



Test Report

Report No. A2250405496101002E
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Company Name CSMC TECHNOLOGIES FAB2 CO.,LTD
shown on Report

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Address 8 XINZHOU ROAD,WUXI,JIANGSU

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name	Advance
	Advance
	2025.06.12
Sample Received Date	Jun. 12, 2025
	2025.06.12-2025.06.16
Testing Period	Jun. 12, 2025 to Jun. 16, 2025

Test Conducted

As requested by the applicant. For details refer to next page(s).



陈凯毅

Date

2025.06.24

Lab Manager

No. R780111625

1351

Centre Testing International Pinbiao(Shanghai) Co., Ltd.

No.1351, Wanfang Road, Minhang District, Shanghai, China

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Executive Summary:

TEST REQUEST

1.

Client's requirement

- (PFOA)

Perfluorooctanoic acid (PFOA) and its salts & related substances

See test result(s)

- (PFOS)

Perfluorooctane sulfonic acid (PFOS) and its derivatives

See test result(s)

- (PFOS)

Perfluorooctane sulfonic acid (PFOS) and its salts & related substances

See test result(s)

2. (1) RoHS 2011/65/EU (EU) 2015/863 ,
(Pb), (Cd), (Hg), (Cr(VI)), (PBBs),
(PBDEs), (DBP, BBP, DEHP, DIBP)

A According to RoHS Directive 2011/65/EU with amendment (EU) 2015/863 and as specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) in the submitted sample(s).

PASS

(2) , (Cl), (Br), (I),
(HBCDD), A (TBBP-A), (PFOA), (PFOS)

As specified by client, to test Chlorine (Cl), Bromine (Br), Iodine (I), Hexabromocyclododecane (HBCDD), Tetrabromobisphenol A (TBBP-A), Perfluorooctanoic Acid(PFOA), Perfluorooctane Sulfonates(PFOS) in the submitted sample(s).

See test result(s)

***** For further details, please refer to the following page(s) *****

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1.1 Client's requirement

▼ (PFOA) Perfluorooctanoic acid (PFOA) and its salts & related substances

CEN/TS 15968:2010*¹

LC-MS-MS & GC-MS

Test Method: CEN/TS 15968:2010*¹; Test Equipment: LC-MS-MS & GC-MS

Tested Item(s)	CAS No.	Result (mg/kg)	
		002	MDL (mg/kg)
PFOA PFOA and its salts*	335-67-1	N.D.	0.010
(PFOA) Perfluorooctanoic acid (PFOA) and its salts	-	N.D.	--
Methyl perfluorooctanoate (Me-PFOA)	376-27-2	N.D.	0.010
Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	N.D.	0.010
Perfluorooctyl iodide (PFOI)	507-63-1	N.D.	0.200
1H,1H,2H,2H- -1- 1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	N.D.	0.200
8:2 FTS 8:2 FTS and its salts*	39108-34-4	N.D.	0.200
1H,1H,2H,2H- 1,1,2,2- Tetrahydroperfluorodecyl acrylate (8:2 FTAC)	27905-45-9	N.D.	0.200
2-() 2-Propenoic acid, 2-methyl-,3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10- heptadecafluorodecyl ester (8:2 FTMA)	1996-88-9	N.D.	0.200
1H,1H,2H,2H- 1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)	101947-16-4	N.D.	0.200
1- -1H,1H,2H,2H- Decane,1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8- heptadecafluoro-10-iodo- (8:2 FTI)	2043-53-0	N.D.	0.200
8:2diPAP 8:2diPAP and its salts*	678-41-1	N.D.	0.200
2H,2H- 2H,2H-Perfluorodecanoate (H ₂ PFDA)	27854-31-5	N.D.	0.010
2H,2H- Tetrabutylphosphonium 2H,2H- Perfluorodecanoate (H ₂ PFDA-P(C ₄ H ₉) ₄)	882489-14-7	N.D.	0.010
H ₄ PFUnA H ₄ PFUnA and its salts*	34598-33-9	N.D.	0.010
1-Decene,3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,10-heptadecafluoro- (PFOE)	21652-58-4	N.D.	0.200
Perfluorooctylethyltrichlorosilane (FDTS)	78560-44-8	N.D.	0.200
Perfluorooctylethyltrimethoxysilane (FDTMOS)	83048-65-1	N.D.	0.200
10:2 diPAP 10:2 diPAP and its salts*	1895-26-7	N.D.	0.200
8:2 monoPAPS 8:2 monoPAPS and its salts*	57678-03-2	N.D.	0.200
2H- -2- 2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2	N.D.	0.010
C8-14- Alcohols,C8-14,gamma- omega-perfluoro (C8-14-PF ₆ EtOH)	68391-08-2	N.D.	0.200

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Tested Item(s)	CAS No.	Result (mg/kg)	MDL (mg/kg)
		002	
2-1H,1H,2H,2H-Perfluorodecyl acetate (8:2FTOAc)	37858-04-1	N.D.	0.200
(PFOA)	--	N.D.	--
Perfluorooctanoic acid (PFOA) related substances			

Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- * = PFOA The substances listed in the List of PFOA and its salts & related substances

