

Non-exhaustive list of CAS numbers for long-chain perfluorocarboxylic acids, their salts and related compounds

1. A non-exhaustive list of CAS numbers for long-chain perfluorocarboxylic acids, their salts and related compounds is provided in Table 1.
2. Paragraph 4 of the proposal by Canada to list long-chain perfluorocarboxylic acids (PFCAs), their salts and related compounds in Annexes A, B and/or C to the Stockholm Convention on Persistent Organic Pollutants (UNEP/POPS/POPRC.17/7) specifies that it concerns PFCAs with carbon chain lengths from 9 to 21 inclusive, their salts and related compounds. In the same paragraph, long-chain PFCAs and their salts are defined as “a homologous series of substances with the molecular formula of $C_nF_{2n+1}CO_2H$ (where $8 \leq n \leq 20$)”.
3. Paragraph 5 of the proposal defines related compounds as “any substance that is a precursor and may degrade or transform to long-chain PFCAs, where the perfluorinated alkyl moiety has the formula C_nF_{2n+1} (where $8 \leq n \leq 20$) and is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom”.
4. The non-exhaustive list has been prepared for the purpose of facilitating Annex E information collection for long-chain PFCAs, their salts and related compounds.

Table 1: Non-exhaustive list of CAS numbers for long-chain perfluorocarboxylic acids, their salts and related compounds.

Notes:

- Long-chain perfluorocarboxylic acids (PFCAs) or their salts which, in the proposal, as defined as a homologous series of substances with the molecular formula of $C_nF_{2n+1}CO_2H$ (where $8 \leq n \leq 20$);
- Compounds related to long-chain PFCAs which, in the proposal, are defined as any substance that is a precursor and may degrade or transform to long-chain PFCAs, where the perfluorinated alkyl moiety has the formula C_nF_{2n+1} (where $8 \leq n \leq 20$) and is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom;

CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	(i) ^a	(ii) ^a	(iii) ^b	Ref
				Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
Long-chain PFCAs							
375-95-1	PFNA	Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9- heptadecafluoro-	Nonanoic acid, heptadecafluoro-	x			1
335-76-2	PFDA	Decanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10- nonadecafluoro-	Decanoic acid, nonadecafluoro-	x			1
2058-94-8	PFUnDA	Undecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11 -heneicosafuoro-	Undecanoic acid, heneicosafuoro-	x			1
307-55-1	PFDoDA	Dodecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12 ,12,12-tricosafuoro-	Dodecanoic acid, tricosafuoro-	x			1
72629-94-8	PFTTrDA	Tridecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12 ,12,13,13,13-pentacosafuoro-	Tridecanoic acid, pentacosafuoro-	x			1
376-06-7	PFTDA, PFTeDA	Tetradecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12 ,12,13,13,14,14,14-heptacosafuoro-	Tetradecanoic acid, heptacosafuoro-	x			1

¹ American Chemical Society, 2022. CAS SciFinder[®]. Available from: <https://scifinder-n.cas.org/>. [Accessed: 4 February 2022]

