

No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd.

8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

The following sample(s) was/were submitted and identified by the applicant as:

Sample Submitted By : Taiwan Semiconductor Manufacturing Company, Ltd.
Sample Name : TSMC Fab 12 Finished Wafer

Sample Receiving Date

: 02-Dec-2024

Testing Period : 02-Dec-2024 to 18-Dec-2024

Test Requested

- (1) As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).
- (2) As specified by client, the sample(s) was/ were tested for 5 PBTs with reference to TSCA section 6 and 40 CFR Part 751. Please refer to result table for testing items.
- (3) As requested by the client, the risk of specific PFAS in the selected sample is evaluated. The total amounts of evaluated PFAS are 477 items, concluding 145 tested items and 332 listed items (see PFAS Remark).
- (4) Please refer to next pages for the other item(s).

Test Results

: Please refer to following pages.

Conclusion :

- (1) Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
- (2) Based on the performed tests on submitted sample(s), the test results of PBTs comply with the limits as set by TSCA section 6 and 40 CFR Part 751.

Troy Chang / Department Malager Signed for and on behalf of Alwah SGS TAIWAN LTD. Chemical Laboratory - Taipei



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PIN CODE: C411DA78

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Part Description

No.1 : WAFER

Test Result(s)

Test Item(s)	Method	Unit	MDL	Result	Limit
Cadmium (Cd)	With reference to IEC 62321-5: 2013,	20 0 /lea	2	No.1 n.d.	100
Cadmium (Cd)		mg/kg	2	n.a.	100
Lood (Db)	analysis was performed by ICP-OES.	100 or /14 or	2		1000
Lead (Pb)	With reference to IEC 62321-5: 2013,	mg/kg	2	n.d.	1000
	analysis was performed by ICP-OES.	4			1000
Mercury (Hg)	With reference to IEC 62321-4: 2013+	mg/kg	2	n.d.	1000
	AMD1: 2017, analysis was performed				
	by ICP-OES.				
Hexavalent Chromium Cr(VI)	With reference to IEC 62321-7-2: 2017,	mg/kg	8	n.d.	1000
	analysis was performed by UV-VIS.				
Monobromobiphenyl		mg/kg	5	n.d.	-
Dibromobiphenyl		mg/kg	5	n.d.	-
Tribromobiphenyl		mg/kg	5	n.d.	-
Tetrabromobiphenyl		mg/kg	5	n.d.	-
Pentabromobiphenyl		mg/kg	5	n.d.	-
Hexabromobiphenyl		mg/kg	5	n.d.	-
Heptabromobiphenyl		mg/kg	5	n.d.	-
Octabromobiphenyl		mg/kg	5	n.d.	-
Nonabromobiphenyl		mg/kg	5	n.d.	-
Decabromobiphenyl	With reference to IEC 62321-6: 2015,	mg/kg	5	n.d.	-
Sum of PBBs	analysis was performed by GC/MS.	mg/kg	-	n.d.	1000
Monobromodiphenyl ether		mg/kg	5	n.d.	-
Dibromodiphenyl ether		mg/kg	5	n.d.	-
Tribromodiphenyl ether		mg/kg	5	n.d.	-
Tetrabromodiphenyl ether		mg/kg	5	n.d.	-
Pentabromodiphenyl ether		mg/kg	5	n.d.	-
Hexabromodiphenyl ether		mg/kg	5	n.d.	-
Heptabromodiphenyl ether		mg/kg	5	n.d.	-
Octabromodiphenyl ether		mg/kg	5	n.d.	-
Nonabromodiphenyl ether		mg/kg	5	n.d.	-
Decabromodiphenyl ether		mg/kg	5	n.d.	-
Sum of PBDEs		mg/kg	-	n.d.	1000

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Test Item(s)	Method	Unit	MDL	Result No.1	Limit
Butyl benzyl phthalate (BBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Dibutyl phthalate (DBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Di-(2-ethylhexyl) phthalate (DEHP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Diisobutyl phthalate (DIBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Diisodecyl phthalate (DIDP) (CAS No.: 26761-40-0, 68515-49-1)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Diisononyl phthalate (DINP) (CAS No.: 28553-12-0, 68515-48-0)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Di-n-octyl phthalate (DNOP) (CAS No.: 117-84-0)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Fluorine (F) (CAS No.: 14762-94-8)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50	n.d.	-
Chlorine (Cl) (CAS No.: 22537-15-1)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50	n.d.	-
Bromine (Br) (CAS No.: 10097-32-2)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50	n.d.	-
lodine (I) (CAS No.: 14362-44-8)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50	n.d.	-
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - HBCDD) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	With reference to IEC 62321: 2008, analysis was performed by GC/MS.	mg/kg	5	n.d.	-
Polychlorinated biphenyls (PCBs)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	0.5	n.d.	-
Polychlorinated naphthalene (PCNs)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	5	n.d.	-
Polychlorinated terphenyls (PCTs)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	0.5	n.d.	-

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Short Chain Chlorinated	With reference to ISO 18219-1: 2021,	mg/kg	50	n.d.	-
Paraffins(C10-C13) (SCCP) (CAS No.:	analysis was performed by GC/MS.				
85535-84-8)					
Tetrabromobisphenol A (TBBP-A)	With reference to RSTS-E&E-121,	mg/kg	10	n.d.	-
(CAS No.: 79-94-7)	analysis was performed by LC/MS.				
Tributyl tin (TBT)		mg/kg	0.03	n.d.	-
Triphenyl tin (TPT)	With reference to ISO 17353: 2004,	mg/kg	0.03	n.d.	-
Dibutyl tin (DBT)	analysis was performed by GC/FPD.	mg/kg	0.03	n.d.	-
Dioctyl tin (DOT)		mg/kg	0.03	n.d.	-
Bis(tributyltin) oxide (TBTO) (CAS	Calculated from the result of Tributyl	mg/kg	0.03 ▲	n.d.	-
No.: 56-35-9)	Tin (TBT).				
AZO Dyes					
4-aminobiphenyl (CAS No.: 92-67-1)		mg/kg	3	n.d.	-
Benzidine (CAS No.: 92-87-5)		mg/kg	3	n.d.	-
4-chloro-o-toluidine (CAS No.: 95-		mg/kg	3	n.d.	-
69-2)					
2-naphthylamine (CAS No.: 91-59-8)		mg/kg	3	n.d.	-
o-aminoazotoluene (CAS No.: 97-56-		mg/kg	3	n.d.	-
3)					
5-nitro-o-toluidine (CAS No.: 99-55-		mg/kg	3	n.d.	-
8)					
4-chloroaniline (CAS No.: 106-47-8)		mg/kg	3	n.d.	-
2,4-diaminoanisole (CAS No.: 615-	With reference to EN ISO 14362-1:	mg/kg	3	n.d.	-
05-4)	2017, analysis was performed by				
4,4'-diaminodiphenylmethane	GC/MS and HPLC/DAD.	mg/kg	3	n.d.	-
(MDA) (CAS No.: 101-77-9)					
3,3'-dichlorobenzidine (CAS No.: 91-		mg/kg	3	n.d.	-
94-1)					
3,3'-dimethoxybenzidine (CAS No.:		mg/kg	3	n.d.	-
119-90-4)					
3,3'-dimethylbenzidine (CAS No.:		mg/kg	3	n.d.	-
119-93-7)					
3,3'-dimethyl-4,4'-		mg/kg	3	n.d.	-
diaminodiphenylmethane (CAS No.:					
838-88-0)					

