

Test Report (PFAS)

No.: SHAEC24006970401_1

Date: May 09, 2024

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Client Name: Escort Seal Co., Ltd

Client Address: NO.205 JIANGTIAN ROAD(E) SONGJIANG,SHANGHAI,P.R.C 201613

Sample Name: S5J01C & S5J11C+S6J01C & S6J11C+S6J01R & S6J11R

Material No.: S6001C & S6011C+S7001C &S7011C+S7001R & S7011R

The above sample(s) and information were provided by the client.

THIS REPORT IS TO SUPERSEDE TEST REPORT NO.SHAEC24006970401, DATE: Apr 24, 2024.

SGS Job No.: SHP24-010736

Sample Receiving Date: Apr 11, 2024

Testing Period: Apr 11, 2024 ~ Apr 18, 2024

Test Requested: Select test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

Summary:

Targeted 310 Perfluoroalkyl and polyfluoroalkyl substances (PFAS) Content	See Results
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Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Dora Hu
Approved Signatory

scan to see the report



73285762



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Test Sample:

Test Part Description:

SN ID	Sample No.	SGS Sample ID	No. of PFAS Tested	Description
SN1	A1	SHA24-0069704-0001.C001	102	Translucent rubber+Translucent rubber+Red rubber

Targeted 310 Perfluoroalkyl and polyfluoroalkyl substances (PFAS) Content

Test Method:

Modified CEN/TS 15968:2010, analysis was performed by LC-MS or LC-MS/MS and GC-MS.

Test Results: (Substances in the reporting list of PFAS)

Substance Name	CAS No.	A1 Concentration (mg/kg)	MDL (mg/kg)
All tested PFAS in list	-	ND	-

Notes:

- (1) The table above only shows detected PFAS, and PFAS that below MDL are not reported. Please refer to Appendix for the full list of tested PFAS.
- (2) MDL = Method Detection Limit
ND = Not detected (lower than MDL)
- (3) The target PFAS is prohibited, and this test requirement is quoted from the client. If PFAS is detected, it is recommended to refer to relevant regulation to confirm the relevant requirements of PFAS.
- (4) ^=Substances refer to its salts/derivative listed in Appendix.

Remark:

Test was conducted on composite of random parts of the item as per client's request.

This report updates Sample Name, Material No..

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ($w=0$) stated in ILAC-G8:09/2019.



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Appendix:

List of PFAS, its salts & derivatives

No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)
1	PFOS, its salts & derivatives	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	1
2		Potassium Perfluorooctanesulfonate (PFOS-K)	2795-39-3	--
3		Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5	--
4		Sodium perfluorooctanesulfonate (PFOS-Na)	4021-47-0	--
5		Ammonium perfluorooctanesulfonate (PFOS-NH ₄)	29081-56-9	--
6		Perfluorooctane sulfonate diethanolamine salt (PFOS-NH ₂ (C ₂ H ₄ OH) ₂)	70225-14-8	--
7		Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H ₅) ₄)	56773-42-3	--
8		N-decyl-N,N-dimethyldecan-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluorooctane-1-sulfonate (PFOS-N(C ₁₀ H ₂₁) ₂ (CH ₃) ₂)	251099-16-8	--
9		TetrabutylAmmonium perfluorooctanesulfonate (PFOS-N(C ₄ H ₉) ₄)	111873-33-7	--
10		Perfluorooctane Sulfonyl fluoride (PFOS-F)	307-35-7	--
11		Magnesium bis(heptafluorooctanesulphonate) (PFOS-Mg)	91036-71-4	--
12		Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluorooctanesulfonate	71463-74-6	--
13	--	N-ethylperfluoro-1-octanesulfonamide (N-EtFOSA)	4151-50-2	1
14	--	N-methylperfluoro-1-octanesulfonamide (N-MeFOSA)	31506-32-8	1
15	--	2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (N-EtFOSE)	1691-99-2	1
16	--	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol (N-MeFOSE)	24448-09-7	1
17	PFOSA, its salts	Perfluorooctane Sulfonamide (PFOSA)	754-91-6	1
18		Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)	76752-79-9	--
19		Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)	76752-78-8	--
20		Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)	76752-70-0	--
21		Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH ₄)	76752-72-2	--
22		Perfluorooctanoic acid (PFOA)	335-67-1	1
23		Sodium perfluorooctanoate (PFOA-Na)	335-95-5	--