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
141074-63-7	PFPeDA	Pentadecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,13,14,14,15,15,15-nonacosafuoro-	Pentadecanoic acid, nonacosafuoro-	x			1
67905-19-5	PFHxDA	Hexadecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,13,14,14,15,15,16,16,16-hentriacontafuoro-	Hexadecanoic acid, hentriacontafuoro-	x			1
57475-95-3	PFHpDA	Heptadecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,13,14,14,15,15,16,16,17,17,17-tritriacontafuoro-	Perfluoroheptadecanoic acid	x			1
16517-11-6	PFODA, PFOcDA	Octadecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,13,14,14,15,15,16,16,17,17,18,18,18-pentatriacontafuoro-	Octadecanoic acid, pentatriacontafuoro-	x			1
133921-38-7	PFNDA	Nonadecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,13,14,14,15,15,16,16,17,17,18,18,19, 19,19-heptatriacontafuoro-	Perfluorononadecanoic acid	x			1
68310-12-3	C20 PFCA	Eicosanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,13,14,14,15,15,16,16,17,17,18,18,19, 19,20,20,20-nonatriacontafuoro-	Eicosanoic acid, nonatriacontafuoro-	x			1
No CAS identified	C21 PFCA	n/a	Perfluoroheneicosanoic acid	x			1
Long-chain PFCAs salts							
4149-60-4		Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, ammonium salt (1:1)	Nonanoic acid, heptadecafluoro-, ammonium salt		x		1,3
21049-39-8		Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, sodium salt (1:1)	Perfluorononan-1-oic acid, sodium salt		x		3
3830-45-3		Decanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-, sodium salt (1:1)	Sodium nonadecafluorodecanoate		x		3
3108-42-7		Decanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-, ammonium salt (1:1)	Ammonium nonadecafluorodecanoate		x		3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
Polyfluorinated phosphates and related substances							
65530-63-4	monoPAP	Ethanol, 2,2'-iminobis-, compd. with α -fluoro- ω -[2-(phosphonoxy)ethyl]poly(difluoromethylene) (2:1)	Ethanol, 2,2'-iminobis-, compd. with α -fluoro- ω -[2-(phosphonoxy)ethyl]poly(difluoromethylene) (2:1)			x	1,4
65530-64-5	diPAP	Ethanol, 2,2'-iminobis-, compd. with α,α' -[phosphinobis(oxy-2,1-ethanediyl)]bis[ω -fluoropoly(difluoromethylene)] (1:1)	Ethanol, 2,2'-iminobis-, compd. with α,α' -[phosphinobis(oxy-2,1-ethanediyl)]bis[ω -fluoropoly(difluoromethylene)] (1:1)			x	1,4
65530-70-3	diPAP	Poly(difluoromethylene), α,α' -[phosphinobis(oxy-2,1-ethanediyl)]bis[ω -fluoro-, ammonium salt (1:1)]	Poly(difluoromethylene), α,α' -[phosphinobis(oxy-2,1-ethanediyl)]bis[ω -fluoro-, ammonium salt			x	1
65530-71-4	monoPAP	Poly(difluoromethylene), α -fluoro- ω -[2-(phosphonoxy)ethyl]-, ammonium salt (1:1)	Poly(difluoromethylene), α -fluoro- ω -[2-(phosphonoxy)ethyl]-, monoammonium salt			x	1
65530-72-5	diPAP	Poly(difluoromethylene), α -fluoro- ω -[2-(phosphonoxy)ethyl]-, ammonium salt (1:2)	Poly(difluoromethylene), α -fluoro- ω -[2-(phosphonoxy)ethyl]-, diammonium salt			x	1
65530-74-7	monoPAP	Ethanol, 2,2'-iminobis-, compd. with α -fluoro- ω -[2-(phosphonoxy)ethyl]poly(difluoromethylene) (1:1)	Ethanol, 2,2'-iminobis-, compd. with α -fluoro- ω -[2-(phosphonoxy)ethyl]poly(difluoromethylene) (1:1)			x	1,4
68412-68-0		Phosphonic acid, perfluoro-C6-12-alkyl derivs.	Phosphonic acid, perfluoro-C6-12-alkyl derivs.			x	1,3
68412-69-1		Phosphinic acid, bis(perfluoro-C6-12-alkyl) derivs.	Phosphinic acid, bis(perfluoro-C6-12-alkyl) derivs.			x	1,3
74499-44-8		Phosphoric acid, γ - ω -perfluoro-C8-16-alkyl esters, compds. with diethanolamine	Phosphoric acid, γ - ω -perfluoro-C8-16-alkyl esters, compds. with diethanolamine			x	4
1895-26-7	10:2 diPAP	1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuoro-, 1,1'-(hydrogen phosphate)	bis[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuorododecyl]hydrogen phosphate			x	3
63295-27-2		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-icosafuoro-12-(trifluoromethyl)-, 1-(dihydrogen phosphate)	4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-icosafuoro-2-hydroxy-12-(trifluoromethyl)tridecyl dihydrogen phosphate			x	3
63295-28-3		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-14-(trifluoromethyl)-, 1-(dihydrogen phosphate)	4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-2-hydroxy-14-(trifluoromethyl)pentadecyldihydrogen phosphate			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
94158-70-0		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,13-heneicosafuoro-, 1-(dihydrogen phosphate)	4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,13-heneicosafuoro-2-hydroxytridecyl dihydrogen phosphate			x	3
94200-42-7		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,15-pentacosafuoro-, 1- (dihydrogen phosphate)	4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,15-pentacosafuoro-2- hydroxypentadecyl dihydrogen phosphate			x	3
94200-43-8		1,2-Heptadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,16,16,17,17,17- nonacosafuoro-, 1-(dihydrogen phosphate)	4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,16,16,17,17,17- nonacosafuoro-2- hydroxyheptadecyldihydrogen phosphate			x	3
94200-46-1		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,13-heneicosafuoro-, 1-(dihydrogen phosphate), diammonium salt	diammonium 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,13-heneicosafuoro-2-hydroxytridecyl phosphate			x	3
94200-47-2		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,15-pentacosafuoro-, 1- (dihydrogen phosphate), diammonium salt	diammonium 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,15-pentacosafuoro-2- hydroxypentadecyl phosphate			x	3
94200-48-3		1,2-Heptadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,16,16,17,17,17- nonacosafuoro-, 1-(dihydrogen phosphate), diammonium salt	diammonium 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,16,16,17,17,17- nonacosafuoro-2-hydroxyheptadecyl phosphate			x	3
94200-50-7		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13, 13-icosafuoro-12-(trifluoromethyl)-, 1- (dihydrogen phosphate), diammonium salt	diammonium 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13, 13-icosafuoro-2-hydroxy-12- (trifluoromethyl)tridecyl phosphate			x	3
94200-51-8		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,15,15,15-tetracosafuoro-14- (trifluoromethyl)-, 1-(dihydrogen phosphate), diammonium salt	diammonium 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,15,15,15-tetracosafuoro-2-hydroxy- 14-(trifluoromethyl)pentadecyl phosphate			x	3
Perfluoroalkyl halides							
307-50-6		Undecane,1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9, 9,10,10,11,11-tricosafuoro-11-iodo-	Undecane,1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9, 9,10,10,11,11-tricosafuoro-11-iodo-			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
307-60-8		Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuoro-12-iodo-	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuoro-12-iodo-			x	3
307-63-1		1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-Nonacosafuoro-14-iodotetradecane	Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-nonacosafuoro-14-iodo-			x	3
335-79-5		Pentadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15-hentriacontafuoro-15-iodo-	Pentadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15-hentriacontafuoro-15-iodo-			x	3
376-04-5		Tridecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13-heptacosafuoro-13-iodo-	Tridecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13-heptacosafuoro-13-iodo-			x	3
423-62-1		Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafuoro-10-iodo-	Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafuoro-10-iodo-			x	3
558-97-4		Nonane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafuoro-9-iodo-	Nonane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafuoro-9-iodo-			x	3
677-93-0		Decane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-eicosafuoro-10-iodo-2-(trifluoromethyl)-	Decane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-eicosafuoro-10-iodo-2-(trifluoromethyl)-			x	3
3248-61-1		Dodecane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-tetracosafuoro-12-iodo-2-(trifluoromethyl)-	Dodecane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-tetracosafuoro-12-iodo-2-(trifluoromethyl)-			x	3
3248-63-3		Tetradecane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-octacosafuoro-14-iodo-2-(trifluoromethyl)-	Tetradecane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-octacosafuoro-14-iodo-2-(trifluoromethyl)-			x	3
90622-71-2		Alkyl iodides, C6-18, perfluoro	Alkyl iodides, C6-18, perfluoro			x	3
Polyfluorinated iodides							
2043-54-1	10:2 FTI	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafuoro-12-iodo-	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafuoro-12-iodo-			x	3
30046-31-2	12:2 FTI	Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuoro-14-iodo-	Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuoro-14-iodo-			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
65510-55-6	14:2 FTI	Hexadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-nonacosafuoro-16-iodo-	Hexadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-nonacosafuoro-16-iodo-			x	3
65510-56-7	9:2 FTI	Undecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafluoro-11-iodo-	Undecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafluoro-11-iodo-			x	3
68188-12-5	FTI	Alkyl iodides, C4-20, γ - ω -perfluoro	Alkyl iodides, C4-20, γ - ω -perfluoro			x	3
68390-33-0	FTI	Alkyl iodides, C10-12, γ - ω -perfluoro	Alkyl iodides, C10-12, γ - ω -perfluoro			x	3
Polyfluorinated thioethers							
65530-69-0		Poly(difluoromethylene), α -[2-[(2-carboxyethyl)thio]ethyl]- ω -fluoro-, lithium salt (1:1)	Poly(difluoromethylene), α -[2-[(2-carboxyethyl)thio]ethyl]- ω -fluoro-, lithium salt			x	1,4
65530-83-8		Poly(difluoromethylene), α -[2-[(2-carboxyethyl)thio]ethyl]- ω -fluoro-	Poly(difluoromethylene), α -[2-[(2-carboxyethyl)thio]ethyl]- ω -fluoro-			x	1,4
68187-25-7		Butanoic acid, 4-[[3-(dimethylamino)propyl]amino]-4-oxo-, 2(or 3)-[(γ - ω -perfluoro-C6-20-alkyl)thio] derivs.	Butanoic acid, 4-[[3-(dimethylamino)propyl]amino]-4-oxo-, 2(or 3)-[(γ - ω -perfluoro-C6-20-alkyl)thio] derivs.			x	1,4
68187-47-3		1-Propanesulfonic acid, 2-methyl-, 2-[[1-oxo-3-[(γ - ω -perfluoro-C4-16-alkyl)thio]propyl]amino] derivs., sodium salts	1-Propanesulfonic acid, 2-methyl-, 2-[[1-oxo-3-[(γ - ω -perfluoro-C4-16-alkyl)thio]propyl]amino] derivs., sodium salts			x	1,4
Polyfluorinated alcohols							
865-86-1	10:2 FTOH	1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuoro-	1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuoro-			x	1,3,4
39239-77-5	12:2 FTOH	1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuoro-	1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuoro-			x	1,3,4
68391-08-2		Alcohols, C8-14, γ - ω -perfluoro	Alcohols, C8-14, γ - ω -perfluoro			x	1,4
60699-51-6	14:2 FTOH	1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafuoro-	1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafuoro-			x	1,3
65104-65-6	18:2 FTOH	1-Eicosanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20-heptatriacontafuoro-	1-Eicosanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20-heptatriacontafuoro-			x	1