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
2-methoxy-5-methylaniline (CAS		mg/kg	3	n.d.	-
No.: 120-71-8)					
4,4'-methylene-bis-(2-chloroaniline)		mg/kg	3	n.d.	-
(CAS No.: 101-14-4)					
4,4'-oxydianiline (CAS No.: 101-80-4)		mg/kg	3	n.d.	-
4,4'-thiodianiline (CAS No.: 139-65-	With reference to EN ISO 14362-1:	mg/kg	3	n.d.	-
1)	2017, analysis was performed by				
o-toluidine (CAS No.: 95-53-4)	GC/MS and HPLC/DAD.	mg/kg	3	n.d.	-
2,4-diaminotoluene (CAS No.: 95-80-		mg/kg	3	n.d.	-
7)	1				
2,4,5-trimethylaniline (CAS No.: 137-		mg/kg	3	n.d.	-
17-7)	4				
o-anisidine (CAS No.: 90-04-0)		mg/kg	3	n.d.	-
4-aminoazobenzene (CAS No.: 60-	With reference to EN ISO 14362-1:	mg/kg	3	n.d.	-
09-3)	2017 or/and EN ISO 14362-3: 2017,				
	analysis was performed by GC/MS & HPLC/DAD.				
2.4 1.1. (CACAL OF CO.1)	HPLC/DAD.	//			
2,4-xylidine (CAS No.: 95-68-1)	With reference to EN ISO 14362-1:	mg/kg	3	n.d.	-
2,6-xylidine (CAS No.: 87-62-7)	2017, analysis was performed by	ma/ka	3	n d	
2,0-xyllullie (CAS No 87-62-7)	GC/MS and HPLC/DAD.	mg/kg	5	n.d.	-
Asbestos					
Actinolite (CAS No.: 77536-66-4)	With reference to EPA 600/R-93/116:	=	-	Negative	-
Amosite (CAS No.: 12172-73-5)	1993, analysis was performed by	-	-	Negative	-
Anthophyllite (CAS No.: 77536-67-5)	Stereo Microscope (SM), Dispersion	=	-	Negative	-
Chrysotile (CAS No.: 12001-29-5)	Staining Polarized Light Microscope	-	-	Negative	-
Crocidolite (CAS No.: 12001-28-4)	(DS-PLM) and X-ray Diffraction	-	-	Negative	-
Tremolite (CAS No.: 77536-68-6)	Spectrometer (XRD).	-	-	Negative	-
Arsenic (As) (CAS No.: 7440-38-2)	With reference to US EPA 3052: 1996,	mg/kg	2	n.d.	-
	analysis was performed by ICP-OES.				
Beryllium (Be) (CAS No.: 7440-41-7)	With reference to US EPA 3052: 1996,	mg/kg	2	n.d.	-
	analysis was performed by ICP-OES.				
Antimony (Sb) (CAS No.: 7440-36-0)	With reference to US EPA 3052: 1996,	mg/kg	2	n.d.	-
	analysis was performed by ICP-OES.				

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Chlorofluorocarbons (CFCs)					
CFC-13 (CAS No.: 75-72-9)		mg/kg	1	n.d.	-
CFC-111 (CAS No.: 354-56-3)		mg/kg	1	n.d.	ı
CFC-112 (CAS No.: 76-12-0)		mg/kg	1	n.d.	-
CFC-211 (CAS No.: 422-78-6)		mg/kg	1	n.d.	ı
CFC-212 (CAS No.: 3182-26-1)		mg/kg	1	n.d.	-
CFC-213 (CAS No.: 2354-06-5)		mg/kg	1	n.d.	-
CFC-214 (CAS No.: 29255-31-0)	NA/ith wafawaraa ta UC FDA FO21A, 2014	mg/kg	1	n.d.	-
CFC-215 (CAS No.: 4259-43-2)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
CFC-216 (CAS No.: 661-97-2)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
CFC-217 (CAS No.: 422-86-6)		mg/kg	1	n.d.	-
CFC-12 (CAS No.: 75-71-8)		mg/kg	1	n.d.	-
CFC-11 (CAS No.: 75-69-4)		mg/kg	1	n.d.	-
CFC-115 (CAS No.: 76-15-3)		mg/kg	1	n.d.	-
CFC-114 (CAS No.: 76-14-2)		mg/kg	1	n.d.	-
CFC-113 (CAS No.: 76-13-1)		mg/kg	1	n.d.	-
Hydrochlorofluorocarbons (HCFCs)					
HCFC-21 (CAS No.: 75-43-4)		mg/kg	1	n.d.	-
HCFC-22 (CAS No.: 75-45-6)		mg/kg	1	n.d.	-
HCFC-31 (CAS No.: 593-70-4)		mg/kg	1	n.d.	-
HCFC-121 (CAS No.: 354-14-3)		mg/kg	1	n.d.	-
HCFC-122 (CAS No.: 354-21-2)		mg/kg	1	n.d.	-
HCFC-123 (CAS No.: 306-83-2)		mg/kg	1	n.d.	-
HCFC-124 (CAS No.: 2837-89-0)		mg/kg	1	n.d.	ı
HCFC-131 (CAS No.: 359-28-4)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	1
HCFC-142b (CAS No.: 75-68-3)	analysis was performed by GC/MS.	mg/kg	1	n.d.	1
HCFC-221 (CAS No.: 422-26-4)	diffully sis was performed by defivior.	mg/kg	1	n.d.	ı
HCFC-222 (CAS No.: 422-49-1)		mg/kg	1	n.d.	ı
HCFC-223 (CAS No.: 422-52-6)		mg/kg	1	n.d.	_
HCFC-224 (CAS No.: 422-54-8)		mg/kg	1	n.d.	-
HCFC-225ca (CAS No.: 422-56-0)		mg/kg	1	n.d.	-
HCFC-225cb (CAS No.: 507-55-1)		mg/kg	1	n.d.	-
HCFC-226 (CAS No.: 431-87-8)		mg/kg	1	n.d.	-
HCFC-231 (CAS No.: 421-94-3)		mg/kg	1	n.d.	-