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No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)	
24	PFOA, its salts & derivatives	Potassium perfluorooctanoate (PFOA-K)	2395-00-8	--	
25		Silver perfluorooctanoate (PFOA-Ag)	335-93-3	--	
26		Perfluorooctanoyl fluoride (PFOA-F)	335-66-0	--	
27		Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	--	
28		Lithium perfluorooctanoate (PFOA-Li)	17125-58-5	--	
29		Cobalt perfluorooctanoate (PFOA-Co)	35965-01-6	--	
30		Cesium perfluorooctanoate (PFOA-Cs)	17125-60-9	--	
31		Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, chromium(3+) (PFOA-Cr(3+))	68141-02-6	--	
32		Pentadecafluorooctanoic acid--piperazine (2/1)PFOA-NH(C ₄ H ₁₀ N)	423-52-9	--	
33		Pentadecafluorooctanoate (anion)	45285-51-6	--	
34		Perfluorooctanoic Anhydride	33496-48-9	--	
35		8:2 FTS, its salts	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	1
36			Potassium 1H,1H,2H,2H-Perfluorodecane sulfonate (8:2 FTS-K)	438237-73-1	--
37			Ammonium 1H,1H,2H,2H-Perfluorodecane sulfonate (8:2 FTS-NH ₄)	149724-40-3	--
38	Sodium 1H,1H,2H,2H-Perfluorodecane sulfonate (8:2 FTS-Na)		27619-96-1	--	
39	--	Methyl perfluorooctanoate (Me-PFOA)	376-27-2	1	
40	--	Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	1	
41	--	1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	1	
42	--	1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	1	
43	--	Perfluoro-1-iodooctane (PFOI)	507-63-1	1	
44	H ₂ PFDA/8:2 FTCA, its salts	2H,2H-Perfluorodecane Acid (H ₂ PFDA/8:2 FTCA)	27854-31-5	1	
45		Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (8:2 FTCA-P(C ₄ H ₉) ₄)	882489-14-7	--	
46	--	1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	1	
47	--	1-Iodo-1H,1H,2H,2H-perfluorodecane (8:2 FTI)	2043-53-0	1	
48	--	1H,1H,2H,2H-Perfluorodecyltriethoxysilane (8:2 FTSi(OC ₂ H ₅) ₃)	101947-16-4	1	
49	8:2diPAP, its salts	Bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl) hydrogen phosphate (8:2diPAP)	678-41-1	1	
50		Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)	114519-85-6	--	
51	--	2H,2H,3H,3H-Perfluoroundecanoic acid (H ₄ PFUnDA/ 8:3 FTCA)	34598-33-9	1	