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
65104-67-8		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,17,17,18,18,18- trtriacontafluoro-	1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,17,17,18,18,18- trtriacontafluoro-			x	1
Polyfluorinated alcohol derivatives							
65545-80-4		Poly(oxy-1,2-ethanediyl), α -hydro- ω - hydroxy-, ether with α -fluoro- ω -(2- hydroxyethyl)poly(difluoromethylene) (1:1)	Poly(oxy-1,2-ethanediyl), α -hydro- ω - hydroxy-, ether with α -fluoro- ω -(2- hydroxyethyl)poly(difluoromethylene) (1:1)			x	1,4
71002-41-0		Poly(difluoromethylene), α -[2-(acetyloxy)-2- [(carboxymethyl)dimethylammonio]ethyl]- ω -fluoro-, inner salt	Poly(difluoromethylene), α -[2-(acetyloxy)-2- [(carboxymethyl)dimethylammonio]ethyl]- ω -fluoro-, hydroxide, inner salt			x	1,4
123171-68-6		Poly(difluoromethylene), α -[2-(acetyloxy)-3- [(carboxymethyl)dimethylammonio]propyl]- ω -fluoro-, inner salt	Poly(difluoromethylene), α -[2-(acetyloxy)-3- [(carboxymethyl)dimethylammonio]propyl]- ω -fluoro-, hydroxide, inner salt			x	1
Polyfluorinated acrylates and methacrylates							
16083-87-7		2-Propenoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,15,15,15-tetracosafuoro-2-hydroxy- 14-(trifluoromethyl)pentadecyl ester	4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,15,15,15-tetracosafuoro-2-hydroxy- 14-(trifluoromethyl)pentadecylacrylate			x	3
52956-82-8		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,14,14,14-tetracosafuoro-13- (trifluoromethyl)tetradecyl ester	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,14,14,14-tetracosafuoro-13- (trifluoromethyl)tetradecyl acrylate			x	3
65104-45-2		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10, heptadecafluorodecyl 2-methyl-2- propenoate, methyl 2-methyl-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl 2- methyl-2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2- methyl-2-propenoate	2-Propenoic acid, 2- methyl-,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11, 12,12,12-heneicosafuorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,10-heptadecafluorodecyl 2-methyl-2- propenoate,methyl 2-methyl-2- propenoate,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10, 11,11,12,12,13,13,14,14,14- pentacosafuorotetradecyl 2-methyl-2- propenoate and 3,3,4,4,5,5,6,6, 7,7,8,8,8- tridecafluorooctyl 2-methyl-2-propenoate			x	3,4
74256-14-7		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12- eicosafuoro-11-(trifluoromethyl)dodecyl ester	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12- icosafuoro-11-(trifluoromethyl)dodecyl methacrylate			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
74256-15-8		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,14,14,14-tetracosafluoro-13- (trifluoromethyl)tetradecyl ester	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,14,14,14-tetracosafluoro-13- (trifluoromethyl)tetradecyl methacrylate			x	3
2144-54-9	10:2 FTMAC	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester			x	1,3,4
6014-75-1	12:2 FTMAC	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl ester	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl ester			x	1,3,4
4980-53-4	14:2 FTMAC	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,16- nonacosafuorohexadecyl ester	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,16- nonacosafuorohexadecyl ester			x	1,3,4
59778-97-1	16:2 FTMAC	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,17,17,18,18,18- tritriacontafuorooctadecyl ester	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,17,17,18,18,18- tritriacontafuorooctadecyl ester			x	1,4
65104-66-7	18:2 FTMAC	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,17,17,18,18,19,19,2 0,20,20-heptatriacontafuoroicosyl ester	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,17,17,18,18,19,19,2 0,20,20-heptatriacontafuoroicosyl ester			x	1,4
17741-60-5		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester			x	1,3
85631-54-5		2-Propenoic acid, γ - ω -perfluoro-C8-14-alkyl esters	2-Propenoic acid, γ - ω -perfluoro-C8-14-alkyl esters			x	1,3,4
65530-66-7		Poly(difluoromethylene), α -fluoro- ω -[2-[(2- methyl-1-oxo-2-propen-1-yl)oxy]ethyl]-	Poly(difluoromethylene), α -fluoro- ω -[2-[(2- methyl-1-oxo-2-propenyl)oxy]ethyl]-			x	1
65605-70-1		Poly(difluoromethylene), α -fluoro- ω -[2-[(1- oxo-2-propen-1-yl)oxy]ethyl]-	Poly(difluoromethylene), α -fluoro- ω -[2-[(1- oxo-2-propenyl)oxy]ethyl]-			x	1
Polyfluorinated carboxylate							
65530-59-8		Poly(difluoromethylene), α -fluoro- ω -(2- hydroxyethyl)-, 2-hydroxy-1,2,3- propanetricarboxylate (3:1)	Poly(difluoromethylene), α -fluoro- ω -(2- hydroxyethyl)-, 2-hydroxy-1,2,3- propanetricarboxylate (3:1)			x	1,4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
65605-56-3		Poly(difluoromethylene), α -fluoro- ω -(2-hydroxyethyl)-, dihydrogen 2-hydroxy-1,2,3-propanetricarboxylate	Poly(difluoromethylene), α -fluoro- ω -(2-hydroxyethyl)-, dihydrogen 2-hydroxy-1,2,3-propanetricarboxylate			x	1,4
65605-57-4		Poly(difluoromethylene), α -fluoro- ω -(2-hydroxyethyl)-, hydrogen 2-hydroxy-1,2,3-propanetricarboxylate	Poly(difluoromethylene), α -fluoro- ω -(2-hydroxyethyl)-, hydrogen 2-hydroxy-1,2,3-propanetricarboxylate			x	1,4
Polyfluorinated urethane							
110053-43-5		Imidodicarbonic diamide, <i>N,N'</i> ,2-tris(6-isocyanatohexyl)-, reaction products with 3-chloro-1,2-propanediol and α -fluoro- ω -(2-hydroxyethyl)poly(difluoromethylene)	Imidodicarbonic diamide, <i>N,N'</i> ,2-tris(6-isocyanatohexyl)-, reaction products with 3-chloro-1,2-propanediol and α -fluoro- ω -(2-hydroxyethyl)poly(difluoromethylene)			x	1
Fluoro ester							
148878-17-5		2-Propenoic acid, 2-methyl-, C2-18-alkyl esters, polymers with α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and vinylidene chloride	2-Propenoic acid, 2-methyl-, C2-18-alkyl esters, polymers with α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and vinylidene chloride			x	1
65530-65-6		Poly(difluoromethylene), α -fluoro- ω -[2-[(1-oxooctadecyl)oxy]ethyl]-	Poly(difluoromethylene), α -fluoro- ω -[2-[(1-oxooctadecyl)oxy]ethyl]-			x	1
Carboxylic acid and ester derivatives							
125768-41-4		9-Octadecenoic acid (9Z)-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl ester	9-Octadecenoic acid (9Z)-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl ester			x	4
220237-52-5		9-Octadecenoic acid (9Z)-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuorotetradecyl ester	9-Octadecenoic acid (9Z)-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuorotetradecyl ester			x	4
94095-37-1		Pentanoic acid, 4,4-bis[(γ - ω -perfluoro-C6-12-alkyl)thio] derivs., compds. with diethanolamine	Pentanoic acid, 4,4-bis[(γ - ω -perfluoro-C6-12-alkyl)thio] derivatives, compounds with diethanolamine			x	4
71608-61-2		Pentanoic acid, 4,4-bis[(γ - ω -perfluoro-C8-20-alkyl)thio] derivs., compds. with diethanolamine	Pentanoic acid, 4,4-bis[(γ - ω -perfluoro-C8-20-alkyl)thio] derivatives, compounds with diethanolamine			x	4
253682-98-3		Butanedioic acid, monopolyisobutylene derivs., 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl ester	Butanedioic acid, monopolyisobutylene derivs., 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl ester			x	4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
253682-97-2		Butanedioic acid, monopolyisobutylene derivs., 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuoro tetradecyl ester	Butanedioic acid, monopolyisobutylene derivs., 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuoro tetradecyl ester			x	4
70983-60-7		1-Propanaminium, 2-hydroxy-N,N,N-trimethyl-, 3-[(γ-ω-perfluoro-C6-20-alkyl)thio] derivs., chlorides	1-Propanaminium, 2-hydroxy-N,N,N-trimethyl-, 3-[(γ-ω-perfluoro-C6-20-alkyl)thio] derivs., chlorides			x	1,4
Alkyl ammonium and amine derivatives							
98219-29-5		Betaines, N-(hydroxyethyl)-N-methyl-N-(2-sulfoethyl)-N-(1,1,2-trihydroperfluoro-C8-14-2-alkenyl)	Betaines, N-(hydroxyethyl)-N-methyl-N-(2-sulfoethyl)-N-(1,1,2-trihydroperfluoro-C8-14-2-alkenyl)			x	4
115340-82-4		Betaines, (hydroxyethyl)methyl(γ,ω-perfluoro-C ₈₋₁₄ -β-alkenyl)(2-sulfopropyl)	Betaines, (hydroxyethyl)methyl(γ,ω-perfluoro-C8-14-.beta.-alkenyl)(2-sulfopropyl)			x	4
92129-34-5		Quaternary ammonium compounds, (hydroxyethyl)dimethyl(γ-ω-perfluoro-C8-14-β-alkenyl), Me sulfates (salts)	Quaternary ammonium compounds, (hydroxyethyl)dimethyl(γ-ω-perfluoro-C8-14-.beta.-alkenyl), methyl sulfates			x	4
115535-36-9		Quaternary ammonium compounds, trimethyl(δ-ω-perfluoro-C ₈₋₁₄ -β-alkenyl), chlorides	Quaternary ammonium compounds, trimethyl(δ,omega-perfluoro-C8-14-.beta.-alkenyl), chlorides			x	4
127133-57-7		Quaternary ammonium compounds, diethylmethyl(γ-ω-perfluoro-C ₈₋₁₄ -β-alkenyl), Me sulfates	Quaternary ammonium compounds, diethylmethyl(γ-ω-perfluoro-C8-14-.beta.-alkenyl), methyl sulfates			x	4
145477-02-7		Quaternary ammonium compounds, diethylmethyl(γ-ω-perfluoro-C ₈₋₁₄ -β-alkenyl), tetraphenylborates	Quaternary ammonium compounds, diethyl methyl (γ-ω-perfluoro-C8-14-.beta.-alkenyl), tetraphenyl borates			x	4
153325-45-2		Quaternary ammonium compounds, diethylmethyl(γ-ω-perfluoro-C ₈₋₁₄ -β-alkenyl), tetraphenylborates	Quaternary ammonium compounds, diethyl methyl (γ-ω-perfluoro-C8-14-.beta.-alkenyl), tetrafluoroborates			x	4
65530-57-6		Poly(difluoromethylene), α-fluoro-ω-[2-[[2-(trimethylammonio)ethyl]thio]ethyl]-, methyl sulfate (1:1)	Poly(difluoromethylene), α-fluoro-ω-[2-[[2-(trimethylammonio)ethyl]thio]ethyl]-, methyl sulfate			x	4
Other derivatives							