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
HCFC-232 (CAS No.: 460-89-9)		mg/kg	1	n.d.	-
HCFC-233 (CAS No.: 7125-84-0)		mg/kg	1	n.d.	-
HCFC-234 (CAS No.: 425-94-5)		mg/kg	1	n.d.	-
HCFC-235 (CAS No.: 460-92-4)		mg/kg	1	n.d.	-
HCFC-241 (CAS No.: 666-27-3)		mg/kg	1	n.d.	-
HCFC-242 (CAS No.: 460-63-9)		mg/kg	1	n.d.	-
HCFC-244		mg/kg	1	n.d.	-
HCFC-251 (CAS No.: 421-41-0)		mg/kg	1	n.d.	-
HCFC-252 (CAS No.: 819-00-1)		mg/kg	1	n.d.	-
HCFC-261 (CAS No.: 420-97-3)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
HCFC-262 (CAS No.: 421-02-03)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
HCFC-271 (CAS No.: 430-55-7)	analysis was performed by defivis.	mg/kg	1	n.d.	-
HCFC-141b (CAS No.: 1717-00-6)		mg/kg	1	n.d.	-
HCFC-243 (CAS No.: 460-69-5)		mg/kg	1	n.d.	-
HCFC-253 (CAS No.: 460-35-5)		mg/kg	1	n.d.	-
HCFC-141		mg/kg	1	n.d.	-
HCFC-142		mg/kg	1	n.d.	-
HCFC-151		mg/kg	1	n.d.	-
HCFC-225		mg/kg	1	n.d.	-
HCFC-133		mg/kg	1	n.d.	-
HCFC-132		mg/kg	1	n.d.	-
Halons					
Halon-1211 (CAS No.: 353-59-3)		mg/kg	1	n.d.	-
Halon-1301 (CAS No.: 75-63-8)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
Halon-2402 (CAS No.: 124-73-2)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
Halon-1202 (CAS No.: 75-61-6)		mg/kg	1	n.d.	-
Methyl Bromide (CAS No.: 74-83-9)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
	analysis was performed by GC/MS.				
Hydrobromofluorocarbons (HBFCs)					
HBFC-271B1 (C3H6FBr)		mg/kg	1	n.d.	-
HBFC-262B1 (C3H5F2Br)		mg/kg	1	n.d.	-
HBFC-261B2 (C3H5FBr2)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
HBFC-253B1 (C3H4F3Br)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
HBFC-252B2 (C3H4F2Br2)		mg/kg	1	n.d.	-
HBFC-244B1 (C3H3F4Br)		mg/kg	1	n.d.	-

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Test Item(s)	Method	Unit	MDL	Result No.1	Limit
HBFC-243B2 (C3H3F3Br2)		mg/kg	1	n.d.	-
HBFC-242B3 (C3H3F2Br3)	1	mg/kg	1	n.d.	-
HBFC-241B4 (C3H3FBr4)	1	mg/kg	1	n.d.	-
HBFC-235B1 (C3H2F5Br)	1	mg/kg	1	n.d.	-
HBFC-234B2 (C3H2F4Br2)	1	mg/kg	1	n.d.	-
HBFC-233B3 (C3H2F3Br3)		mg/kg	1	n.d.	-
HBFC-232B4 (C3H2F2Br4)]	mg/kg	1	n.d.	-
HBFC-231B5 (C3H2FBr5)	1	mg/kg	1	n.d.	-
HBFC-226B1 (C3HF6Br)	1	mg/kg	1	n.d.	-
HBFC-225B2 (C3HF5Br2)	1	mg/kg	1	n.d.	-
HBFC-224B3 (C3HF4Br3)]	mg/kg	1	n.d.	-
HBFC-223B4 (C3HF3Br4)]	mg/kg	1	n.d.	-
HBFC-222B5 (C3HF2Br5)]	mg/kg	1	n.d.	-
HBFC-221B6 (C3HFBr6)		mg/kg	1	n.d.	-
HBFC-151B1 (C2H4FBr)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
HBFC-142B1 (C2H3F2Br)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
HBFC-141B2 (C2H3FBr2)	allalysis was periorified by GC/1813.	mg/kg	1	n.d.	-
HBFC-133B1 (C2H2F3Br)		mg/kg	1	n.d.	-
HBFC-132B2 (C2H2F2Br2)		mg/kg	1	n.d.	-
HBFC-131B3 (C2H2FBr3)		mg/kg	1	n.d.	-
HBFC-124B1 (C2HF4Br)]	mg/kg	1	n.d.	-
HBFC-123B2 (C2HF3Br2)]	mg/kg	1	n.d.	-
HBFC-122B3 (C2HF2Br3)		mg/kg	1	n.d.	-
HBFC-121B4 (C2HFBr4)		mg/kg	1	n.d.	-
HBFC-31B1 (CH2FBr) (CAS No.: 373-		mg/kg	1	n.d.	-
52-4)					
HBFC-22B1 (CHF2Br) (CAS No.:	1	mg/kg	1	n.d.	-
1511-62-2)					
HBFC-21B2 (CHFBr2) (CAS No.:		mg/kg	1	n.d.	-
1868-53-7)					
HBFC-251B1		mg/kg	1	n.d.	-
Hydrofluorocarbon (HFCs)					
HFC-23 (CHF3) (CAS No.: 75-46-7)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
HFC-32 (CH2F2) (CAS No.: 75-10-5)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
HFC-41 (CH3F) (CAS No.: 593-53-3)	analysis was periornied by GC/1813.	mg/kg	1	n.d.	-