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No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)
52	H ₄ PFUnDA/ 8:3 FTCA, its salts	Potassium 2H,2H,3H,3H-Perfluoroundecanoate (H ₄ PFUnDA-K)	83310-58-1	--
53	--	1H,1H,2H-Heptadecafluoro-1-decene (PFDE)	21652-58-4	1
54	--	3-Perfluoroheptyl propanoic acid (7:3 FTCA)	812-70-4	1
55	PFNA, its salts	Perfluorononane Acid (PFNA)	375-95-1	1
56		Perfluorononanoate Na-Salt (PFNA-Na)	21049-39-8	--
57		Nonanoic acid, heptadecafluoro-, ammonium salt (PFNA-NH ₄)	4149-60-4	--
58		Potassium perfluorononanoate (PFNA-K)	21049-38-7	--
59		Perfluorononanoate Li-Salt (PFNA-Li)	60871-92-3	--
60		Silver perfluorononanoate (PFNA-Ag)	7358-16-9	--
61		Methanaminium perfluorononanoate (PFNA-NH ₃ (CH ₃))	77032-23-6	--
62		Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, compd. with N-ethylethanamine (1:1) PFNA-NH ₂ (C ₂ H ₅) ₂)	77032-27-0	--
63		Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, compd. with N-methylmethanamine (1:1) (PFNA-NH ₂ (CH ₃) ₂)	77032-24-7	--
64		Nonanoic acid, heptadecafluoro-, compd. with N,N-diethylethanamine (1:1) (9CI) (PFNA-NH(C ₂ H ₅) ₃)	327176-80-7	--
65		Nonanoic acid, heptadecafluoro-, compd. with piperidine (1:1) (9CI) (PFNA-NH ₂ (C ₅ H ₁₀))	95682-66-9	--
66		Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, compd. with benzenamine (1:1) (PFNA-NH ₃ (C ₆ H ₅))	95682-67-0	--
67		Nonanoic acid, heptadecafluoro-, compd. with cyclohexanamine (1:1) (9CI) (PFNA-NH ₃ (C ₆ H ₁₁))	328531-06-2	--
68		Perfluorononanoate (anion)	72007-68-2	--
69	PFDA, its salts	Perfluorodecane Acid (PFDA)	335-76-2	1
70		Sodium perfluorodecanoate (PFDA-Na)	3830-45-3	--
71		Perfluorodecanoate ammonium salt (PFDA-NH ₄)	3108-42-7	--
72		Potassium perfluorodecanoate (PFDA-K)	51604-85-4	--
73		Silver perfluorodecanoate (PFDA-Ag)	5784-82-7	--
74		Lithium perfluorodecanoate (PFDA-Li)	84743-32-8	--
75		Perfluorodecanoate (anion)	73829-36-4	--
76	PFUnDA, its salts	Perfluoroundecanoic Acid (PFUnDA)	2058-94-8	1
77		Perfluoroundecanoic acid sodium salt (PFUnDA-Na)	60871-96-7	--



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78		Ammonium perfluoroundecanoate (PFUnDA-NH ₄)	4234-23-5	--
79		Potassium perfluoroundecanoate (PFUnDA-K)	30377-53-8	--
80		Calcium perfluoroundecanoate (PFUnDA-Ca)	97163-17-2	--
81		Perfluoroundecanoate (anion)	196859-54-8	--
82		Perfluorododecanoic Acid (PFDoDA)	307-55-1	1
83	PFDoDA, its salts	Ammonium tricosfluorododecanoate (PFDoDA-NH ₄)	3793-74-6	--
84		Sodium perfluorododecanoate (PFDoDA-Na)	60872-01-7	--
85		Perfluorododecanoate (anion)	171978-95-3	--
86		Perfluorotridecanoic Acid (PFTTrDA)	72629-94-8	1
87	PFTTrDA, its salts	Ammonium perfluorotridecanoate (PFTTrDA-NH ₄)	4288-72-6	--
88		Perfluorotridecanoate (anion)	862374-87-6	--
89		Perfluorotetradecanoic Acid (PFTDA)	376-06-7	1
90	PFTDA, its salts	Perfluorotetradecanoate (anion)	365971-87-5	--
91	--	Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)	172155-07-6	1
92		Perfluorodecane sulfonic acid (PFDS)	335-77-3	1
93	PFDS, its salts	Sodium perfluorodecanesulfonate (PFDS-Na)	2806-15-7	--
94		Potassium perfluorodecanesulfonate (PFDS-K)	2806-16-8	--
95		Ammonium perfluorodecanesulfonate (PFDS-NH ₄)	67906-42-7	--
96		Perfluorodecane sulfonate (anion)	126105-34-8	--
97	--	1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	865-86-1	1
98	--	1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	17741-60-5	1
99	--	1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)	2144-54-9	1
100	--	1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)	39239-77-5	1
101	--	1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	1
102	--	1,1,2,2-Tetrahydroperfluorododecyl iodide (10:2 FTI)	2043-54-1	1
103	--	1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)	30046-31-2	1
104		Perfluoro nonane sulfonic acid (PFNS)	68259-12-1	1
105	PFNS, its salts	Sodium perfluoro-1-nonanesulfonate (PFNS-Na)	98789-57-2	--
106		ammonium nonadecafluorononanesulphonate (PFNS-NH ₄)	17202-41-4	--
107		Potassium perfluorononanesulfonate (PFNS-K)	29359-39-5	--