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
71356-38-2		Piperazinium, 1-(carboxymethyl)-1-(2-hydroxyethyl)-4-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)-, inner salt	Piperazinium, 1-(carboxymethyl)-1-(2-hydroxyethyl)-4-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)-, hydroxide, inner salt			x	4
68140-21-6		Thiols, C10-20, γ - ω -perfluoro	Thiols, C10-20, γ - ω -perfluoro			x	4
68516-17-6		Sulfuric acid, mono(γ - ω -perfluoro-C6-12-alkyl) esters, ammonium salts	Sulfuric acid, mono(γ - ω -perfluoro-C6-12-alkyl) esters, ammonium salts			x	4
59493-72-0		1-Propanaminium, 3-[[4-[(heptadecafluorononen-1-yl)oxy]benzoyl]amino]-N,N,N-trimethyl-, iodide (1:1)	1-Propanaminium, 3-[[4-[(heptadecafluorononenyl)oxy]benzoyl]amino]-N,N,N-trimethyl-, iodide			x	4
84238-62-0		Sulfuric acid, mono(γ - ω -perfluoro-C8-12-alkyl) esters, ammonium salts	Sulfuric acid, mono(γ - ω -perfluoro-C8-12-alkyl) esters, ammonium salts			x	4
Others							
68891-05-4		Ethene, tetrafluoro-, homopolymer, α -fluoro- ω -(2-hydroxyethyl)-, citrate, reaction products with 1,6-diisocyanatohexane	Ethene, tetrafluoro-, homopolymer, α -fluoro- ω -(2-hydroxyethyl)-, citrate, reaction products with 1,6-diisocyanatohexane			x	1
86508-42-1		Perfluoro compounds, C5-18	Perfluoro compounds, C5-18			x	1
148240-84-0		1,3-Propanediol, 2,2-bis[[γ - ω -perfluoro-C4-10-alkyl]thio]methyl] derivs., phosphates	1,3-Propanediol, 2,2-bis[[γ - ω -perfluoro-C4-10-alkyl]thio]methyl] derivs., phosphates			x	1
277752-44-0		Hexanedioic acid, dimethyl ester, polymers with 2,2-bis(bromomethyl)-1,3-propanediol-ethanethiol-tetrafluoroethylene telomer reaction products	3-cyclohexene-1-carboxylic acid, 6-[(di-2-propenylamino)carbonyl](1R, 6R), reaction products with pentafluoroiodoethane-tetrafluoroethylene telomer, ammonium salts			x	1
333784-46-6		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymers with maleic anhydride, 2-[[[(2-mercaptoethoxy)carbonyl]amino]ethyl methacrylate, γ - ω -perfluoro-C ₈₋₁₆ -alkyl acrylate and stearyl methacrylate	Graft polymer of alkyl methacrylate-maleic anhydride-2-[[[(mercaptoethyl)oxy]carbonyl]amino]ethyl methacrylate copolymer and octadecyl methacrylate-2-(perfluoro(alkyl(C=6,8,10,12,14)))ethyl acrylate copolymer			x	1