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
HFC-43-10mee (C5H2F10)		mg/kg	1	n.d.	=
HFC-125 (C2HF5)		mg/kg	1	n.d.	-
HFC-134 (C2H2F4)		mg/kg	1	n.d.	-
HFC-134a (CH2FCF3) (CAS No.: 811-		mg/kg	1	n.d.	-
97-2)					
HFC-143 (C2H3F3)		mg/kg	1	n.d.	-
HFC-143a (C2H3F3)		mg/kg	1	n.d.	-
HFC-152a (C2H4F2) (CAS No.: 75-37-		mg/kg	1	n.d.	-
6)					
HFC-227ea (C3HF7) (CAS No.: 431-	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	1
89-0)	analysis was performed by GC/MS.				
HFC-236fa (CAS No.: 431-63-0)		mg/kg	1	n.d.	-
HFC-245ca (C3H3F5)		mg/kg	1	n.d.	-
HFC-245fa (C3H3F5)		mg/kg	1	n.d.	-
HFC-365mfc (C4H5F5)		mg/kg	1	n.d.	_
HFC-236ea (C3H2F6) (CAS No.: 431-		mg/kg	1	n.d.	_
63-0)					
HFC-236cb		mg/kg	1	n.d.	_
HFC-161		mg/kg	1	n.d.	-
HFC-152		mg/kg	1	n.d.	_
Perfluorocarbon (PFCs)					
2-Perfluoromethylpentane (CAS No.:		mg/kg	1	n.d.	-
355-04-4)					
Decafluorobutane (CAS No.: 355-25-		mg/kg	1	n.d.	-
9)					
F14 (CAS No.: 75-73-0)		mg/kg	1	n.d.	-
Fluorocarbon 116 (CAS No.: 76-16-4)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
Freon 218 (CAS No.: 76-19-7)	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
Freon C318 (CAS No.: 115-25-3)		mg/kg	1	n.d.	-
Perfluorohexane (CAS No.: 355-42-0)		mg/kg	1	n.d.	-
Perfluoro-n-pentane (CAS No.: 678-		mg/kg	1	n.d.	-
26-2)		J. J.			
Perfluorodecalin (CAS No.: 306-94-5)		mg/kg	1	n.d.	-
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Test Item(s)	Method	Unit	MDL	Result No.1	Limit
Chlorinate hydrocarbon (CHCs)					
1,1-Dichloropropene (CAS No.: 563-		mg/kg	1	n.d.	-
58-6)					
1,2-Dichloroethane (CAS No.: 107-		mg/kg	1	n.d.	-
06-2)					
2,2-Dichloropropane (CAS No.: 594-		mg/kg	1	n.d.	-
20-7)					
Carbon tetrachloride (CAS No.: 56-		mg/kg	1	n.d.	-
23-5)					
Chloromethane (CAS No.: 74-87-3)		mg/kg	1	n.d.	-
cis-1,2-Dichloroethene (CAS No.:		mg/kg	1	n.d.	-
156-59-2)					
cis-1,3-Dichloropropene (CAS No.:		mg/kg	1	n.d.	-
10061-01-5)					
Hexachlorobutadiene (CAS No.: 87-		mg/kg	1	n.d.	-
68-3)					
trans-1,2-Dichloroethene (CAS No.:		mg/kg	1	n.d.	-
156-60-5)	With reference to US EPA 5021A: 2014,				
trans-1,3-Dichloropropene (CAS No.:	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
10061-02-6)					
Dichloromethane (CAS No.: 75-09-2)		mg/kg	1	n.d.	-
1,2-Dichloropropane (CAS No.: 78-		mg/kg	1	n.d.	-
87-5)					
1,1,1,2-Tetrachloroethane (CAS No.:		mg/kg	1	n.d.	-
630-20-6)					
1,1,1-Trichloroethane (CAS No.: 71-		mg/kg	1	n.d.	-
55-6)					
1,1,2-Trichloroethane (CAS No.: 79-		mg/kg	1	n.d.	-
00-5)					
1,1,2,2-Tetrachloroethane (CAS No.:		mg/kg	1	n.d.	-
79-34-5)					
1,1-Dichloroethylene (CAS No.: 75-		mg/kg	1	n.d.	-
35-4)					
1,1-Dichloroethane (CAS No.: 75-34-		mg/kg	1	n.d.	-
3)					

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Chloroethane (CAS No.: 75-00-3)		mg/kg	1	n.d.	-
Tetrachloroethene (CAS No.: 127-18-		mg/kg	1	n.d.	-
4)					
Trichloroethylene (CAS No.: 79-01-6)	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
1,3-Dichloropropane (CAS No.: 142-	analysis was performed by GC/MS.	mg/kg	1	n.d.	-
28-9)	analysis was periornied by GC/Wis.				
Chloroform (CAS No.: 67-66-3)		mg/kg	1	n.d.	-
1,2,3-Trichloropropane (CAS No.: 96-		mg/kg	1	n.d.	-
18-4)					
Bromochloromethan (CAS No.: 74-	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
97-5)	analysis was performed by GC/MS.				
Sulfur hexafluoride (CAS No.: 2551-	With reference to US EPA 5021A: 2014,	mg/kg	1	n.d.	-
62-4)	analysis was performed by GC/MS.				
Decabromodiphenyl ether	With reference to US EPA 3550C: 2007,	mg/kg	5	n.d.	1000/
(DecaBDE) (CAS No.: 1163-19-5)	analysis was performed by GC/MS.				N/A(*3)
Phenol, isopropylated, phosphate	With reference to US EPA 3550C: 2007,	mg/kg	5	n.d.	1000/
(3:1) (PIP 3:1) (CAS No.: 68937-41-7)	analysis was performed by GC/MS.				N/A(*1)
2,4,6-Tris(tert-butyl)phenol (2,4,6-	With reference to US EPA 3550C: 2007,	mg/kg	5	n.d.	3000 /
TTBP) (CAS No.: 732-26-3)	analysis was performed by GC/MS.				N/A(*2)
Pentachlorothiophenol (PCTP) (CAS	With reference to US EPA 3550C: 2007,	mg/kg	5	n.d.	10000
No.: 133-49-3)	analysis was performed by GC/MS.				
Hexachlorobutadiene (HCBD) (CAS	With reference to US EPA 3550C: 2007,	mg/kg	5	n.d.	Prohibited
No.: 87-68-3)	analysis was performed by GC/MS.				
Ethylene glycol monomethyl ether	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
(CAS No.: 109-86-4)	analysis was performed by GC/MS.				
2-Ethoxyethanol (CAS No.: 110-80-5)	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
	analysis was performed by GC/MS.				
Ethylene glycol monomethyl ether	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
acetate (CAS No.: 110-49-6)	analysis was performed by GC/MS.				
	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
15-9)	analysis was performed by GC/MS.				
Diethylene glycol monomethyl ether	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
(CAS No.: 111-77-3)	analysis was performed by GC/MS.				
Ethylene glycol monobutyl ether	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	- 7
(CAS No.: 111-76-2)	analysis was performed by GC/MS.				

