



PHYSICAL AND CHEMICAL PROPERTIES OF PFAS COMPOUNDS

Name	Acronym	CAS #	Molecular formula	MW	Water Solubility* 20-25°C (g/l)	Vapor Pressure [Pa]	Density 20-20°C (g/ml)	Melting Point [°C]	Boiling Point [°C]	Dissociation Constant [pKa]
Perfluoroalkyl Carboxylates / Perfluoroalkyl Carboxylic Acids										
PFCAs										
Perfluorobutanoic Acid	PFBA	375-22-4	(CF ₂) ₃ COOH	214.04	Miscible	1307	1.65	-17.5	121	-0.2 to 0.7
Perfluoropentanoic Acid	PFPeA	2706-90-3	F(CF ₂) ₄ COOH	264.05	112.6	1057	1.7	-----	124.4	-0.06
Perfluorohexanoic Acid	PFHxA	307-24-4	F(CF ₂) ₅ COOH	314.05	21.7	457	1.72	14	143	-0.13
Perfluoroheptanoic Acid	PFHpA	375-85-9	F(CF ₂) ₆ COOH	364.06	4.2	158	1.79	30	175	-0.15
Perfluorooctanoic Acid	PFOA	335-67-1	F(CF ₂) ₇ COOH	414.07	3.4-9.5	4-1300	1.8	37-60	188-192	-0.16 to 3.8
Perfluorononanoic Acid	PFNA	375-95-1	F(CF ₂) ₈ COOH	464.08	9.5	1.3	1.75	59-56	218	-0.17
Perfluorodecanoic Acid	PFDA	335-76-2	F(CF ₂) ₉ COOH	514.09	9.5	0.2	1.76	77-88	218	-0.17
Perfluoroundecanoic Acid	PFUnA	2058-94-8	F(CF ₂) ₁₀ COOH	564.09	0.004	0.1	1.76	83-101	160-230	-0.17
Perfluorododecanoic Acid	PFDoA	307-55-1	F(CF ₂) ₁₁ COOH	614.1	0.0007	0.01	1.77	107-109	245	-0.17 to 0.8
Perfluorotridecanoic Acid	PFTTrdA	72629-94-8	F(CF ₂) ₁₂ COOH	664.11	0.0002	0.3	1.77	-----	-----	-----
Perfluorotetradecanoic Acid	PFTeDA	376-06-7	F(CF ₂) ₁₃ COOH	714.12	0.00003	0.1	1.78	-----	276	-----
Perfluoropentadecanoic Acid	PFPeDA	141074-63-7	F(CF ₂) ₁₄ COOH	764.12	-----	-----	-----	-----	-----	-----
Pentadecafluorooctanoic Acid Ammonium Salt										
(Ammonium Pentadecafluorooctanoate)	APFO	3825-26-1	C ₈ H ₄ NF ₁₅ NO ₂	445.11	14.2	0.01	-----	157-165	-----	2.5
Perfluoroalkyl Sulfonates / Perfluoroalkyl Sulfonic Acids										
PFASs										
Perfluorobutane Sulfonate	PFBS	375-73-5	F(CF ₂) ₄ SO ₃ H	300.1	46.2-56.6	631	1.81	76-84	211	-6 to -5.0
Perfluorohexane Sulfonate	PFHxS	432-50-8	F(CF ₂) ₆ SO ₃ H	400.11	2.3	58.9	-----	-----	-----	-6 to -5.0
Perfluoroheptane Sulfonate	PFHpS	357-92-8	F(CF ₂) ₇ SO ₃ H	450.12	-----	-----	-----	-----	-----	-----
Perfluorooctane Sulfonate	PFOS	1763-23-1	F(CF ₂) ₈ SO ₃ H	500.13	1.52-1.57	6.7	-----	54	>400	-6 to -2.6
Perfluorodecane Sulfonate	PFDS	333-77-3	F(CF ₂) ₁₀ SO ₃ H	600.14	0.002	0.71	-----	-----	-----	-----