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
333784-44-4		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymers with 2,3-dihydroxypropyl methacrylate, γ - ω -perfluoro-C ₈₋₁₆ -alkyl acrylate, polyethylene glycol methacrylate Me ether and polypropylene glycol monomethacrylate	Poly[3-chloro-2-hydroxypropyl methacrylate, 2,3-dihydroxypropyl methacrylate, hydroxypoly(2-23)(oxypropylene)methacrylate, methoxypoly(2-23)(oxyethylene)methacrylate, 2-(perhalo(alkyl(C=6,8,10,12,14)))ethyl acrylate]			x	1
174125-96-3		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with δ - ω -perfluoro-C10-16-alkyl acrylate and vinyl acetate	2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with δ - ω -perfluoro-C10-16-alkyl acrylate and vinyl acetate			x	1
70983-59-4		Poly(oxy-1,2-ethanediyl), α -methyl- ω -hydroxy-, 2-hydroxy-3-[(γ - ω -perfluoro-C6-20-alkyl)thio]propyl ethers	Poly(oxy-1,2-ethanediyl), α -methyl- ω -hydroxy-, 2-hydroxy-3-[(γ - ω -perfluoro-C6-20-alkyl)thio]propyl ethers			x	1,4
182700-77-2		Siloxanes and Silicones, di-Me, hydroxy-terminated, polymers with tetradecanedioic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-tricosafuoro-1-tridecanol-terminated	Siloxanes and silicones, di-Me, hydroxy-terminated, polymers with tetradecanedioic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13-tricosafuoro-1-tridecanol-terminated			x	1
678-39-7		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro			x	1
65530-61-2		Poly(difluoromethylene), α -fluoro- ω -[2-(phosphonooxy)ethyl]-	Poly(difluoromethylene), α -fluoro- ω -[2-(phosphonooxy)ethyl]-			x	1
70969-47-0		Thiols, C8-20, γ - ω -perfluoro, telomers with acrylamide	Thiols, C8-20, γ - ω -perfluoro, telomers with acrylamide			x	1
68333-92-6		Fatty acids, C ₇₋₁₃ , perfluoro	Fatty acids, C7-13, perfluoro			x	3
91032-01-8		Fatty acids, C7-19, perfluoro	Fatty acids, C7-19, perfluoro			x	3
15811-52-6		Dodecanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafuoro-11-(trifluoromethyl)-	Dodecanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafuoro-11-(trifluoromethyl)-			x	3
16486-96-7		Dodecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafuoro-11-(trifluoromethyl)-	Dodecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafuoro-11-(trifluoromethyl)-			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
18024-09-4		Tetradecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,14,14,14-hexacosafuoro-13- (trifluoromethyl)-	Tetradecanoic acid,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 11,12,12,13,14,14,14-hexacosafuoro-13- (trifluoromethyl)-			x	3
68015-87-2		Dodecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12, 12-docosafuoro-11-(trifluoromethyl)-, compd. with ethanamine (1:1)	Dodecanoic acid,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 12,12,12-docosafuoro-11-(trifluoromethyl)-, compd. with ethanamine(1:1)			x	3
68025-62-7		Tetradecanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,13,14,14,14-hexacosafuoro-13- (trifluoromethyl)-	Tetradecanoyl fluoride,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10, 11,11,12,12,13,14,14,14-hexacosafuoro-13- (trifluoromethyl)-			x	3
3658-63-7		Decanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10- octadecafluoro-9-(trifluoromethyl)-, ammonium salt (1:1)	Decanoic acid,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10- octadecafluoro-9-(trifluoromethyl)-, ammonium salt			x	3
3793-74-6		Dodecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12, 12,12-tricosafuoro-, ammonium salt (1:1)	Ammonium tricosafuorododecanoate			x	3
72968-38-8		Fatty acids, C7-13, perfluoro, ammonium salts	Fatty acids, C7-13, perfluoro, ammonium salts			x	3
307-71-1		Undecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11- eicosafuoro-, potassium salt (1:1)	Undecanoic acid,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 11-eicosafuoro-,potassium salt			x	3
93062-53-4		Phosphinic acid, bis(perfluoro-C6-12-alkyl) derivs., aluminum salts	Phosphinic acid, bis(perfluoro-C6-12- alkyl)derivs., aluminum salts			x	3
1765-48-6		Undecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11- eicosafuoro-	Undecanoic acid,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 11-eicosafuoro-			x	3
93776-16-0		1-Pentadecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,14,14,15,15,15-pentacosafuoro-2- hydroxy-N,N-bis(2-hydroxyethyl)-N- methyl-, iodide (1:1)	bis(2- hydroxyethyl)methyl(4,4,5,5,6,6,7,7,8,8,9,9, 10,10,11,11,12,12,13,13,14,14,15,15,15- pentacosafuoro-2- hydroxypentadecyl)ammonium iodide			x	3
93776-17-1		1-Tridecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,13-heneicosafuoro-2-hydroxy-N,N- bis(2-hydroxyethyl)-N-methyl-, iodide (1:1)	[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13, 13,13-heneicosafuoro-2-hydroxytridecan-1- yl][bis(2-hydroxyethyl)]methylammonium iodide			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
94159-76-9		1-Pentadecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-14-(trifluoromethyl)-, iodide (1:1)	bis(2-hydroxyethyl)methyl[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-2-hydroxy-14-(trifluoromethyl)pentadecyl] ammonium iodide			x	3
94159-79-2		2-Pentadecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafuoro-	1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafuoropentadecan-2-ol			x	3
94159-80-5		2-Tridecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-henicosafuoro-	1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-henicosafuorotridecan-2-ol			x	3
94159-82-7		2-Pentadecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-14-(trifluoromethyl)-	1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-14-(trifluoromethyl)pentadecan-2-ol			x	3
94159-83-8		2-Tridecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-eicosafuoro-12-(trifluoromethyl)-	1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-icosafuoro-12-(trifluoromethyl)tridecan-1-ol			x	3
93776-12-6		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafuoro-2-hydroxypentadecyl]amino]-, inner salt	(2-carboxylatoethyl)(dimethyl)[3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafuoro-2-hydroxypentadecyl]amino]propyl]ammonium			x	3
93776-13-7		1-Propanaminium, N-(2-carboxyethyl)-3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-henicosafuoro-2-hydroxytridecyl]amino]-N,N-dimethyl-, inner salt	(2-carboxylatoethyl)[3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-henicosafuoro-2-hydroxytridecyl]amino]propyl]dimethylammonium			x	3
93776-15-9		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-2-hydroxy-14-(trifluoromethyl)pentadecyl]amino]-, inner salt	(2-carboxylatoethyl)(dimethyl)[[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafuoro-2-hydroxy-14-(trifluoromethyl)pentadecyl]amino]propyl]ammonium			x	3
90622-99-4		Amides, C7-19, α - ω -perfluoro-N,N-bis(hydroxyethyl)	Amides, C7-19, α - ω -perfluoro-N,N-bis(hydroxyethyl)			x	3