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Diethylene glycol dimethyl ether	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
(DEGDME) (CAS No.: 111-96-6)	analysis was performed by GC/MS.				
2-(2-butoxyethoxy) ethanol (CAS	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
No.: 112-34-5)	analysis was performed by GC/MS.				
Ethylene glycol dimethyl ether (CAS	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
No.: 110-71-4)	analysis was performed by GC/MS.				
1,2-bis(2-methoxyethoxy) ethane	With reference to US EPA 3550C: 2007,	mg/kg	10	n.d.	-
(CAS No.: 112-49-2)	analysis was performed by GC/MS.				
Radioactive substances	Geiger counter.	μSv/hour	-	Negative*	-
PFAS					
PFHxA and its salts					
Perfluorohexane acid and its salts	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
(PFHxA and its salts) (CAS No.: 307-	analysis was performed by LC/MS/MS.				
24-4 and its salts)					
PFHxA related compounds					
1H,1H,2H,2H-Perfluoro-1-octanol	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
(6:2FTOH) (CAS No.: 647-42-7)	analysis was performed by GC/MS and LC/MS/MS.				
1H,1H,2H,2H-Perfluorooctylacrylate	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
(6:2FTA) (CAS No.: 17527-29-6)	analysis was performed by GC/MS.				
1H,1H,2H,2H-Perfluorooctyl	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
methacrylate (6:2 FTMAC) (CAS No.:	analysis was performed by GC/MS.				
2144-53-8)					
1H,1H,2H,2H-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
Perfluorooctanesulphonic acid and	analysis was performed by LC/MS/MS.				
its salts (6:2 FTS and its salts) (CAS					
No.: 27619-97-2 and its salts)					
1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
8-iodooctane (6:2 FTI) (CAS No.:	analysis was performed by GC/MS.				
2043-57-4)					
Perfluorohexyl iodide (PFHxI) (CAS	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
No.: 355-43-1)	analysis was performed by GC/MS.				
n-(4,4,5,5,6,6,7,7,8,8,9,9,9-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
tridecafluorononyl)iodoacetamide	analysis was performed by LC/MS/MS.				
(CAS No.: 852527-50-5)					

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Perfluorooctyl triethoxysilane (POTS)	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
(CAS No.: 51851-37-7)	analysis was performed by GC/MS.				
1H,1H,2H,2H-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
Perfluorooctyltrichlorosilane (CAS	analysis was performed by GC/MS.				
No.: 78560-45-9)					
Mono[2-(perfluorohexyl)ethyl]	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
Phosphate and its salts (6:2	analysis was performed by LC/MS/MS.				
monoPAP and its salts) (CAS No.:					
57678-01-0 and its salts)					
2-lodo-1H,1H,1H,2H,3H,3H-	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
perfluorononane (CAS No.: 38550-	analysis was performed by GC/MS.				
34-4)					
N-[3-(dimethylamino)propyl]-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
3,3,4,4,5,5,6,6,7,7,8,8,8-	analysis was performed by LC/MS/MS.	3 3			
tridecafluorooctanesulphonamide					
N-oxide (CAS No.: 80475-32-7)					
Thiocyanic acid,	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
3,3,4,4,5,5,6,6,7,7,8,8,8-	analysis was performed by GC/MS.				
tridecafluorooctyl ester (CAS No.:					
26650-09-9)					
2H,2H,3H,3H-Perfluorononanoic	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
acid (6:3 FTCA) (CAS No.: 27854-30-	analysis was performed by LC/MS/MS.				
4)					
1H,1H,2H,2H-Perfluorooctanethiol	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
(6:2 FTSH) (CAS No.: 34451-26-8)	analysis was performed by GC/MS.				
1H,1H,2H,2H-	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
Perfluorooctyldimethylchlorosilane	analysis was performed by GC/MS.				
(6:2 FTSiMe2Cl) (CAS No.: 102488-					
47-1)					
1-lodo-1H,1H-Perfluoroheptane (6:1	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	
FTI) (CAS No.: 212563-43-4)	analysis was performed by GC/MS.				
3-(Perfluorohexyl)propyl iodide (6:3	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
FTI) (CAS No.: 89889-20-3)	analysis was performed by GC/MS.				