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108		Perfluorononane sulfonate (anion)	474511-07-4	--
109	PFUnDS, its salts	Perfluoroundecane sulfonic acid (PFUnDS)	749786-16-1	1
110		Perfluoroundecanesulfonate (anion)	441296-91-9	--
111	PFDoDS, its salts	Perfluorododecanesulfonic acid (PFDoDS)	79780-39-5	1
112		Sodium perfluoro-1-dodecanesulfonate (PFDoDS-Na)	1260224-54-1	--
113		Potassium perfluorododecanesulfonate (PFDoDS-K)	85187-17-3	--
114		Perfluorododecane sulfonate (anion)	343629-43-6	--
115	PFTrDS, its salts	Perfluorotridecane sulfonic acid (PFTrDS)	791563-89-8	1
116		Sodium perfluoro-1-tridecanesulfonate (PFTrDS-Na)	174675-49-1	--
117	--	10:2 Fluortelomerphosphatediester (10:2 diPAP)	1895-26-7	1
118	--	Perfluorodecyl iodide (PFDI)	423-62-1	1
119	--	Perfluorodecyl iodide (PFDoDI)	307-60-8	1
120	PFHxS, its salts & derivatives	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	1
121		Perfluorohexanesulfonate Na-salt (PFHxS-Na)	82382-12-5	--
122		Perfluorohexanesulfonate K-salt (PFHxS-K)	3871-99-6	--
123		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt (1:1) (PFHxS-Li)	55120-77-9	--
124		Ammonium perfluorohexane-1-sulphonate (PFHxS-NH ₄)	68259-08-5	--
125		Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-BTPP)	1000597-52-3	--
126		N,N,N-tributylbutan-1-aminium tridecafluorohexane-1-sulfonate(PFHxS-N(C ₄ H ₉) ₄)	108427-54-9	--
127		N,N,N-triethylethanaminium tridecafluorohexane-1-sulfonate(PFHxS-N(C ₂ H ₅) ₄)	108427-55-0	--
128		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. With pyrrolidine (1:1) (PFHxS-NC ₄ H ₉)	1187817-57-7	--
129		Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (Calculated in terms of PFHxS) (PFHxS-(NC ₁₀ H ₁₄) ₃ C ₅ H ₄)	1310480-24-0	--
130	Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-	1310480-27-3	--	



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No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)
		tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₈ H ₁₀) ₂ C ₁₃ H ₁₂)		
131		Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-(NC ₈ H ₁₀) ₂ C ₁₇ H ₁₂)	1310480-28-4	--
132		Beta-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1) (PFHxS-C ₄₂ H ₇₀ O ₃₅)	1329995-45-0	--
133		Gamma-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1)(PFHxS-C ₄₈ H ₈₀ O ₄₀)	1329995-69-8	--
134		Sulfonium, triphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (TPS-PFHxS)	144116-10-9	--
135		Quinolinium, 1-(carboxymethyl)-4-[2-[4-[4-(2,2-diphenylethenyl)phenyl]-1,2,3,3a,4,8b-hexahydrocyclopent[b]indol-7-yl]ethenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)(PFHxS-C ₄₄ H ₃₇ N ₂ O ₂)	1462414-59-0	--
136		Iodonium, diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-I(C ₆ H ₅) ₂)	153443-35-7	--
137		Methanaminium, N,N,N-trimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (PFHxS-TMA)	189274-31-5	--
138		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd.with 2-methyl-2-propanamine (1:1)(PFHxS-NH ₂ (CH ₃) ₃)	202189-84-2	--
139		Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)(PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)	213740-81-9	--
140		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, gallium salt (9Cl)(PFHxS-Ga)	341035-71-0	--
141		Sulfonium, bis(4-methylphenyl)phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)(PFHxS-S(C ₇ H ₇) ₂ C ₆ H ₅)	341548-85-4	--
142		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, scandium(3+) salt (3:1)(PFHxS-Sc)	350836-93-0	--