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
71356-38-2		Piperazinium, 1-(carboxymethyl)-1-(2-hydroxyethyl)-4-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)-, inner salt	1-(carboxylatomethyl)-1-(2-hydroxyethyl)-4-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)piperazinium			x	3
85681-64-7		2-Propenoic acid, perfluoro-C8-16-alkyl esters	2-Propenoic acid, perfluoro-C8-16-alkyl esters			x	3
68155-54-4		2H-Pyran, 2,2,3,3,4,4,5,5,6-nonafluorotetrahydro-6-(1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-nonadecafluorononyl)-	2H-Pyran, 2,2,3,3,4,4,5,5,6-nonafluorotetrahydro-6-(nonadecafluorononyl)-			x	3
459415-06-6		2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5-furandione, γ - ω -perfluoro-C ₈₋₁₄ -alkyl esters, <i>tert</i> -Bu benzenecarboperoxoate-initiated	2-propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5 furandione, γ - ω -perfluoro-C8-14-alkyl esters, <i>tert</i> -Bu benzenecarboperoxoate-initiated			x	2
464178-90-3		2-Propen-1-ol, reaction products with 1,1,1,2,2-pentafluoro-2-iodoethane-tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine	2-propen-1-ol, reaction products with pentafluoroiodoethane tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine			x	2
1246542-93-7		Alcohols, C ₁₆₋₂₀ -branched, reaction products with 1,6-diisocyanatohexane homopolymer, α -fluoro- ω -(2-hydroxyethyl)poly(difluoromethylene) and stearyl alc.	Hexane, 1,6-diisocyanato-, homopolymer, reaction products with α -fluoro- ω -2-hydroxyethyl-poly(difluoro- methylene), C16-20-branched alcohols and 1-octadecanol			x	2
93776-00-2		2-Pentadecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafuoro-	1,1'-[oxybis[(1-methylethylene)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafuoropentadecan-2-ol]			x	3
Side-chain fluorinated polymers							

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
115592-83-1		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, hexadecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, octadecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-propenoate	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, hexadecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, octadecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-propenoate			x	1,3,4
144031-01-6		2-Propenoic acid, dodecyl ester, polymers with Bu (1-oxo-2-propenyl)carbamate and γ - ω -perfluoro-C ₁₈₋₁₄ -alkyl acrylate	2-Propenoic acid, dodecyl ester, polymers with Bu (1-oxo-2-propenyl)carbamate and γ - ω -perfluoro-C ₈₋₁₄ -alkyl acrylate			x	1,3
65605-58-5		2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl]poly(difluoromethylene)	2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)			x	1,4
65636-35-3		Ethanaminium, N,N-diethyl-N-methyl-2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]-, methyl sulfate (1:1), polymer with 2-ethylhexyl 2-methyl-2-propenoate, α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide	Ethanaminium, N,N-diethyl-N-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, methyl sulfate, polymer with 2-ethylhexyl 2-methyl-2-propenoate, α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide			x	1,4
125328-29-2		2-Propenoic acid, 2-methyl-, C ₁₀₋₁₆ -alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and α - ω -perfluoro-C ₈₋₁₄ -alkyl acrylate	2-Propenoic acid, 2-methyl-, C ₁₀₋₁₆ -alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and perfluoro-C ₈₋₁₄ -alkyl acrylate			x	1,3
129783-45-5		2-Propenoic acid, 2-methyl-, C ₁₀₋₁₆ -alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and γ - ω -perfluoro-C ₈₋₁₄ -alkyl acrylate	2-Propenoic acid, 2-methyl-, C ₁₀₋₁₆ -alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and γ - ω -perfluoro-C ₈₋₁₄ -alkyl acrylate			x	1,3
34395-24-9		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl ester	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl ester			x	1