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Test Item(s)	Method	Unit	MDL	Result No.1	Limit
1H,1H,2H,2H- Perfluorooctanephosphonic acid and its salts (6:2 FTPA and its salts) (CAS No.: 252237-40-4 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.1	n.d.	-
1H,1H-perfluorohexan-1-ol (5:1 FTOH) (CAS No.: 423-46-1)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.2	n.d.	1
1H,1H-perfluoro-1-heptanol (6:1 FTOH) (CAS No.: 375-82-6)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.2	n.d.	1
3-(perfluorohexyl)propanol (6:3 FTOH) (CAS No.: 80806-68-4)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.2	n.d.	-
3,3,4,4,5,5,6,6,7,7,7-undecafluoro-2- heptanol (CAS No.: 914637-05-1)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.2	n.d.	-
1-(perfluorohexyl)octane (CAS No.: 133331-77-8)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.2	n.d.	-
1H,1H-Perfluoroheptylamine (6:1 FTNH2) (CAS No.: 423-49-4)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.2	n.d.	-
Perfluorohexyl ethylene (PFHxE) (CAS No.: 25291-17-2)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	1	n.d.	-
PFHxS and its salts					
Perfluorohexane sulfonate and its salts (PFHxS and its salts) (CAS No.: 355-46-4 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	1
PFHxS related compounds					
N-Methylperfluoro-1- hexanesulfonamide (N-Me-FHxSA) (CAS No.: 68259-15-4)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	1
Perfluorohexane sulfonamide (PFHxSA) (CAS No.: 41997-13-1)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
N-[3- (dimethylamino)propyl]tridecafluoro hexanesulphonamide (N-AP-FHxSA) (CAS No.: 50598-28-2)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	Test Item(s)	Method	Unit	MDL	Result	Limit
Imminojethyl acrylate (N-MeFHSEA) (CAS No.: 67584-57-0)					No.1	
Ijaminojethyl acrylate (N-MeFHSEA) (CAS No.: 67584-57-0)			mg/kg	0.2	n.d.	-
(CAS No.: 67584-57-0) 2-Propenoic acid, 2-methyl-, 2- [methyl[(1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyljamino]et hyl ester (CAS No.: 67584-61-6) 2-Propenoic acid, 2-methyl-, 2- [ethyl[(1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyljamino]et hyl ester (CAS No.: 67584-61-6) 2-Propenoic acid, 2-methyl-, 2- [ethyl[(1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyljamino]et hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexylpsulfonyljamino]et hyl ester (CAS No.: 68906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexylpsulfonylj and its salts (ETHxSA No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexylpsulfonylj and its salts (EtHxSAA and its salts) PPFOS and its salts Perfluoroctane sulfonates and its salts (ETHXSAA and its salts) PPFOS and its salts) PPFOS and its salts PPFOS and its salts) PPFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.		analysis was performed by GC/MS.				
2-Propenoic acid, 2-methyl-, 2- [methyl](1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 67584-61-6) 2-Propenoic acid, 2-methyl-, 2- [ethyl[(1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6- tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts PFOS and its salts) PFOS and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	1					
Imethyll(1,1,2,2,3,3,4,4,5,5,6,6-6-tridecafluorohexyl)sulfonyljaminojet hyl ester (CAS No.: 67584-61-6) 2-Propenoic acid, 2-methyl-, 2- lethyll(1,1,2,2,3,3,4,4,5,5,6,6-tridecafluorohexyl)sulfonyljaminojet hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6-tridecafluorohexyl)-N-methyl- (MeFHxSE) (CAS No.: 68955-75-9) Glycine, N-ethyl-N- (I(1,1,2,2,3,3,4,4,5,5,6,6-tridecafluorohexyl)sulfonylj and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts (PFOS and its salts) (CAS No.: 131506-32-8) N-ethyl-Perfluoroctanesulfonamide (R-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl-Perfluoroctanesulfonamideothanol (N-Et-FOSE alcohol) (CAS No.: 1691-	(CAS No.: 67584-57-0)					
tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 67584-61-6) 2-Propenoic acid, 2-methyl-, 2- [ethyl](1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] and issalts (ECAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] and its salts (ECFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts Perfluorooctane sulfonates and its salts) (CAS No.: 1451-50-2) N-ethylperfluoro-1- octanesulfonamide (EFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	2-Propenoic acid, 2-methyl-, 2-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
hyl ester (CAS No.: 67584-61-6) 2-Propenoic acid, 2-methyl-, 2- [ethyl[(1,1,2,2,3,3,4,4,5,5,6,6-6- tridecafluorohexyl)sulfonyl[amino]et hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6-6-tridecafluoro- N-(2-hydroxyethyl)-N-methyl- (MeFHxSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6-6- tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts Perfluoroctane sulfonates and its salts (PFOS and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-		analysis was performed by GC/MS.				
2-Propenoic acid, 2-methyl-, 2- [ethyl](1,1,2,2,3,3,4,5,5,6,6,6- tridecafluorohexyl)sulfonyl]amino]et hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- N-(2-hydroxyethyl)-N-methyl- (MeFHXSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluorohexyl)sulfonyl] and its salts (EtFHXSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts PFOS and its salts) PFOS and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	3 - 3					
ethyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]aminojethyl ester (CAS No.: 67906-70-1)	hyl ester (CAS No.: 67584-61-6)					
tridecafluorohexyl)sulfonyl]aminojet hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-(MeFHXSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] and its salts (EFHXSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts Perfluorooctane sulfonates and its salts) (CAS No.: 1763-23-1 and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	2-Propenoic acid, 2-methyl-, 2-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	ı
hyl ester (CAS No.: 67906-70-1) 1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro- N-(2-hydroxyethyl)-N-methyl- (MeFHxSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6-tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts Perfluoroctane sulfonates and its salts (PFOS and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	[ethyl[(1,1,2,2,3,3,4,4,5,5,6,6,6,6-	analysis was performed by GC/MS.				
1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- N-(2-hydroxyethyl)-N-methyl- (MeFHxSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- N-(2-hydroxyethyl)-N-methyl- (MeFHxSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,4,4,5,5,6,6,6-tridecafluoro- I(1,1,2,2,3,4,5,5,6,6,6-						
1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-(MeFHxSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) (CAS No.: 68957-32-4 and its salts) Perfluorooctane sulfonates and its salts (PFOS and its salts) PFOS and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl-Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	hyl ester (CAS No.: 67906-70-1)					
N-(2-hydroxyethyl)-N-methyl- (MeFHxSE) (CAS No.: 68555-75-9) Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) Perfluorooctane sulfonates and its salts (PFOS and its salts) (CAS No.: 1763-23-1 and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	1-Hexanesulfonamide,	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
(MeFHxSE) (CAS No.: 68555-75-9)With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.d[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts)With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.dPFOS and its saltsWith reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.dPFOS related compoundsWith reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.dN-ethylperfluoro-1-octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2)With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.dN-Methyl-Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8)With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.dN-Ethyl-Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.mg/kg0.01n.d	1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	analysis was performed by LC/MS/MS.				
Glycine, N-ethyl-N- [(1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) Perfluorooctane sulfonates and its salts (PFOS and its salts) PFOS and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	N-(2-hydroxyethyl)-N-methyl-					
[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) Perfluorooctane sulfonates and its salts) (CAS No.: 168957-32-4 and its salts) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	(MeFHxSE) (CAS No.: 68555-75-9)					
tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) PFOS and its salts Perfluorooctane sulfonates and its salts (CAS No.: 1763-23-1 and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691- With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	Glycine, N-ethyl-N-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
salts (EtFHxSAA and its salts) (CAS No.: 68957-32-4 and its salts) Perfluorooctane sulfonates and its salts (PFOS and its salts) (CAS No.: 1763-23-1 and its salts) Perfluoroo-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	[(1,1,2,2,3,3,4,4,5,5,6,6,6-	analysis was performed by LC/MS/MS.				
No.: 68957-32-4 and its salts) Perfluorooctane sulfonates and its salts (PFOS and its salts) (CAS No.: analysis was performed by LC/MS/MS. Perfluorooctane sulfonates and its salts) (CAS No.: analysis was performed by LC/MS/MS. PFOS related compounds N-ethylperfluoro-1-	tridecafluorohexyl)sulfonyl] and its					
Perfluorooctane sulfonates and its salts (PFOS and its salts) (CAS No.: analysis was performed by LC/MS/MS. Perfluoroo-1- with post of the perfluoroctane sulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691- Nith reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	salts (EtFHxSAA and its salts) (CAS					
Perfluorooctane sulfonates and its salts (PFOS and its salts) (CAS No.: 1763-23-1 and its salts) PFOS related compounds N-ethylperfluoro-1-	No.: 68957-32-4 and its salts)					
salts (PFOS and its salts) (CAS No.: 1763-23-1 and its salts) PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	PFOS and its salts					
PFOS related compounds N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	Perfluorooctane sulfonates and its	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	salts (PFOS and its salts) (CAS No.:	analysis was performed by LC/MS/MS.				
N-ethylperfluoro-1- octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	1763-23-1 and its salts)					
octanesulfonamide (EtFOSA) (CAS No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	PFOS related compounds					
No.: 4151-50-2) N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	N-ethylperfluoro-1-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
N-Methyl- Perfluoroctanesulfonamide (N-Me- FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	octanesulfonamide (EtFOSA) (CAS	analysis was performed by LC/MS/MS.				
Perfluoroctanesulfonamide (N-Me-FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	No.: 4151-50-2)					
FOSA) (CAS No.: 31506-32-8) N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	N-Methyl-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
N-Ethyl- Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691- With reference to CEN/TS 15968: 2010, mg/kg analysis was performed by LC/MS/MS.	Perfluoroctanesulfonamide (N-Me-	analysis was performed by LC/MS/MS.				
Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	FOSA) (CAS No.: 31506-32-8)	_				
Perfluoroctanesulfonamidoethanol (N-Et-FOSE alcohol) (CAS No.: 1691-	N-Ethyl-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
	<u> </u>	analysis was performed by LC/MS/MS.				
	(N-Et-FOSE alcohol) (CAS No.: 1691-					
33-2)	99-2)					