PFOA List of PFOA and its salts & related substances

No.	Group Name	Substance Name(s)	CAS No.
(PFOA) Perfluorooctanoic acid (PFOA) and its salts			
1		Perfluorooctanoic acid (PFOA)	335-67-1
2		Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
3		Sodium perfluorooctanoate (PFOA-Na)	335-95-5
4		Potassium perfluorooctanoate (PFOA-K)	2395-00-8
5		Lithium perfluorooctanoate (PFOA-Li)	17125-58-5
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PFOA
PFOA and its
salts

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20		Perfluorooctanoic Anhydride (PFOAA)	33496-48-9
21		Pentadecafluorooctanoate (anion) (PFOA (anion))	45285-51-6
22		Pentadecafluorooctanoyl chloride (PFOA-Cl)	335-64-8
(PFOA) Perfluorooctanoic acid (PFOA) related substances			
23	--	Methyl perfluorooctanoate (Me-PFOA)	376-27-2
24	--	Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5
25	--	Perfluorooctyl iodide (PFOI)	507-63-1
26	--	1H,1H,2H,2H- -1- 1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7
27	8:2 FTS 8:2 FTS and its salts	1H,1H,2H,2H- 1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4
28		1H,1H,2H,2H- 1H,1H,2H,2H-Perfluorodecanesulfonic Acid Sodium (8:2 FTS-Na)	27619-96-1
29		1H,1H,2H,2H- Potassium 2-(perfluorooctyl)ethane-1-sulfonate (8:2 FTS-K)	438237-73-1
30		1H,1H,2H,2H- 8:2 Fluorotelomer sulfonate ammonium salt (8:2 FTS-NH ₄)	149724-40-3
31		1H,1H,2H,2H- 2-(Perfluorooctyl)ethane-1-sulfonate (8:2 FTS (anion))	481071-78-7
32		1H,1H,2H,2H- 2-(Perfluorooctyl)ethanesulfonyl chloride (8:2 FTS-Cl)	27619-90-5
33	--	1H,1H,2H,2H- 1,1,2,2-Tetrahydroperfluorodecyl acrylate (8:2 FTAC)	27905-45-9
34	--	2-() 2-Propenoic acid,2-methyl-,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester (8:2 FTMA)	1996-88-9
35	--	1H,1H,2H,2H- 1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)	101947-16-4
36	--	1- -1H,1H,2H,2H- Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8- heptadecafluoro-10-iodo- (8:2 FTI)	2043-53-0
37	8:2diPAP 8:2diPAP and its salts	(2-()) 8:2 Fluorotelomer phosphate diester (8:2diPAP)	678-41-1
38		(2-()) Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)	114519-85-6
39		(2-()) Ammonium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-NH ₄)	93776-20-6
40		(2-()) Bis(2-hydroxyethyl)ammonium bis((perfluorooctyl)ethyl) hydrogen phosphate (8:2diPAP-C ₄ H ₁₁ NO ₂)	57677-97-1
41		(2-()) 8:2 Fluorotelomer phosphate diester ion (1-) (8:2diPAP (anion))	1411713-91-1
42	--	2H,2H- 2H,2H-Perfluorodecanoate (H ₂ PFDA)	27854-31-5
43	--	2H,2H- Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (H ₂ PFDA-P(C ₄ H ₉) ₄)	882489-14-7
44	H ₄ PFUnA	2H,2H,3H,3H- 2H,2H,3H,3H-Perfluoroundecanoic acid (H ₄ PFUnA)	34598-33-9
45	H ₄ PFUnA and its salts	3-() Potassium 3-(perfluorooctyl)propanoate (H ₄ PFUnA-K)	83310-58-1
46		2H,2H,3H,3H- Lithium 3-(perfluorooctyl)propanoate (H ₄ PFUnA-Li)	67304-23-8
47	--	1-Decene,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro- (PFOE)	21652-58-4

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48	--	Perfluorooctylethyltrichlorosilane (FDTS)	78560-44-8
49	--	Perfluorooctylethyltrimethoxysilane (FDTMOS)	83048-65-1
50	10:2 diPAP	[2-()] Bis[2-(perfluorodecyl)ethyl] Phosphate (10:2 diPAP)	1895-26-7
51	10:2 diPAP and its salts	2,2'- [2-()] Bis((perfluorodecyl)ethyl) hydrogen phosphate 2,2'-iminodiethanol (10:2 diPAP-C ₄ H ₁₁ O ₂)	57677-98-2
52	8:2 monoPAPS	-1- 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl dihydrogen phosphate (8:2 monoPAPS)	57678-03-2
53		8:2 Sodium 1H,1H,2H,2H-perfluorodecyl phosphate (8:2 monoPAPS-Na)	92678-93-8
54		8:2 Disodium 1H,1H,2H,2H-perfluorodecylphosphate (8:2 monoPAPS-Na ₂)	438237-75-3
55		8:2 8:2 Fluorotelomer diammonium phosphate (8:2 monoPAPS-NH ₄ NH ₄)	93857-44-4
56	--	2H- -2- 2H-Perfluoro-2-decenoic acid (8:2 FTUCA)	70887-84-2
57	--	C8-14- Alcohols, C8-14, gamma-omega-perfluoro (C8-14-PFEOH)	68391-08-2
58	--	2- 1H,1H,2H,2H-Perfluorodecyl acetate (8:2FTOAc)	37858-04-1