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158		Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.1 ^{3,7}]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.1 ^{3,7}]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (PFHxS-Sulfonium, propenoate polymer)	911027-69-5	--
159		Perfluorohexane sulfonate (anion)	108427-53-8	--
160	--	N-Methylperfluoro-1-hexanesulfonamide (N-Me-PFHxSA)	68259-15-4	1
161	--	Perfluorohexane sulfonamide (PFHxSA)	41997-13-1	1
162	--	N-[3-(dimethylamino)propyl]tridecafluorohexanesulphonamide (N-AP-FHxSA)	50598-28-2	1
163	--	2-[methyl[(tridecafluorohexyl)sulphonyl]amino]ethyl acrylate)) (N-MeFHSEA)	67584-57-0	1
164	--	2-Propenoic acid, 2-methyl-, 2-[methyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester	67584-61-6	1
165	--	2-Propenoic acid, 2-methyl-, 2-[ethyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester	67906-70-1	1
166	--	1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-(MeFHxSE)	68555-75-9	1
167	EtFHxSAA, its salts	Glycine, N-ethyl-N-[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] (EtFHxSAA)	68957-32-4	1
168		Potassium N-ethyl-n-[(tridecafluorohexyl)sulfonyl]glycinate (EtFHxSAA-K)	67584-53-6	--
169		Sodium N-ethyl-N-((tridecafluorohexyl)sulphonyl)glycinate (EtFHxSAA-Na)	68555-70-4	--
170	PFHxA, its salts & derivatives	Perfluorohexane Acid (PFHxA)	307-24-4	1
171		Ammonium perfluorohexanoate (APFHx)	21615-47-4	--
172		Sodium perfluorohexanoate (PFHxA-Na)	2923-26-4	--
173		Potassium perfluorohexanoate (PFHxA-K)	3109-94-2	--
174		Perfluorohexanoyl fluoride (PFHxA-F)	355-38-4	--
175		Silver perfluorohexanoate (PFHxA-Ag)	336-02-7	--
176		Lithium perfluorohexanoate (PFHxA-Li)	90430-61-8	--
177		Perfluorohexanoic anhydride	308-13-4	--
178		Hexanoic acid, undecafluoro-, compd. with piperazine (2:1) (8Cl,9Cl)	423-47-2	--



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No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)
179		Perfluorohexanoate (anion)	92612-52-7	--
180	PFBA, its salts	Perfluorobutane Acid (PFBA)	375-22-4	1
181		Ammonium perfluorobutanoate (PFBA-NH ₄)	10495-86-0	--
182		Sodium perfluorobutanoate (PFBA-Na)	2218-54-4	--
183		Potassium heptafluorobutanoate (PFBA-K)	2966-54-3	--
184		Silver perfluorobutanoate (PFBA-Ag)	3794-64-7	--
185		Lithium perfluorobutanoate (PFBA-Li)	4146-76-3	--
186		Heptafluorobutanoic acid-piperazine (1:1)	375-04-2	--
187		Perfluorobutanoate (anion)	45048-62-2	--
188		PFBS, its salts & derivatives	Perfluorobutanesulfonic acid (PFBS)	375-73-5
189	Perfluorobutanesulfonate K-salt (PFBS-K)		29420-49-3	--
190	Perfluorobutanesulfonic Acid Hydrate (PFBS-H ₂ O)		59933-66-3	--
191	lithium perfluorobutanesulfonate (PFBS-Li)		131651-65-5	--
192	Triphenyl Sulfonium Perfluorobutane Sulfonate (TPS-PFBS)		144317-44-2	--
193	Dimethyl(phenyl)sulfanium perfluorobutanesulfonate (PFBS-S(CH ₃) ₂ C ₆ H ₅)		220133-51-7	--
194	Tetrabutyl-phosphonium nonafluoro-butane-1-sulfonate (PFBS-P(C ₄ H ₉) ₄)		220689-12-3	--
195	N,N,N,-triethylethanaminium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulfonate(PFBS-N(C ₂ H ₅) ₄)		25628-08-4	--
196	Nonafluorobutanesulfonyl fluoride (PFBS-F)		375-72-4	--
197	Morpholinium perfluorobutanesulfonate (PFBS-NC ₄ H ₉ O)		503155-89-3	--
198	Magnesium perfluorobutanesulfonate (PFBS-Mg)		507453-86-3	--
199	Ammonium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonate (PFBS-NH ₄)		68259-10-9	--
200	1-(4-butoxy-1-naphthyl)tetrahydrothiophenium nonafluorobutane-1-sulfonate (PFBS-SC ₁₈ H ₂₃ O)		209482-18-8	--
201	1,1,2,2,3,3,4,4,4-Nonafluorobutane-1-sulfonyl chloride (PFBS-Cl)		2991-84-6	--
202	Sodium perfluorobutanesulfonate (PFBS-Na)		60453-92-1	--
203	Bis(4-tert-butylphenyl)iodonium perfluoro-1-butanesulfonate (PFBS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)		194999-85-4	--
204	1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonic acid, compound with 2,2'-iminodiethanol (1:1) (PFBS-NH(C ₂ H ₅ O) ₂)		70225-18-2	--
205	Tetrabutylammonium nonafluorobutanesulfonate ((PFBS-N(C ₄ H ₉) ₄))		108427-52-7	--
206	Diphenyliodonium nonafluorobutane-1-sulfonate((PFBS-I(C ₆ H ₅) ₂))		194999-82-1	--