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
119973-85-2		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl 2-propenoate, octadecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate	2-Methyl-2-propenoic acid 3-chloro-2-hydroxypropyl ester polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl 2-propenoate, octadecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate)			x	1,4
178233-67-5		2-Propenoic acid, C ₁₂₋₁₄ -alkyl esters, polymers with Bu (1-oxo-2-propenyl)carbamate and δ-ω-perfluoro-C ₆₋₁₂ -alkyl acrylate	2-Propenoic acid, C ₁₂₋₁₄ -alkyl esters, polymers with Bu (1-oxo-2-propenyl)carbamate and δ-ω-perfluoro-C ₆₋₁₂ -alkyl acrylate			x	1
65605-59-6		2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl]poly(difluoromethylene) and N-(hydroxymethyl)-2-propenamide	2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and N-(hydroxymethyl)-2-propenamide			x	1,4
65605-60-9		2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide	2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide			x	4
68239-43-0		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide	2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide			x	1,4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
150135-57-2		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with Bu acrylate, γ - ω -perfluoro-C8-14-alkyl acrylate and polyethylene glycol monomethacrylate, 2,2'-(1,2-diazenediyl)bis[2,4-dimethylpentanenitrile]-initiated	2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with Bu acrylate, γ - ω -perfluoro-C8-14-alkyl acrylate and polyethylene glycol monomethacrylate, 2,2'-azobis[2,4-dimethylpentanenitrile]-initiated			x	4
203743-03-7		2-Propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, γ - ω -perfluoro-C ₁₀₋₁₆ -alkyl acrylate and stearyl methacrylate	2-propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, γ - ω -perfluoro-C10-16-alkyl acrylate and stearyl methacrylate			x	2,4
196316-34-4		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with γ - ω -perfluoro-C10-16-alkyl acrylate and vinyl acetate, acetates	2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with γ - ω -perfluoro-C10-16-alkyl acrylate and vinyl acetate, acetates			x	4
1094598-90-9		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl 2-propenoate, octadecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-propenoat	2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14,14-pentacosafuorotetradecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-propenoate			x	4
325966-78-7		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymers with N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, 2-ethylhexyl acrylate, γ - ω -perfluoro-C ₈₋₁₆ -alkyl acrylate, stearyl acrylate and vinyl chloride, 2,2'-azobis[2-methylpropanimidamide] dihydrochloride-initiated	2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymers with N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, 2-ethylhexyl acrylate, γ - ω -perfluoro-C8-16-alkyl acrylate, octadecyl 2-propenoate and vinyl chloride, 2,2'-azobis[2-methylpropanimidamide] dihydrochloride-initiated			x	4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
119973-84-1		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, α -(2-methyl-1-oxo-2-propenyl)- ω -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl), 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,16-nonacosafuorohexadecyl 2-propenoate, octadecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 12-heneicosafuorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, α -(2-methyl-1-oxo-2-propenyl)- ω -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl), 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,15,15,16,16,16-nonacosafuorohexadecyl 2-propenoate, octadecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, 13,13,14,14,14-pentacosafuorotetradecyl 2-propenoate			x	4
220713-37-1		2-Propenoic acid, 2-methyl-, 2-aziridiny ester, polymer with α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and phenylmethyl 2-methyl-2-propenoate	2-Propenoic acid, 2-methyl-, 2-aziridiny ester, polymer with α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and phenylmethyl-2-methyl-2-propenoate			x	4
374928-93-5		2-Propenenitrile, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl) and α -(2-methyl-1-oxo-2-propenyl)- ω -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)	2-Propenenitrile, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl) and α -(2-methyl-1-oxo-2-propenyl)- ω -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)			x	4
97136-02-2		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)	2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)			x	4
101896-32-6		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)	2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)			x	4
220713-74-6		2-Propenoic acid, 2-methyl-, 2-aziridiny ester, polymer with α -fluoro- ω -[[2-methyl-1-oxo-2-propenyl)oxy]methyl]poly(difluoromethylene) and octadecyl 2-methyl-2-propenoate	2-Propenoic acid, 2-methyl-, 2-aziridiny ester, polymer with α -fluoro- ω -[[2-methyl-1-oxo-2-propenyl)oxy]methyl]poly(difluoromethylene) and octadecyl 2-methyl-2-propenoate			x	4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
220713-85-9		2-Propenoic acid, 2-methyl-, 2-aziridinyl ester, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and α -fluoro- ω -[[2-methyl-1-oxo-2-propenyl]oxy]methyl]poly(difluoromethylene)	2-Propenoic acid, 2-methyl-, 2-aziridinyl ester, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and α -fluoro- ω -[[2-methyl-1-oxo-2-propenyl]oxy]methyl]poly(difluoromethylene)			x	4
374928-92-4		2-Butenedioic acid (2Z)-, dioctyl ester, polymer with chloroethene and α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)	2-Butenedioic acid (2Z)-, dioctyl ester, polymer with chloroethene and α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)			x	4
459415-06-6		2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5-furandione, γ - ω -perfluoro-C ₈₋₁₄ -alkyl esters, <i>tert</i> -Bu benzenecarboxperoxoate-initiated	2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5-furandione, γ - ω -perfluoro-C ₈₋₁₄ -alkyl esters, <i>tert</i> -Bubenzenecarboxperoxoate-initiated			x	4
524729-93-9		2-Propenoic acid, polymer with butyl 2-propenoate and 2,5-furandione, γ - ω -perfluoro-C ₈₋₁₄ -alkyl esters, potassium salts, <i>tert</i> -Bu benzenecarboxperoxoate-initiated	2-Propenoic acid, polymer with butyl 2-propenoate and 2,5-furandione, γ - ω -perfluoro-C ₈₋₁₄ -alkyl esters, potassium salts, <i>tert</i> -Bu benzenecarboxperoxoate-initiated			x	4
500701-62-2		2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), acetate (salt)	2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), acetate (salt)			x	4
68891-05-4		Ethene, tetrafluoro-, homopolymer, α -fluoro- ω -(2-hydroxyethyl)-, citrate, reaction products with 1,6-diisocyanatohexane	Ethene, tetrafluoro-, homopolymer, α -fluoro- ω -(2-hydroxyethyl)-, citrate, reaction products with 1,6-diisocyanatohexane			x	4
376364-33-9		Alcohols, C ₈₋₁₄ , γ - ω -perfluoro, polymers with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), methanol, stearyl acrylate, stearyl methacrylate, 2,4-TDI and vinyl chloride	Alcohols, C ₈₋₁₄ , γ - ω -perfluoro, polymers with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), methanol, stearyl acrylate, stearyl methacrylate, 2,4-TDI and vinyl chloride			x	4
135228-60-3		Hexane, 1,6-diisocyanato-, homopolymer, γ - ω -perfluoro-C ₆₋₂₀ -alc.-blocked	Hexane, 1,6-diisocyanato-, homopolymer, γ - ω -perfluoro-C ₆₋₂₀ -alc.-blocked			x	4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
144468-32-6		1,3-Propanediol, 2,2-bis(bromomethyl)-, reaction products with ethanethiol-tetrafluoroethylene telomer, polymers with 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane, 2-heptyl-3,4-bis(9-isocyanatononyl)-1-pentylcyclohexane and 2,2'-(methylimino)bis[ethanol]	1,3-Propanediol, 2,2-bis(bromomethyl)-, reaction products with ethanethiol tetrafluoroethylene telomer, polymers with 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane, 2-heptyl-3,4-bis(9-isocyanatononyl)-1-pentylcyclohexane and 2,2'-(methylimino)bis[ethanol]			x	4
118102-37-7		Alcohols, C ₈₋₁₄ , γ-ω-perfluoro, reaction products with epichlorohydrin, polyethylene glycol mono-Me ether and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide	Alcohols, C ₈₋₁₄ , γ- ω --perfluoro, reaction products with epichlorohydrin, polyethylene glycol monomethyl ether and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide			x	1,4
332076-28-5		2-Oxepanone, homopolymer, decyl perfluoro-C ₈₋₁₄ -alkyl esters, reaction products with 1H-imidazole-1-propanamine, polyethylene-polypropylene glycol and TDI homopolymer	2-Oxepanone, homopolymer, decyl perfluoro-C ₈₋₁₄ -alkyl esters, reaction products with 1H-imidazole-1-propanamine, polyethylene-polypropylene glycol and TDI homopolymer			x	1,4
332076-33-2		2-Oxepanone, homopolymer, decyl perfluoro-C ₈₋₁₄ -alkyl esters, reaction products with 1H-imidazole-1-propanamine and TDI homopolymer	2-Oxepanone, homopolymer, decyl perfluoro-C ₈₋₁₄ -alkyl esters, reaction products with 1H-imidazole-1-propanamine and TDI homopolymer			x	4
332076-34-3		2-Oxepanone, homopolymer, decyl perfluoro-C ₈₋₁₄ -alkyl esters, reaction products with 1H-imidazole-1-propanamine, polyethylene glycol and TDI homopolymer	2-Oxepanone, homopolymer, decyl perfluoro-C ₈₋₁₄ -alkyl esters, reaction products with 1H-imidazole-1-propanamine, polyethylene-polypropylene glycol and TDI homopolymer			x	4
68990-40-9		Fatty acids, C ₁₈ -unsatd., dimers, diisocyanates, polymers with 2,3-bis(γ-ω-perfluoro-C ₄₋₁₈ -alkyl)-1,4-butanediol, 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane and 2,2'-(methylimino)bis[ethanol]	Fatty acids, C ₁₈ -unsaturated, dimers, diisocyanates, polymers with 2,3-bis(γ-ω-perfluoro-C ₄₋₁₈ -alkyl)-1,4-butanediol, 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane and 2,2'-(methylimino)bis[ethanol]			x	4
118102-38-8		Alcohols, C ₈₋₁₄ , γ-ω-perfluoro, reaction products with epichlorohydrin, tetrahydrofuran homopolymer and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide	Alcohols, C ₈₋₁₄ , γ- ω --perfluoro, reaction products with epichlorohydrin, tetrahydrofuran homopolymer and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide			x	1,4
253873-70-0		Alcohols, C ₈₋₁₄ , γ-ω-perfluoro, polymers with 1,6-diisocyanatohexane, ethylene glycol, glycidol and 2,4-TDI	Alcohols, C ₈₋₁₄ , γ-ω-perfluoro, polymers with 1,6-diisocyanatohexane,ethylene glycol, glycidol and 2,4-TDI			x	4