▼ (PFOS) Perfluorooctane sulfonic acid (PFOS) and its derivatives

: CEN/TS 15968:2010*¹; : LC-MS-MS & GC-MS

Test Method: CEN/TS 15968:2010*¹; Test Equipment: LC-MS-MS & GC-MS

Tested Item(s)	CAS No.	Result (mg/kg)	
		002	MDL (mg/kg)
PFOS PFOS and its salts*	1763-23-1	N.D.	0.010
Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7	N.D.	0.010
N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.050
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N- -N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	N.D.	0.050
N- 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	N.D.	0.050
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N-(2-)-N- -1- 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	N.D.	0.050
PFOSA PFOSA and its salts*	754-91-6	N.D.	0.010
N-Me-FOSAA	2355-31-9	N.D.	0.050
N-Me-FOSAA and its salts*			
N-Et-FOSAA N-Et-FOSAA and its salts*	2991-50-6	N.D.	0.050
FOSAA FOSAA and its salts*	2806-24-8	N.D.	0.010
(2- -N-) Bis[2-[N-ethyl(heptadecafluorooctanesulphonyl)amino]ethyl] hydrogen phosphate (EtFOSEdiPAPs)	2965-52-8	N.D.	0.050

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Tested Item(s)	CAS No.	Result (mg/kg)	MDL (mg/kg)
		002	
Total	-	N.D.	--

Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- * = PFOS The substances listed in the List of PFOS and its derivatives

PFOS List of PFOS and its derivatives

No.	Group Name	Substance Name(s)	CAS No.
1	PFOS PFOS and its salts	Perfluorooctane Sulfonates (PFOS)	1763-23-1
2		Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3
3		Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
4		Sodium perfluorooctane sulfonate (PFOS-Na)	4021-47-0
5		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-, magnesium salt (2:1) (PFOS-Mg)	91036-71-4
6		Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9
7		Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8
8		Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H ₅) ₄)	56773-42-3
9		Tetrabutylammonium perfluorooctanesulfonate (PFOS-NH(C ₄ H ₉) ₄)	111873-33-7
10		Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)	251099-16-8
11		Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluorooctanesulfonate	71463-74-6
12		Tetramethylammonium perfluorooctane sulfonate (PFOS-C ₄ H ₁₂ N)	56773-44-5
13		Perfluorooctanesulfonic acid diethylamine salt (PFOS-C ₄ H ₁₁ N)	2205029-08-7
14		Triethylammonium perfluorooctane sulfonate (PFOS-C ₆ H ₁₅ N)	54439-46-2
15		N,N-Dibutyl-N-methylbutan-1-aminium heptafluorooctane-1-sulfonate (PFOS-C ₁₃ H ₃₀ N)	124472-68-0
16		() N,N,N-Tripropylpentan-1-aminium heptafluorooctane-1-sulfonate (PFOS-C ₁₄ H ₃₂ N)	56773-56-9
17		Tetrabutylphosphonium perfluorooctane sulfonate (PFOS-C ₁₆ H ₃₆ P)	2185049-59-4
18		-[2-(2- -2-)] Heptyldimethyl{2-[(2-methylprop-2-enoyl)oxy]ethyl}azanium heptafluorooctane-1-sulfonate (PFOS-C ₁₅ H ₃₀ NO ₂)	1203998-97-3

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19		[4-(1,1-)]- Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, salt with perfluoro-1-octanesulfonic acid (1:1) (PFOS-C ₂₀ H ₂₆ I)	213740-80-8
20		(2,4,6-) Diphenyl(2,4,6-trimethylphenyl)sulfonium perfluoro-1-octanesulfonate (PFOS-C ₂₁ H ₂₁ S)	258341-99-0
21		1-Hexadecylpyridinium perfluoro-1-octanesulfonate (PFOS-C ₂₁ H ₃₈ N)	334529-63-4
22		Perfluorooctane sulfonic anhydride (PFOSAN)	423-92-7
23		N,N,N- -1- -1- N,N,N-Triethyldecane-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-C ₁₆ H ₃₆ N)	773895-92-4
24		Perfluorooctanesulfonate (PFOS (anion))	45298-90-6
25		Perfluoro-1-octanesulfonyl chloride (PFOS-Cl)	423-60-9
26	--	Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7
27	--	N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2
28	--	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N- - N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8
29	--	N- 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2
30	--	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N-(2-)-N- -1- 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7
31		Perfluorooctanesulfonamide (PFOSA)	754-91-6
32		(1:1) Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)	76752-79-9
33	PFOSA	(1:1) Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)	76752-78-8
34	PFOSA and its salts	(1:1) Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)	76752-70-0
35		(1:1) Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH ₄)	76752-72-2
36		Heptadecafluorooctane-1-sulphonamide, compound with triethylamine (1:1) (PFOSA-C ₆ H ₁₅ N)	76752-82-4
37	N-Me-FOSAA	N-()-N- N-Methyl perfluorooctanesulfonamidoacetic acid (N-Me-FOSAA)	2355-31-9
38	N-Me-FOSAA	N-()-N- Potassium N-((heptadecafluorooctyl)sulphonyl)-N-methylglycinate (N-Me-FOSAA-K)	70281-93-5
39	N-Me-FOSAA and its salts	N-()-N- 2-(N-Methylperfluorooctanesulfonamido)acetate (N-Me-FOSAA (anion))	909405-48-7
40		N- -N-(()) N-ethyl-N-[(heptadecafluorooctyl)sulphonyl] glycine (N-Et-FOSAA)	2991-50-6
41	N-Et-FOSAA	N- -N-[()]- Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt (N-Et-FOSAA-K)	2991-51-7
42	N-Et-FOSAA	N- -N-(()) Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na)	3871-50-9
43	N-Et-FOSAA and its salts	N- -N-(()) Ammonium 2-(N-ethylperfluorooctanesulfonamido) acetate (N-Et-FOSAA-NH ₄)	2991-52-8
44		N- -N-(()) 2-(N-Ethyl-perfluorooctanesulfonamido)acetate (N-Et-FOSAA (anion))	909405-49-8