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207		Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	241806-75-7	--
208		Sulfonium, (4-cyclohexylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	425670-64-0	--
209		Thiophenium, tetrahydro-1-(1-methyl-1H-indol-3-yl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	867373-18-0	--
210		Pyridinium, 1-ethyl-3-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	1015420-87-7	--
211		1H-Imidazolium, 1-methyl-3-octyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	905972-83-0	--
212		1H-Imidazolium, 3-hexyl-1-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	1001557-05-6	--
213		2-Propanaminium, N,N-dimethyl-N-(1-methylethyl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	374571-81-0	--
214		Sulfonium, [4-[2-(1,1-dimethylethoxy)-2-oxoethoxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	857285-80-4	--
215		1-Butanaminium, N,N-dibutyl-N-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	124472-66-8	--
216		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, zinc salt (2:1) (PFBS-Zn)	502457-69-4	--
217		1-Pentanaminium, N,N,N-triisopropyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefluorosulfonate (1:1)	56773-55-8	--
218		Perfluorobutanefluorosulfonic acid tetramethylammonium salt (PFBS-N(CH ₃) ₄)	25628-17-5	--
219		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, 1,1'-anhydride	36913-91-4	--
220		Perfluorobutane sulfonate (anion)	45187-15-3	--
221	PFPeA, its salts	Perfluoropentane Acid (PFPeA)	2706-90-3	1
222		Sodium perfluoropentanoate(PFPeA-Na)	2706-89-0	--
223		Potassium perfluoropentanoate(PFPeA-K)	336-23-2	--
224		Lithium perfluoropentanoate (PFPeA-Li)	198482-22-3	--
225		Silver perfluoropentanoate (PFPeA-Ag)	2795-30-4	--
226		Ammonium perfluoropentanoate(PFPeA-NH ₄)	68259-11-0	--
227		Perfluoropentanoate (anion)	45167-47-3	--
228			7H-Dodecafluoroheptane Acid (HPFHpA)	1546-95-8