				(i) ^a	(ii) ^a	(iii) ^b	Ref
CAS No.	Acronym(s)	Designation (CAS Name ¹)	Designation (as cited in the reference)	Long-chain PFCAs	Long-chain PFCAs salts	Long-chain PFCAs related compounds	
329201-80-1		Imidodicarbonic diamide, <i>N,N',2</i> -tris(6-isocyanatohexyl)-, reaction products with ethylene glycol, α -fluoro- ω -[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), glycidol and 2,4-TDI	Imidodicarbonic diamide, <i>N,N',2</i> -tris(6-isocyanatohexyl)-, reaction products with ethyleneglycol, α - fluoro-, ω -[2[(1-oxo- 2-propenyl)oxy]ethyl]poly(difluoromethylene), glycidol and 2,4-TDI			x	4
254889-72-0		Imidodicarbonic diamide, <i>N,N',2</i> -tris(6-isocyanatohexyl)-, reaction products with 3-chloro-1,2-propanediol, ethylene, iodoethane and tetrafluoroethylene	Imidodicarbonic diamide, <i>N,N',2</i> -tris(6-isocyanatohexyl)-, reaction products with 3-chloro-1,2-propanediol, ethylene, iodoethane and tetrafluoroethylene			x	4
254889-79-7		Methanol, reaction products with 1,6-diisocyanatohexane, ethylene, ethylene oxide, iodoethane and tetrafluoroethylene	Methanol, reaction products with 1,6-diisocyanatohexane, ethylene, ethylene oxide, iodoethane and tetrafluoroethylene			x	4
428842-38-0		Hexane, 1,6-diisocyanato-, homopolymer, α -fluoro- ω -(hydroxyethyl)poly(difluoromethylene)- and Me Et ketone oxime- and polyethylene glycol mono-Me ether-blocked	Hexane, 1,6-diisocyanato-, homopolymer, α -fluoro- ω -(hydroxyethyl)poly(difluoromethylene)- and Me Et ketone oxime- and polyethylene glycol mono-Me ether blocked			x	4
178535-23-4		Fatty acids, linseed-oil, γ - ω -perfluoro-C8-14-alkyl esters	Fatty acids, linseed oil, γ - ω -perfluoro-C8-14-alkyl esters			x	1
126927-97-7		Hexane, 1,6-diisocyanato-, homopolymer, reaction products with α -fluoro- ω -(2-hydroxyethyl)poly(difluoromethylene)	Hexane, 1,6-diisocyanato-, homopolymer, reaction products with α -fluoro- ω -(2-hydroxyethyl)poly (difluoromethylene)			x	1
70969-47-0		Thiols, C8-20, γ - ω -perfluoro, telomers with acrylamide	Thiols, C8-20, γ - ω -perfluoro, telomers with acrylamide			x	4
113089-67-1		Thiols, C ₄₋₂₀ , γ - ω -perfluoro, reaction products with methylated formaldehyde-1,3,5-triazine-2,4,6-triamine polymer	Thiols, C4-20, γ - ω -perfluoro, reaction products with methylated formaldehyde-1,3,5-triazine-2,4,6-triamine polymer			x	4
185630-70-0		Alcohols, C ₈₋₁₄ , γ - ω -perfluoro, reaction products with epichlorohydrin and propylene oxide, trimethylamine-quaternized	Alcohols, C8-14, γ - ω -perfluoro, reaction products with epichlorohydrin and propylene oxide, trimethylamine-quaternized			x	4
65530-58-7		Poly(difluoromethylene), α -fluoro- ω -(2-hydroxyethyl)-, ester with 2,15-bis(carboxymethyl)-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,2,15,16-tetracarboxylic acid (6:1)	Poly(difluoromethylene), α -fluoro- ω -(2-hydroxyethyl)-, ester with 2,15-bis(carboxymethyl)-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,2,15,16-tetracarboxylic acid (6:1)			x	4

Abbreviations: n/a, not applicable; CAS, Chemical Abstracts Service

References

1. Environment Canada. 2012. Ecological Screening Assessment Report Long-Chain (C9–C20) Perfluorocarboxylic Acids, their Salts and their Precursors. Available from: <http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=CA29B043-1> [Accessed: 19 January 2022]
 2. Canada. 2021. Toxic substances list: 4 new fluorotelomer-based substances. Available from: <https://www.canada.ca/en/environment-climate-change/services/management-toxic-substances/list-canadian-environmental-protection-act/four-new-fluorotelomer.html> [Accessed: 19 January 2022]
 3. [ECHA] European Chemicals Agency. 2018. Committee for Risk Assessment (RAC). Committee for Socio-economic Analysis (SEAC). Opinion on an Annex XV dossier proposing restrictions on PFNA, PFDA, PFUnDA, PFDODA, PFTrDA, PFTDA; their salts and precursors. Compiled version prepared by the ECHA Secretariat of RAC's opinion (adopted 14 September 2018) and SEAC's opinion (adopted 29 November 2018). Available from: <https://echa.europa.eu/documents/10162/5aabe3cc-a317-4b2f-5446-5fc22c522c31> [Accessed: 19 January 2022]
 4. [NICNAS] National Industrial Chemicals Notification and Assessment Scheme. 2019. Indirect precursors to perfluorocarboxylic acids: Environment tier II assessment. Available from: <https://www.nicnas.gov.au/chemical-information/imap-assessments/imap-assessments/tier-ii-environment-assessments/indirect-precursors-to-perfluorocarboxylic-acids> [Accessed: 25 May 2020]
-