2H,2H,3H,3H-perfluorohexanoic acid (3-perfluoropropyl propanoic acid)	Not Detected	Not Available

¹Centers for Disease Control and Prevention (CDC). (2021) Fourth National Report on Human Exposure to Environmental Chemicals: Updated Tables, March 2021, Volume 2. Retrieved from: <https://www.cdc.gov/exposurereport/> Data extracted from NHANES tables 50th to 95th percentiles among people 12-19 years old. Reference ranges are reported from the most recent data available for each PFAS analyte. Note, if a particular PFAS was not reported in the Fourth Report, data from the CDC (1994) Third Report on Human Exposure to Environmental Chemicals was used, if available.

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Name of PFAS	Your Result (µg/L)	NHANES Reference Range 50th - 95th Percentile (µg/L) ^{1,2,3}
7:3 FTCA - 2H,2H,3H,3H-perfluorodecanoic acid (3-perfluoroheptyl propanoic acid)	Not Detected	Not Available
PFecHS - Potassium Perfluoro-4-ethylcyclohexanesulfonate	0.09	Not Available
NFDHA - Nonafluoro-3,6-dioxaheptanoic acid	Not Detected	Not Available
PFEESA - Perfluoro (2-ethoxyethane) sulfonic acid	Not Detected	Not Available
PFMPA - Perfluoro-3-methoxypropanoic acid	Not Detected	Not Available
PFMBA - Perfluoro-4-methoxybutanoic acid	Not Detected	Not Available
HFPO-DA - Hexafluoropropylene oxide dimer acid (GenX)	Not Detected	<LOD-<LOD
ADONA - Dodecafluoro-3H-4,8-dioxanonanoic acid	Not Detected	<LOD-<LOD
9CI-PF3ONS - 9-chlorohexadecafluoro-3-oxanononane-1-sulfonate (F53B)	Not Detected	<LOD-0.1
11CI-PF3OUdS - 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (R53B)	Not Detected	Not Available

¹. Centers for Disease Control and Prevention (CDC). (2021) Fourth National Report on Human Exposure to Environmental Chemicals: Updated Tables, March 2021, Volume 2. Retrieved from: <https://www.cdc.gov/exposurereport/> Data extracted from NHANES tables 50th to 95th percentiles among people 12-19 years old. Reference ranges are reported from the most recent data available for each PFAS analyte. Note, if a particular PFAS was not reported in the Fourth Report, data from the CDC (1994) Third Report on Human Exposure to Environmental Chemicals was used, if available.

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