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229	HPFHpA, its salts	Sodium 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoate (HPFHpA-Na)	2264-25-7	--
230		Ammonium 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoate (HPFHpA-NH ₄)	376-34-1	--
231	PFHpS, its salts	Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	1
232		Perfluoroheptanesulfonate Na-salt (PFHpS-Na)	21934-50-9	--
233		Potassium Perfluoroheptanesulfonate (PFHpS-K)	60270-55-5	--
234		Ammonium perfluoroheptanesulfonate (PFHpS-NH ₄)	68259-07-4	--
235		Lithium perfluoroheptanesulfonate (PFHpS-Li)	117806-54-9	--
236		1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7-pentadecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	70225-15-9	--
237		Perfluoroheptane sulfonate (anion)	146689-46-5	--
238	PFHpA, its salts	Perfluoroheptane Acid (PFHpA)	375-85-9	1
239		Sodium perfluoroheptanoate (PFHpA-Na)	20109-59-5	--
240		Potassium perfluoroheptanoate (PFHpA-K)	21049-36-5	--
241		Ammonium perfluoroheptanoate (PFHpA-NH ₄)	6130-43-4	--
242		Cesium perfluoroheptanoate (PFHpA-Cs)	171198-24-6	--
243		Silver perfluoroheptanoate (PFHpA-Ag)	424-05-5	--
244		Lithium perfluoroheptanoate (PFHpA-Li)	60871-90-1	--
245		Perfluoroheptanoate (anion)	120885-29-2	--
246	6:2 FTS, its salts	1H,1H,2H,2H-Perfluorooctanesulphonic acid (6:2 FTS)	27619-97-2	1
247		Sodium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-Na)	27619-94-9	--
248		Potassium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-K)	59587-38-1	--
249		Ammonium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-NH ₄)	59587-39-2	--
250		1-Octanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, barium salt (2:1) (6:2 FTS-Ba)	1807944-82-6	--
251	--	1H,1H,2H,2H-Perfluorooctylacrylate (6:2 FTA)	17527-29-6	1
252	--	1H,1H,2H,2H-Perfluoro-1-hexanol (4:2 FTOH)	2043-47-2	1
253	--	1H,1H,2H,2H-Perfluoro-1-octanol (6:2 FTOH)	647-42-7	1
254	HFPO-DA, its salts & derivatives	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid (HFPO-DA)	13252-13-6	1
255		2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, ammonium salts (HFPO-DA-NH ₄)	62037-80-3	--
256		2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, K- salts (HFPO-DA-K)	67118-55-2	--



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No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)
257		2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, its acyl halides (HFPO-DA-F)	2062-98-8	--
258	4:2 FTS, its salts	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	757124-72-4	1
259		1H,1H,2H,2H-perfluorohexane sulfonate acid sodium salt	27619-93-8	--
260	--	Perfluorooctane sulfonamidoacetic Acid (FOSAA)	2806-24-8	1
261	--	N-Methylperfluoro-1-octanesulfonamidoacetic Acid (N-MeFOSAA)	2355-31-9	1
262	--	N-Ethylperfluorooctane sulfonamidoacetic Acid (N-EtFOSAA)	2991-50-6	1
263	PFPeS, its salts	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	1
264		Sodium perfluoro-1-pentanesulfonate (PFPeS-Na)	630402-22-1	--
265		Potassium perfluoropentane-1-sulphonate (PFPeS-K)	3872-25-1	--
266		Ammonium perfluoropentanesulfonate (PFPeS-NH ₄)	68259-09-6	--
267		Bis(2-hydroxyethyl) ammonium 1,1,2,2,3,3,4,4,5,5,5-undecafluoropentane-1-sulphonate	70225-17-1	--
268		Undecafluoropentane-1-sulfonic acid lithium salt (PFPeS-Li)	1046864-81-6	--
269		Perfluoropentane sulfonate (anion)	175905-36-9	--
270	--	2-Perfluorohexyl ethanoic acid (6:2 FTCA)	53826-12-3	1
271	--	3-Perfluoropentyl propanoic acid (5:3 FTCA)	914637-49-3	1
272	--	Perfluorohexadecanoic Acid (PFHxDA)	67905-19-5	1
273	--	Perfluorooctadecanoic Acid (PFODA)	16517-11-6	1
274	--	1H,1H,2H,2H-Perfluorooctyl methacrylate (6:2 FTMA)	2144-53-8	1
275	ADONA, its salts	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	1
276		Ammonium 4,8-dioxa-3H-perfluorononanoate (ADONA-NH ₄)	958445-44-8	--
277		Sodium 4,8-dioxa-3H-perfluorononanoate (ADONA-Na)	2250081-67-3	--
278	--	Perfluoro-3-methoxypropanoic acid (PFMPA)	377-73-1	1
279	--	Perfluoro-4-methoxybutanoic acid (PFMBA)	863090-89-5	1
280	--	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	151772-58-6	1
281	--	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	1
282	--	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	1
283	--	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	113507-82-7	1



