

Analytical Results for PFAS in 2018 Produce Sampling (Parts Per Trillion)

Note: In 2018, 20 samples were collected by the FDA in the Fayetteville, N.C area near a PFAS production plant and 1 sample (romaine lettuce) was purchased outside of the area as a control. The samples collected were for research purposes to test analytical methods as part of broader research to estimate exposure to PFAS from foods. This sample size is limited and cannot be used to draw definitive conclusions. Based on the best available current science, the FDA has no indication that these substances at the levels found in the limited sampling present a human health concern.

Measured Concentrations in parts per trillion (ppt=ng/kg)

Samples	PFOA	PFOS	PFBA	PFHpS	PFPeA	PFHxA	PFHxS	PFHpA	PFBS	PFPeS	NaDONA	HFPO-DA	PFDA	PFNA	11CI-PF3OUdS	9CI-PF3ONS
Romaine Lettuce	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Cabbage	55.6	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Cabbage	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Cabbage	13.4	<MDL	30.7	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Collard greens	115	<MDL	566	<MDL	<MDL	78.1	<MDL	<MDL	129.4	<MDL	<MDL	224	<MDL	<MDL	<MDL	<MDL
Cabbage	67.5	<MDL	42.9	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	189	<MDL	<MDL	<MDL	<MDL
Collard greens	237	144	<MDL	<MDL	78.8	98.6	<MDL	46.9	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Kale	179	<MDL	<MDL	<MDL	<MDL	73.5	<MDL	31.0	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Kale	33.2	<MDL	<MDL	<MDL	<MDL	53.2	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Kale	63.8	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Kale	44.0	<MDL	127	<MDL	<MDL	55.0	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Cabbage	30.7	<MDL	34.4	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Mustard greens	24.1	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Swiss chard	20.3	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Cabbage	<MDL	<MDL	34.9	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Lettuce mix	17.0	<MDL	164	<MDL	117	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Lettuce	29.0	20.9	44.7	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Blueberries	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Tomato	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Tomato	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Corn	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	29.0	<MDL	<MDL
MDL	8	19	21	28	52	34	27	27	86	25	42	21	50	17	20	25

October 2019

Legend

Acronym	Name	CAS	Formula	Nominal Mass
PFOA	Perfluorooctanoic acid	335-67-1	C ₈ HF ₁₅ O ₂	414
PFOS	Perfluorooctanesulfonic acid	1763-23-1	C ₈ HF ₁₇ O ₃ S	500
PFBA	Perfluorobutanoate	375-22-4	C ₄ F ₇ O ₂	214
PFHpS	Perfluoroheptanesulfonic acid	375-92-8	C ₇ HF ₁₅ O ₃ S	450
PFPeA	Perfluoropentanoic acid	2706-90-3	C ₅ HF ₉ O ₂	264
PFHxA	Perfluorohexanoic acid	307-24-4	C ₆ HF ₁₁ O ₂	314
PFHxS	Perfluorohexanesulfonic acid	355-46-4	C ₆ HF ₁₃ O ₃ S	400
PFHpA	Perfluoroheptanoic acid	375-85-9	C ₇ HF ₁₃ O ₂	364
PFBS	Perfluorobutanesulfonic acid	375-73-5	C ₄ HF ₉ O ₃ S	300
PFPeS	1,1,2,2,3,3,4,4,5,5,5-Undecafluoro-1-pentanesulfonic acid	2706-91-4	C ₅ HF ₁₁ O ₃ S	350
NaDONA	Sodium dodecafluoro-3H-4, 8-dioxanonanoate	958445-44-8	C ₇ H ₅ F ₁₂ NO ₄	395
HFPO-DA	Hexafluoropropylene oxide dimer acid	13252-13-6	C ₆ HF ₁₁ O ₃	330
PFDA	Perfluorodecanoic acid	335-76-2	C ₁₀ HF ₁₉ O ₂	514
PFNA	Perfluorononanoic acid	375-95-1	C ₉ HF ₁₇ O ₂	464
11Cl-PF3OUds	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9	C ₁₀ HClF ₂₀ O ₄ S	632
9Cl-PF3ONs	Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	73606-19-6	C ₈ ClF ₁₆ KO ₄ S	570

CAS = Chemical Abstract Service Number

MDL = Method Detection Limit. Method Detection Limit is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

October 2019