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result No.1	Limit
N-Methyl- Perfluoroctanesulfonamidoethanol (N-Me-FOSE alcohol) (CAS No.: 24448-09-7)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoroctanesulfonamide and its salts (PFOSA and its salts) (CAS No.: 754-91-6 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
PFOA and its salts					
Perfluorooctanoic acid and its salts (PFOA and its salts) (CAS No.: 335-67-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
PFOA related compounds					
Methyl perfluorooctanoate (Me- PFOA) (CAS No.: 376-27-2)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
Ethyl perfluorooctanoate (Et-PFOA) (CAS No.: 3108-24-5)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
Perfluoro-1-iodooctane (PFOI) (CAS No.: 507-63-1)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
3-Perfluoroheptyl propanoic acid (7:3 FTCA) (CAS No.: 812-70-4)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H- Perfluorodecanesulfonic acid and its salts (8:2 FTS and its salts) (CAS No.: 39108-34-4 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH) (CAS No.: 678-39-7)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA) (CAS No.: 27905-45-9)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA) (CAS No.: 1996-88-9)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
2H,2H-Perfluorodecane acid and its salts (H2PFDA and its salts) (CAS No.: 27854-31-5 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
1H,1H,2H,2H-Perfluorodecyl iodide (8_2 FTI) (CAS No.: 2043-53-0)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
Perfluorodecyltriethoxysilane (8:2 FTSi(OC2H5)3) (CAS No.: 101947-16- 4)	analysis was performed by GC/MS.	3. 3			
2H,2H,3H,3H-Perfluoroundecanoic Acid and its salts (4HPFUnA and its salts) (CAS No.: 34598-33-9 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H-Heptadecafluoro-1- decene (PFDE) (CAS No.: 21652-58- 4)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
Bis(1H,1H,2H,2H- Perfluorodecyl)phosphate and its salts (8_2diPAP and its salts) (CAS No.: 678-41-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
C9-C20 PFCAs its salts and related					
compounds					
1H,1H,2H,2H- Perfluorodecanesulfonic acid and its salts (8:2 FTS and its salts) (CAS No.: 39108-34-4 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH) (CAS No.: 678-39-7)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA) (CAS No.: 27905-45-9)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA) (CAS No.: 1996-88-9)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
2H,2H-Perfluorodecane acid and its salts (H2PFDA and its salts) (CAS No.: 27854-31-5 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H-Perfluorodecyl iodide (8_2 FTI) (CAS No.: 2043-53-0)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
1H,1H,2H,2H- Perfluorodecyltriethoxysilane (8:2 FTSi(OC2H5)3) (CAS No.: 101947-16- 4)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	No.1 n.d.	-
2H,2H,3H,3H-Perfluoroundecanoic Acid and its salts (4HPFUnA and its salts) (CAS No.: 34598-33-9 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H-Heptadecafluoro-1- decene (PFDE) (CAS No.: 21652-58- 4)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
Bis(1H,1H,2H,2H- Perfluorodecyl)phosphate and its salts (8_2diPAP and its salts) (CAS No.: 678-41-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluorononan-1-oic acid and its salts (PFNA and its salts) (CAS No.: 375-95-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA) (CAS No.: 172155-07-6)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluorodecane acid and its salts (PFDA and its salts) (CAS No.: 335- 76-2 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoroundecanoic acid and its salts (PFUnDA and its salts) (CAS No.: 2058-94-8 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluorododecanoic acid and its salts (PFDoDA and its salts) (CAS No.: 307-55-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluorodecane sulfonate and its salts (PFDS and its salts) (CAS No.: 335-77-3 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Pentacosafluorotridecanoic acid and its salts (PFTrDA and its salts) (CAS No.: 72629-94-8 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result No.1	Limit
Perfluorotetradecanoic acid and its salts (PFTDA and its salts) (CAS No.: 376-06-7 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2FTOH) (CAS No.: 865-86-1)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H- Perfluorododecylacrylate (10:2FTA) (CAS No.: 17741-60-5)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA) (CAS No.: 2144-54-9)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-perfluorotetradecan-1- ol (12:2 FTOH) (CAS No.: 39239-77- 5)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorododecane sulfonic acid and its salts (10:2 FTS and its salts) (CAS No.: 120226-60-0 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI) (CAS No.: 2043-54- 1)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI) (CAS No.: 30046-31-2)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
Perfluorononane sulfonic acid and its salts (PFNS and its salts) (CAS No.: 68259-12-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoroundecane sulfonic acid and its salts (PFUnDS and its salts) (CAS No.: 749786-16-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluorododecane sulfonic acid and its salts (PFDoDS and its salts) (CAS No.: 79780-39-5 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Perfluorotridecane sulfonic acid and its salts (PFTrDS and its salts) (CAS No.: 791563-89-8 and its salts) 10:2 Fluortelomerphosphatediester and its salts (10:2 diPAP and its salts) Perfluorododecyl iodide (PFDoDI) (CAS No.: 307-60-8) Perfluorododecyl iodide (PFDoDI) (CAS No.: 307-60-8) Perfluorododecyl iodide (PFDI) (CAS No.: 307-60-8) With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. Perfluoropentadecanoic acid and its salts (CAS No.: 3140) Perfluoropentadecanoic acid and its salts (PFPAD and its salts) Perfluorocotadecanoic acid and its salts (PFDA and its salts) Perfluorobutane acid and its salts (CAS No.: 375-22-4 and its salts) Perfluorobutane acid and its salts (CAS No.: 375-22-4 and its salts) Perfluorobutane sulfonate and its salts (PFBA and its salts) Perfluorobutane sulfonate and its salts (PFBS and its salts) Perfluorobutane sulfonate and its salts (PFBS and its salts) Perfluorobutane sulfonate and its salts (PFBS and its salts) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. Perfluorobutane sulfonate and its salts (PFBS and its salts) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. Perfluorobutane sulfonate and its salts (PFBS and its salts) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With referenc	Test Item(s)	Method	Unit	MDL	Result	Limit
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Perfluorooctadecanoic acid and its salts (PFODA and its salts, C18) (CAS No.: 16517-11-6 and its salts) Other PFAS Perfluorobutane acid and its salts (PFBA and its salts) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. Perfluorobutane sulfonate and its salts (PFBS and its salts) (CAS No.: 375-22-4 and its salts) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. The probability of the probabili		analysis was performed by LC/MS/MS.				
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Perfluorobutane acid and its salts (PFBA and its salts) (CAS No.: 375-22-4 and its salts) (CAS No.: 375-31ts (PFBS and its salts) (CAS No.: 375-31ts (PFBS and its salts) (CAS No.: 375-73-5 and its salts) (CAS No.: 30334-69-1) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	salts (PFODA and its salts, C18) (CAS	analysis was performed by LC/MS/MS.				
Perfluorobutane acid and its salts (PFBA and its salts) (CAS No.: 375-22-4 and its salts) (CAS No.: 375-31ts (PFBS and its salts) (CAS No.: 375-73-5 and its salts) (CAS No.: 30334-69-1) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. Sulphonamide (PFBS-NC3H8O) (CAS No.: 30334-69-1) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	No.: 16517-11-6 and its salts)					
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Perfluorobutane sulfonate and its salts (PFBS and its salts) (CAS No.: 375-73-5 and its salts) Perfluorobutane sulfon amides (CAS No.: 30334-69-1) 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC3H8O) (CAS No.: With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. mg/kg 0.01 n.d. mg/kg 0.01 n.d. mg/kg 0.01 n.d. analysis was performed by LC/MS/MS.	(PFBA and its salts) (CAS No.: 375-	analysis was performed by LC/MS/MS.				
salts (PFBS and its salts) (CAS No.: analysis was performed by LC/MS/MS. Perfluorobutane sulfon amides (CAS No.: analysis was performed by LC/MS/MS. Perfluorobutane sulfon amides (CAS No.: analysis was performed by LC/MS/MS. 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC3H8O) (CAS No.: analysis was performed by LC/MS/MS. analysis was performed by LC/MS/MS. mg/kg 0.01 n.d analysis was performed by LC/MS/MS.	22-4 and its salts)					
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Perfluorobutane sulfon amides (CAS No.: 30334-69-1) No.: 30334-69-1) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS. 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC3H8O) (CAS No.: 30334-69-1) With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	salts (PFBS and its salts) (CAS No.:	analysis was performed by LC/MS/MS.				
No.: 30334-69-1) analysis was performed by LC/MS/MS. 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC3H8O) (CAS	375-73-5 and its salts)					
No.: 30334-69-1) analysis was performed by LC/MS/MS. 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC3H8O) (CAS	Perfluorobutane sulfon amides (CAS	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
hydroxyethyl)-N-methylbutane-1- sulphonamide (PFBS-NC3H8O) (CAS	No.: 30334-69-1)	analysis was performed by LC/MS/MS.	3 3			
hydroxyethyl)-N-methylbutane-1- sulphonamide (PFBS-NC3H8O) (CAS	1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
sulphonamide (PFBS-NC3H8O) (CAS			J. J			
	No.: 34454-97-2)					