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45	FOSAA	Glycine, N-[(heptadecafluorooctyl)sulfonyl]- (FOSAA)	2806-24-8
46		N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)	75260-69-4
47	FOSAA and its salts	N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)	115716-87-5
48		N-[(Perfluorooctyl)sulfonyl]glycinate (FOSAA (anion))	909405-47-6
49	--	(2- -N-) Bis[2-[N-ethyl(heptadecafluorooctanesulphonyl)amino]ethyl]hydrogen phosphate (EtFOSEdiPAPs)	2965-52-8

▼ (PFOS) **Perfluorooctane sulfonic acid (PFOS) and its salts & related substances**

: CEN/TS 15968:2010*¹; : LC-MS-MS & GC-MS

Test Method: CEN/TS 15968:2010*¹; Test Equipment: LC-MS-MS & GC-MS

Tested Item(s)	CAS No.	Result (mg/kg)	
		002	MDL (mg/kg)
PFOS PFOS and its salts*	1763-23-1	N.D.	0.010
(PFOS) Perfluorooctane sulfonic acid (PFOS) and its salts	-	N.D.	--
Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7	N.D.	0.010
N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.050
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N- - N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	N.D.	0.050
N- 2-(N-Ethylperfluoro-1-octanesulfonamido)- ethanol (N-Et-FOSE)	1691-99-2	N.D.	0.050
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N-(2-)-N- -1- 2-(N-Methylperfluoro- 1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	N.D.	0.050
PFOSA PFOSA and its salts*	754-91-6	N.D.	0.010
N-Me-FOSAA	2355-31-9	N.D.	0.050
N-Me-FOSAA and its salts*			
N-Et-FOSAA N-Et-FOSAA and its salts*	2991-50-6	N.D.	0.050
FOSAA FOSAA and its salts*	2806-24-8	N.D.	0.010
(2- -N-) Bis[2-[N- ethyl(heptadecafluorooctanesulphonyl)amino]ethyl] hydrogen phosphate (EtFOSEdiPAPs)	2965-52-8	N.D.	0.050
(PFOS) Perfluorooctane sulfonic acid (PFOS) related substances	-	N.D.	--

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Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- * = PFOS The substances listed in the List of PFOS and its salts & related substances

PFOS List of PFOS and its salts & related substances

No.	Group Name	Substance Name(s)	CAS No.
(PFOS) Perfluorooctane sulfonic acid (PFOS) and its salts			
1	PFOS PFOS and its salts	Perfluorooctane Sulfonates (PFOS)	1763-23-1
2		Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3
3		Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
4		Sodium perfluorooctane sulfonate (PFOS-Na)	4021-47-0
5		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-, magnesium salt (2:1) (PFOS-Mg)	91036-71-4
6		Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9
7		Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8
8		Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H ₅) ₄)	56773-42-3
9		Tetrabutylammonium perfluorooctanesulfonate (PFOS-NH(C ₄ H ₉) ₄)	111873-33-7
10		Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)	251099-16-8
11		Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluorooctanesulfonate	71463-74-6
12		Tetramethylammonium perfluorooctane sulfonate (PFOS-C ₄ H ₁₂ N)	56773-44-5
13		Perfluorooctanesulfonic acid diethylamine salt (PFOS-C ₄ H ₁₁ N)	2205029-08-7
14		Triethylammonium perfluorooctane sulfonate (PFOS-C ₆ H ₁₅ N)	54439-46-2
15		N,N-Dibutyl-N-methylbutan-1-aminium heptafluorooctane-1-sulfonate (PFOS-C ₁₃ H ₃₀ N)	124472-68-0
16		() N,N,N-Tripropylpentan-1-aminium heptafluorooctane-1-sulfonate (PFOS-C ₁₄ H ₃₂ N)	56773-56-9
17		Tetrabutylphosphonium perfluorooctane sulfonate (PFOS-C ₁₆ H ₃₆ P)	2185049-59-4
18		Heptyldimethyl{2-[(2-methylprop-2-enoyl)oxy]ethyl}azanium heptafluorooctane-1-sulfonate (PFOS-C ₁₅ H ₃₀ NO ₂)	1203998-97-3