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No.	Group Name	Substance Name	CAS No.	MDL (mg/kg)
284	--	3-Perfluoropropyl propanoic acid (3:3 FTCA)	356-02-5	1
285	--	Perfluoropentadecanoic Acid (PFPeDA)	141074-63-7	1
286	--	1H,1H,2H,2H-Perfluorohexyl methacrylate (4:2 FTMA)	1799-84-4	1
287	--	2-(N-ethylperfluorooctanesulfamido) ethyl acrylate (EtFOSAC)	423-82-5	1
288	--	Perfluorooctyl triethoxysilane (POTS)	51851-37-7	1
289	--	1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-8-iodooctane (6:2 FTI)	2043-57-4	1
290	--	Perfluorobutane sulfon amides	30334-69-1	1
291	--	1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC ₃ H ₈ O)	34454-97-2	1
292	11H-PFUnDA, its salts	11H-Perfluoroundecanoic acid (11H-PFUnDA)	1765-48-6	1
293		Potassium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-icosafuoroundecanoate (11H-PFUnDA-K)	307-71-1	--
294		Ammonium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-icosafuoroundecanoate (11H-PFUnDA-NH ₄)	5081-02-7	--
295	PFPrA, its salts	Pentafluoropropionic acid (PFPrA)	422-64-0	1
296		Sodium pentafluoropropionate (PFPrA-Na)	378-77-8	--
297		Silver pentafluoropropionate (PFPrA-Ag)	509-09-1	--
298		Potassium pentafluoropropionate (PFPrA-K)	378-76-7	--
299		Ammonium pentafluoropropionate (PFPrA-NH ₄)	2730-58-7	--
300	--	1H,1H,2H,2H-Perfluorodecyltrichlorosilane	78560-44-8	1
301	--	1H,1H,2H,2H-Perfluorodecyltrimethoxysilane	83048-65-1	1
302	--	1H,1H,2H,2H-Perfluorooctyltrichlorosilane	78560-45-9	1
303	--	1H,1H,2H,2H-Perfluorodecylmethylchlorosilane	3102-79-2	1
304	--	2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2	1
305	--	2H-Perfluoro-2-octenoic acid (6:2 FTUCA)	70887-88-6	1
306	--	2H-Perfluoro-2-dodecenoic acid (10:2 FTUCA)	70887-94-4	1
307	--	2-Perfluorodecyl ethanoic acid (10:2 FTCA)	53826-13-4	1
308	--	6:6 Perfluorophosphinic acid (6:6 PFPI)	40143-77-9	1
309	--	6:8 Perfluorophosphinic acid (6:8 PFPI)	610800-34-5	1
310	--	8:8 Perfluorophosphinic acid (8:8 PFPI)	40143-79-1	1



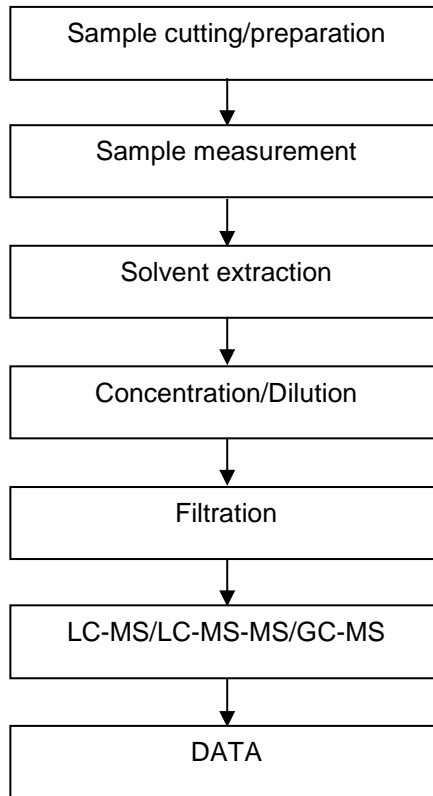
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ATTACHMENTS

PFASs/ PFOS/PFOA Testing Flow Chart



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Sample photos:



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