Perfluoroalkyl Phosphonic Acids PFPAs										
Perfluorobutyl Phosphonic Acid	PFBPA	52299-24-8	F(CF ₂) ₄ P(O)(OH) ₂	350.02	14259.1	0.18	-----	-----	-----	-----
Perfluorohexyl Phosphonic Acid	PFHxPA	40143-76-8	F(CF ₂) ₆ P(O)(OH) ₂	400.03	515.3	0.04	-----	-----	-----	-----
Perfluorooctyl Phosphonic Acid	PFOPA	40143-78-0	F(CF ₂) ₈ P(O)(OH) ₂	500.05	24.5	0.01	-----	-----	-----	-----
Perfluorodecyl Phosphonic Acid	PFDPA	52299-26-0	F(CF ₂) ₁₀ P(O)(OH) ₂	600.06	0.5	0.0002	-----	-----	-----	-----
Perfluorooctane Sulfonamide and Derivatives										
Perfluorooctane Sulfonamide	PFOSA	754-91-6	F(CF ₂) ₈ SO ₂ NH ₂	499.14	-----	-----	-----	154-155	-----	-----
Perfluorooctane Sulfonamidoethanol	FOSE	10116-92-4	F(CF ₂) ₈ SO ₂ NH(CH ₂) ₂ OH	543.19	0.0009	0	-----	-----	-----	-----
N-Methyl-Perfluorooctane Sulfonamide	N-MeFOSA	31506-32-8	F(CF ₂) ₈ SO ₂ NHCH ₃	513.17	0.0002	0.3	-----	-----	-----	-----
N-Ethyl-Perfluorooctane Sulfonamide	N-EtFOSA	4151-50-2	F(CF ₂) ₈ SO ₂ NHCH ₂ CH ₃	527.2	0.0001	0.12	-----	-----	-----	-----
N-Methyl-Perfluorooctane Sulfonamidoethanol	N-MeFOSE	24448-09-7	F(CF ₂) ₈ SO ₂ N(CH ₃)(CH ₂) ₂ OH	557.22	0.0003	0.0004	-----	-----	-----	-----
N-Ethyl-Perfluorooctane	N-EtFOSE	1691-99-2	F(CF ₂) ₈ SO ₂ N(CH ₂ CH ₃)(CH ₂) ₂ OH	571.25	0.0001	0.002	-----	55-60	-----	-----

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Fluorotelomer sulfonic acids FTSs										
1H, 1H, 2H, 2H-Perfluorobutanesulfonic Acid H4-PFBS (2:2 FTS)	H4-PFBS (2:2 FTS)	149246-63-9	F(CF ₂) ₂ CH ₂ CH ₂ SO ₃ H	228.13	-----	-----	-----	-----	-----	-----
1H, 1H, 2H, 2H-Perfluorohexanesulfonic Acid	H4-PFHxS (4:2 FTS)	757124-72-4	F(CF ₂) ₄ CH ₂ CH ₂ SO ₃ H	328.15	27.9	0.33	-----	-----	-----	-----
1H, 1H, 2H, 2H-Perfluorooctanesulfonic Acid	H4-PFOS (6:2 FTS)	27619 97 2	F(CF ₂) ₆ CH ₂ CH ₂ SO ₃ H	428.17	1.3	0.11	-----	-----	-----	1.31
1H, 1H, 2H, 2H-Perfluorodecanesulfonic Acid	H4-PFDeS (8:2 FTS)	39108-34-4	F(CF ₂) ₈ CH ₂ CH ₂ SO ₃ H	528.18	0.06	0.01	-----	-----	-----	1.32
1H, 1H, 2H, 2H-Perfluoroundecanesulfonic Acid	H4-PFUdS (10:2 FTS)	120226-60-0	F(CF ₂) ₁₀ CH ₂ CH ₂ SO ₃ H	628.2	0.002	0.001	-----	-----	-----	-----
1H, 1H, 2H, 2H-Perfluorotetradecanesulfonic Acid	H4-PFTeS (12:2 FTS)	149246-64-0	F(CF ₂) ₁₂ CH ₂ CH ₂ SO ₃ H	728.21	0.0002	0.001	-----	-----	-----	-----