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19		[4-(1,1-)]- Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, salt with perfluoro-1-octanesulfonic acid (1:1) (PFOS-C ₂₀ H ₂₆ I)	213740-80-8
20		(2,4,6-) Diphenyl(2,4,6-trimethylphenyl)sulfonium perfluoro-1-octanesulfonate (PFOS-C ₂₁ H ₂₁ S)	258341-99-0
21		1-Hexadecylpyridinium perfluoro-1-octanesulfonate (PFOS-C ₂₁ H ₃₈ N)	334529-63-4
22		Perfluorooctane sulfonic anhydride (PFOSAN)	423-92-7
23		N,N,N- -1- -1- N,N,N-Triethyldecan-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-C ₁₆ H ₃₆ N)	773895-92-4
24		Perfluorooctanesulfonate (PFOS (anion))	45298-90-6
25		Perfluoro-1-octanesulfonyl chloride (PFOS-Cl)	423-60-9
(PFOS) Perfluorooctane sulfonic acid (PFOS) related substances			
26	--	Perfluoro-1-octanesulfonyl fluoride (PFOSF)	307-35-7
27	--	N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2
28	--	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N- - N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8
29	--	N- 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2
30	--	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- -N-(2-)-N- -1- 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7
31	PFOSA and its salts	Perfluorooctanesulfonamide (PFOSA)	754-91-6
32		(1:1) Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)	76752-79-9
33		(1:1) Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)	76752-78-8
34		(1:1) Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)	76752-70-0
35		(1:1) Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH ₄)	76752-72-2
36		Heptadecafluorooctane-1-sulphonamide, compound with triethylamine (1:1) (PFOSA-C ₆ H ₁₅ N)	76752-82-4
37	N-Me-FOSAA	N-()-N- N-Methyl perfluorooctanesulfonamidoacetic acid (N-Me-FOSAA)	2355-31-9
38	N-Me-FOSAA and its salts	N-()-N- Potassium N-((heptadecafluorooctyl)sulphonyl)-N-methylglycinate (N-Me-FOSAA-K)	70281-93-5
39		N-()-N- 2-(N-Methylperfluorooctanesulfonamido)acetate (N-Me-FOSAA (anion))	909405-48-7
40	N-Et-FOSAA and its salts	N- -N-(()) N-ethyl-N-[(heptadecafluorooctyl)sulphonyl] glycine (N-Et-FOSAA)	2991-50-6
41		N- -N-[()]- Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt (N-Et-FOSAA-K)	2991-51-7
42		N- -N-(()) Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na)	3871-50-9
43		N- -N-(()) Ammonium 2-(N-ethylperfluorooctanesulfonamido) acetate (N-Et-FOSAA-NH ₄)	2991-52-8

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44		N- -N-(()) 2-(N-Ethyl-perfluorooctanesulfonamido)acetate (N-Et-FOSAA (anion))	909405-49-8
45		Glycine, N-[(heptadecafluorooctyl)sulfonyl]- (FOSAA)	2806-24-8
46	FOSAA	N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)	75260-69-4
47	FOSAA and its salts	N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)	115716-87-5
48		N-[(Perfluorooctyl)sulfonyl]glycinate (FOSAA (anion))	909405-47-6
49	--	(2- -N-) Bis[2-[N-ethyl(heptadecafluorooctanesulphonyl)amino]ethyl]hydrogen phosphate (EtFOSEdiPAPs)	2965-52-8

/ Sample/Part Description		
CTI ID		
No.	CTI Sample ID	Description
1	002	Wafer

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2.1 Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017 / IEC 62321-5:2013 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Chlorine (Cl)	EN 14582:2016	IC
Bromine (Br)	EN 14582:2016	IC
Iodine (I)	EN 14582:2016	IC
Hexabromocyclododecane (HBCDD)	IEC 62321-9:2021	GC-MS
A Tetrabromobisphenol A (TBBP-A)	US EPA 3550C:2007 & US EPA 8321B:2007* ¹ Refer to US EPA 3550C:2007 & US EPA 8321B:2007* ¹	LC-MS-MS/LC-MS
Perfluorooctanoic Acid(PFOA)	CEN/TS 15968:2010* ¹	LC-MS-MS/ LC-MS
Perfluorooctane Sulfonates(PFOS)	CEN/TS 15968:2010* ¹	LC-MS-MS/ LC-MS

2.2 Test Result(s)

Tested Item(s)	Result	MDL	Limit
	002		
Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

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Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Biphenyls (PBBs)			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
	002		
Polybrominated Diphenyl Ethers (PBDEs)			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

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Tested Item(s)	Result	MDL	Limit
	002		
Phthalates (DBP, BBP, DEHP, DIBP)			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
(2-) Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL
	002	
Chlorine (Cl)	N.D.	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
	002	
Hexabromocyclododecane (HBCDD)	N.D.	20 mg/kg

Tested Item(s)	Result	MDL
	002	
A Tetrabromobisphenol A (TBBP-A)	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
	002	
Perfluorooctanoic Acid (PFOA)	N.D.	0.010 mg/kg

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Tested Item(s)	Result	MDL
	002	
Perfluorooctane Sulfonates (PFOS)	N.D.	0.010 mg/kg

Sample/Part Description		
No.	CTI Sample ID	Description
1	002	Wafer

: , ,
-N.D. = ()
-mg/kg = ppm =
-1000 mg/kg = 0.1%
Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million
-1000 mg/kg = 0.1%

: “*1” CNAS
Note: The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.
“*1” indicates the method(s) is (are) not in CNAS accreditation scope.

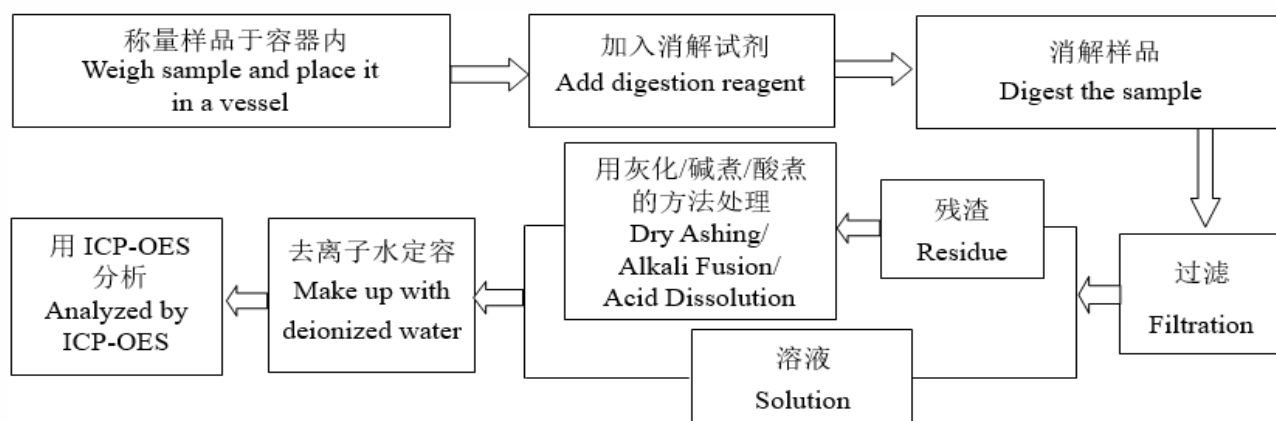
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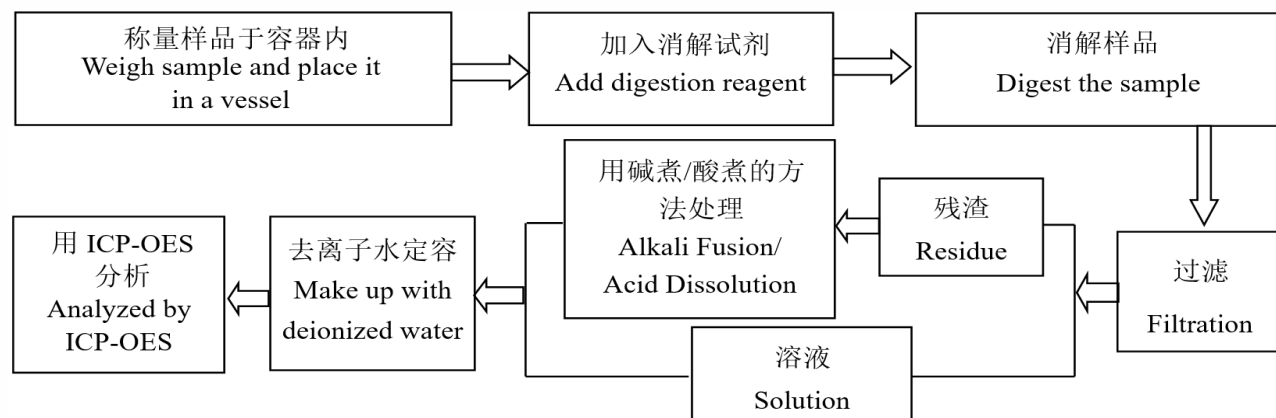
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2.3 Test Process

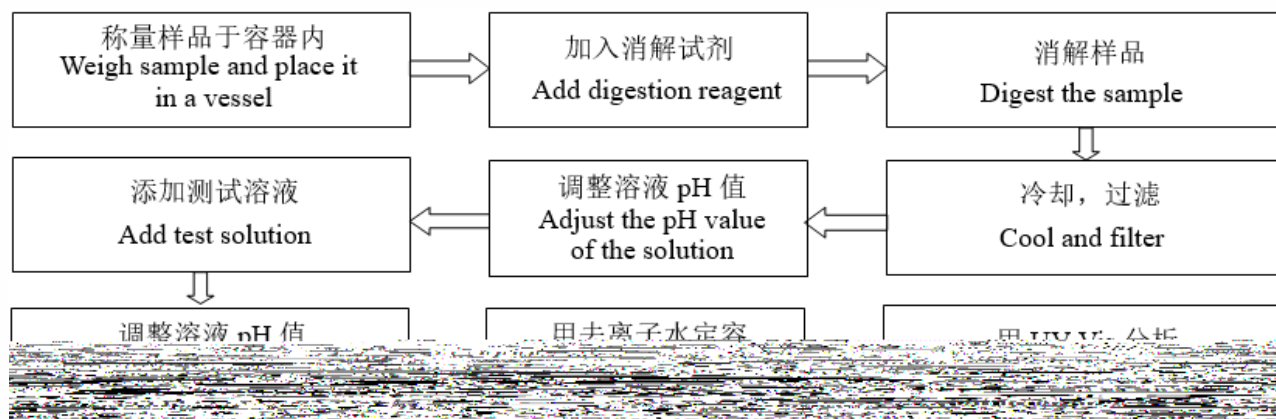
2.3.1. Lead (Pb), Cadmium (Cd), Chromium(Cr)