Fluorotelomer Alcohols FTOHs										
Perfluoromethylethanol	2:2 2:2 FTOH	54949-74-5	F(CF ₂) ₂ CH ₂ CH ₂ OH	164.08	-----	-----	-----	-----	-----	-----
Perfluoroethylethanol -- 0.98 -- -- 214 -- 3.30 0.93 -- --	4:2 4:2 FTOH	2043-47-2	F(CF ₂) ₄ CH ₂ CH ₂ OH	264.09	0.98	214	-----	-----	-----	-----
Perfluorohexylethanol	6:2 6:2 FTOH	647-42-7	F(CF ₂) ₆ CH ₂ CH ₂ OH	364.11	0.02	18.2	-----	-33	172	-----
Perfluorocylethanol	8:2 8:2 FTOH	865-86-1	F(CF ₂) ₈ CH ₂ CH ₂ OH	464.12	0.0001	3.98	-----	45	114	-----
Perfluorodecylethanol	10:2 10:2 FTOH	678-39-8	F(CF ₂) ₁₀ CH ₂ CH ₂ OH	564.14	0.00001	0.2	-----	-----	-----	-----
Perfluorododecylethanol	12:2 12:2 FTOH	39239-77-5	F(CF ₂) ₁₂ CH ₂ CH ₂ OH	664.15	-----	-----	-----	-----	-----	-----
Polyfluorinated Alkyl Phosphates PAPs										
Monoester										
monoPAP										
4:2 Fluortelomerphosphatemonoester	4:2 monoPAP	150065-76-2	F(CF ₂) ₄ CH ₂ CH ₂ OP(O)(OH) ₂	344.07	11.9	0	-----	-----	-----	-----
6:2 Fluortelomerphosphatemonoester	6:2 monoPap		F(CF ₂) ₆ CH ₂ CH ₂ OP(O)(OH) ₂	444.09	2.6	0	-----	-----	-----	-----
8:2 Fluortelomerphosphatemonoester	8:2 monoPAP	57678-03-2	F(CF ₂) ₈ CH ₂ CH ₂ OP(O)(OH) ₂	544.1	0.16	0	-----	-----	-----	-----
10:2 Fluortelomerphosphatemonoester	10:2 monoPAP	57678-05-4	F(CF ₂) ₁₀ CH ₂ CH ₂ OP(O)(OH) ₂	644.12	0.01	0	-----	-----	-----	-----
12:2 Fluortelomerphosphatemonoester	12:2 monoPAP	57678-07-6	F(CF ₂) ₁₂ CH ₂ CH ₂ OP(O)(OH) ₂	744.13	0.0003	0	-----	-----	-----	-----
Diester diPAP										
4:2 Fluortelomerphosphatediester	4:2 diPAP	135098-69-0	F(CF ₂) ₄ CH ₂ CH ₂ OP(OH)OCH ₂ CH ₂	590.15	0.0004	0	-----	-----	-----	-----
6:2 Fluortelomerphosphatediester	6:2 diPAP	57677-95-9	F(CF ₂) ₆ CH ₂ CH ₂ OP(OH)OCH ₂ CH ₂	790.18	8.00E-07	0	-----	-----	-----	-----
8:2 Fluortelomerphosphatediester	8:2 diPAP	678-41-1	F(CF ₂) ₈ CH ₂ CH ₂ OP(OH)OCH ₂ CH ₂	990.21	5.00E-10	0	-----	-----	-----	-----
10:2 Fluortelomerphosphatediester	10:2 diPAP	1895-26-7	F(CF ₂) ₁₀ CH ₂ CH ₂ OP(OH)OCH ₂ CH ₂	1190.24	2.00E-12	0	-----	-----	-----	-----
12:2 Fluortelomerphosphatediester	12:2 diPAP	57677-99-3	F(CF ₂) ₁₂ CH ₂ CH ₂ OP(OH)OCH ₂ CH ₂	1390.27	3.00E-15	0	-----	-----	-----	-----
Polytetrafluoroethylene (Teflon)	PTFE	9002-84-0	(CF ₂) _{2n}		-----	-----	-----	327		-----