2.3.2. Mercury (Hg)



2.3.3. Hexavalent Chromium (Cr(VI))



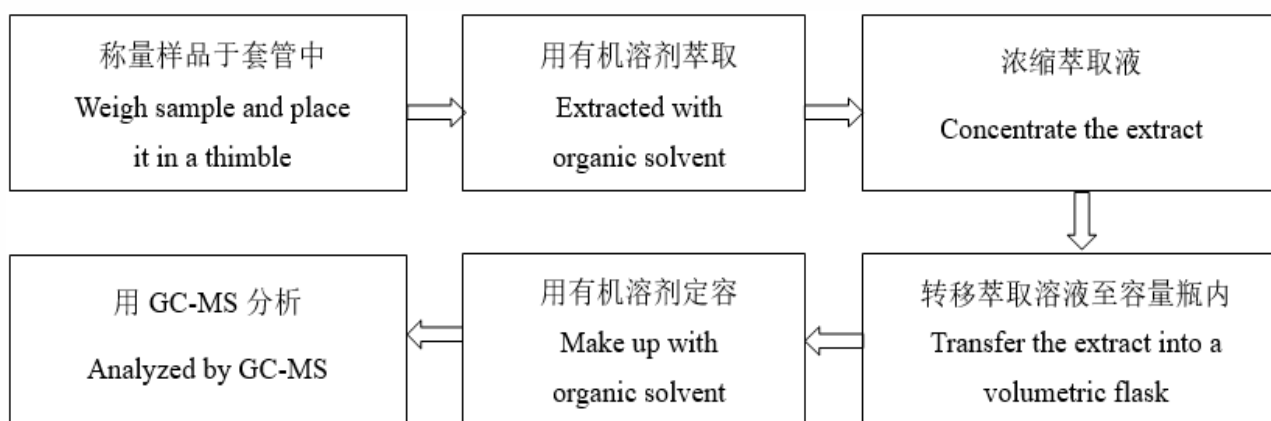
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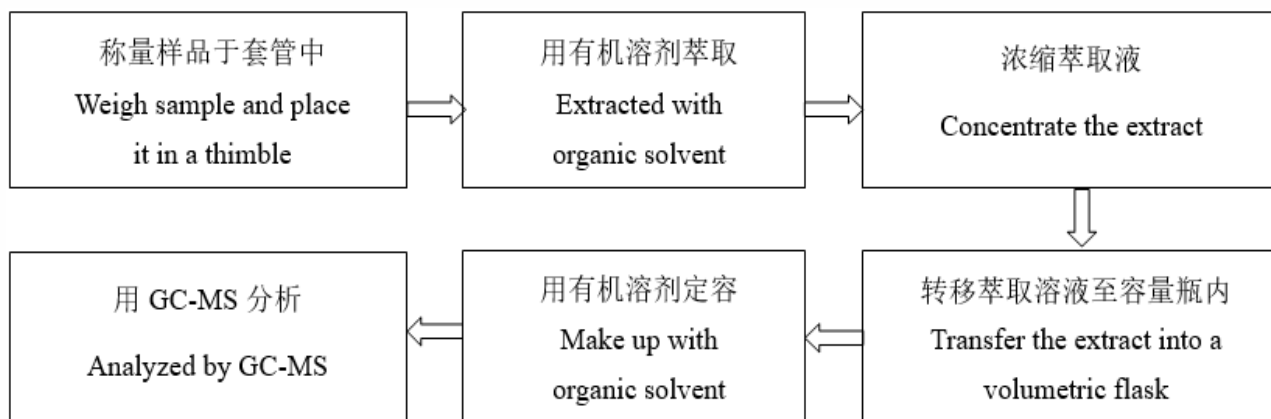
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2.3.4. Polybrominated Biphenyls (PBBs), (PBDEs)

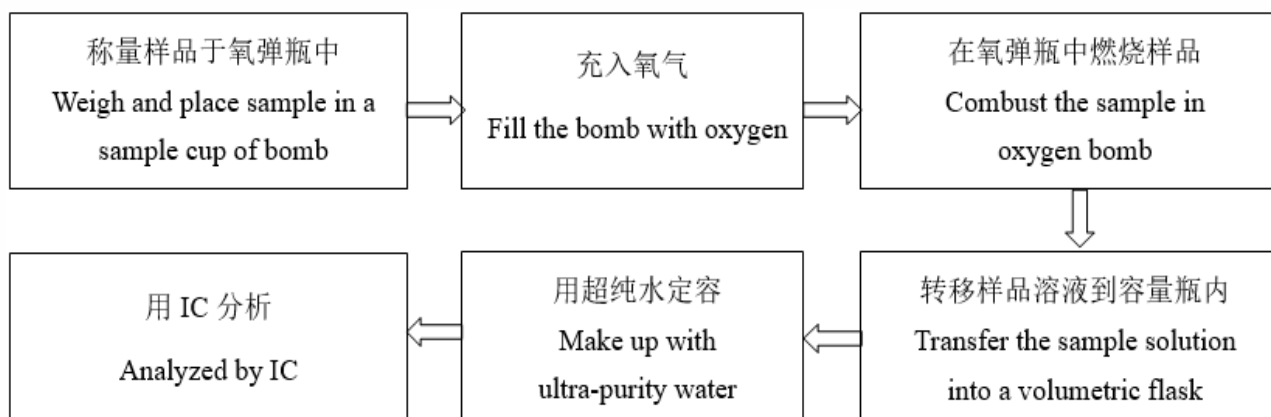
Polybrominated Diphenyl Ethers



2.3.5. Phthalates (DBP, BBP, DEHP, DIBP)



2.3.6. Chlorine (Cl), Bromine (Br), Iodine (I)

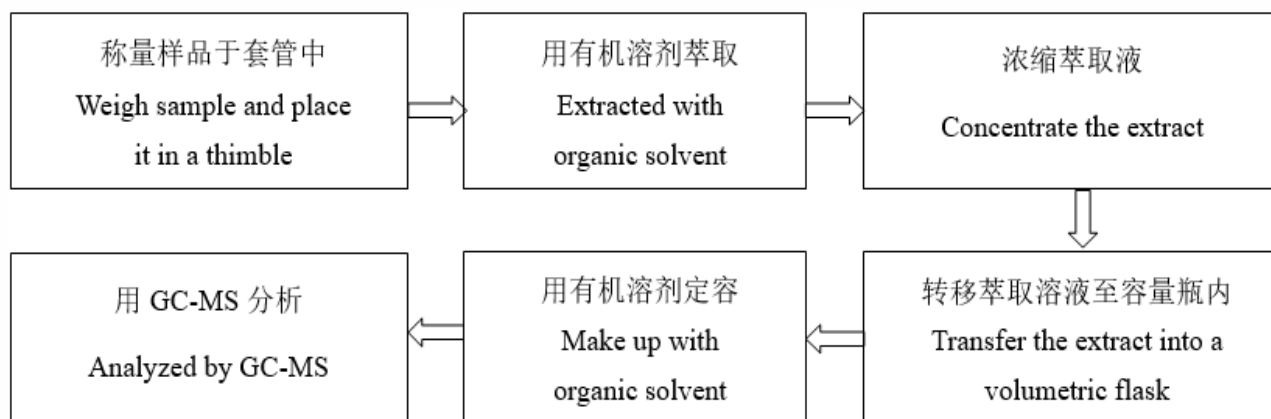


Test Report

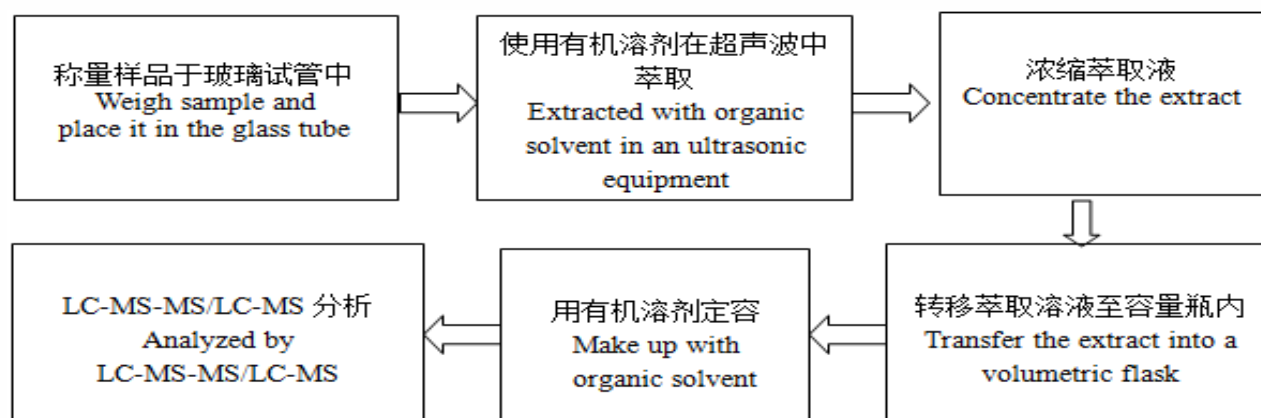
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2.3.7. Hexabromocyclododecane (HBCDD)

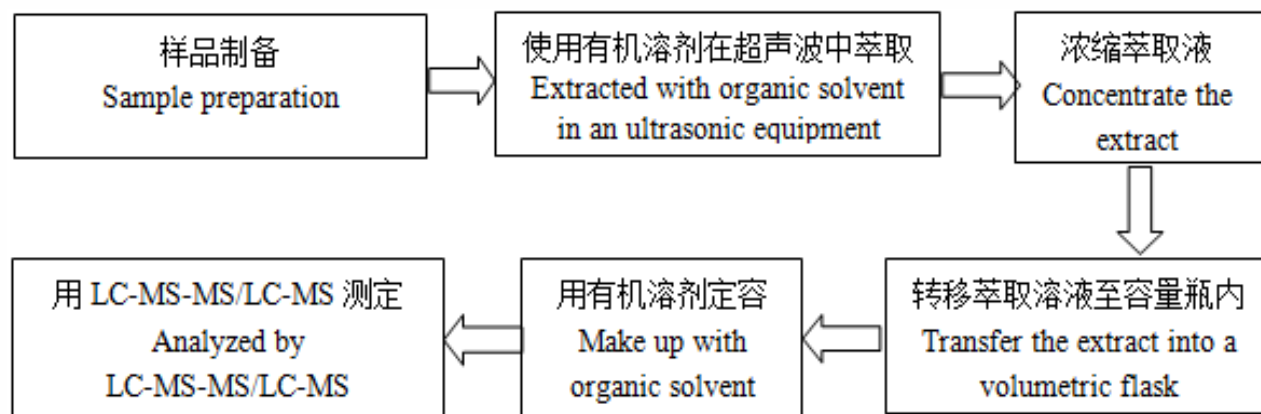


2.3.8. A Tetrabromobisphenol A (TBBP-A)



2.3.9. (PFOA)Perfluorooctanoic Acid(PFOA), Sulfonates(PFOS)

(PFOS)Perfluorooctane



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Photo(s) of the sample(s)