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
1H,1H,2H,2H-Perfluorohexyl methacrylate (4:2 FTMA) (CAS No.: 1799-84-4)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	No.1 n.d.	-
Perfluoropentane acid and its salts (PFPA and its salts) (CAS No.: 2706-90-3 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoroheptane acid and its salts (PFHpA and its salts) (CAS No.: 375-85-9 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
7H-Dodecanefluoroheptane acid and its salts (HPFHpA and its salts) (CAS No.: 1546-95-8 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoroheptane sulfonate and its salts (PFHpS and its salts) (CAS No.: 375-92-8 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoro-3-methoxypropanoic acid (PFMPA) (CAS No.: 377-73-1)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Perfluoro-4-methoxybutanoic acid (PFMBA) (CAS No.: 863090-89-5)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) (CAS No.: 151772-58-6)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
4,8-Dioxa-3H-perfluorononanoic acid and its salts (ADONA and its salts) (CAS No.: 919005-14-4 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H-Perfluoro-1-hexanol (4:2FTOH) (CAS No.: 2043-47-2)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS and LC/MS/MS.	mg/kg	0.4	n.d.	-
2,3,3,3-tetrafluoro-2- (heptafluoropropoxy)propionic acide and its salts (HFPO-DA and its salts) (CAS No.: 13252-13-6 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
1H,1H,2H,2H- Perfluorohexanesulfonic acid and its salts (4:2 FTS and its salts) (CAS No.: 757124-72-4 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Perfluorooctane sulfonamidoacetic	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
acid and its salts (FOSAA and its	analysis was performed by LC/MS/MS.				
salts) (CAS No.: 2806-24-8 and its					
salts)					
N-methylperfluorooctane	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
sulfonamidoacetic acid and its salts	analysis was performed by LC/MS/MS.				
(N-MeFOSAA and its salts) (CAS No.:					
2355-31-9 and its salts)					
N-ethylperfluorooctane	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
sulfonamidoacetic acid and its salts	analysis was performed by LC/MS/MS.				
(N-EtFOSAA and its salts) (CAS No.:					
2991-50-6 and its salts)					
Perfluoropentane sulfonic acid and	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
its salts (PFPeS and its salts) (CAS	analysis was performed by LC/MS/MS.				
No.: 2706-91-4 and its salts)					
3-Perfluoropropyl propanoic acid	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
(3:3 FTCA) (CAS No.: 356-02-5)	analysis was performed by LC/MS/MS.				
2-Perfluorohexyl ethanoic acid (6:2	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
FTCA) (CAS No.: 53826-12-3)	analysis was performed by LC/MS/MS.				
3-Perfluoropentyl propanoic acid	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
(5:3 FTCA) (CAS No.: 914637-49-3)	analysis was performed by LC/MS/MS.				
Perfluoro(2-ethoxyethane)sulfonic	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
acid (PFEESA) (CAS No.: 113507-82-	analysis was performed by LC/MS/MS.				
7)					
9-Chlorohexadecafluoro-3-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
oxanonane-1-sulfonic acid and its	analysis was performed by LC/MS/MS.				
salts (9CI-PF3ONS and its salts) (CAS					
No.: 756426-58-1 and its salts)					
11-Chloroeicosafluoro-3-	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
oxaundecane-1-sulfonic acid and its	analysis was performed by LC/MS/MS.				
salts (11Cl-PF3OUdS and its salts)					
(CAS No.: 763051-92-9 and its salts)					
2-(N-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
ethylperfluorooctanesulfamido)ethyl	analysis was performed by GC/MS.				
acrylate (EtFOSAC) (CAS No.: 423-					
82-5)					

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
11H-Perfluoroundecanoic acid and	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
its salts (11H-PFUnDA and its salts)	analysis was performed by LC/MS/MS.				
(CAS No.: 1765-48-6 and its salts)					
Pentafluoropropionate acid and its	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
salts (PFPrA and its salts) (CAS No.:	analysis was performed by LC/MS/MS.				
422-64-0 and its salts)					
1H,1H,2H,2H-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
Perfluorodecyltrichlorosilane (CAS	analysis was performed by GC/MS.				
No.: 78560-44-8)					
1H,1H,2H,2H-	With reference to CEN/TS 15968: 2010,				
Perfluorodecyltrimethoxysilane (CAS	analysis was performed by GC/MS.				
No.: 83048-65-1)					
2H-Perfluoro-2-decenoic acid (8:2	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	_
FTUCA) (CAS No.: 70887-84-2)	analysis was performed by LC/MS/MS.	<i>J. J</i>			
2H-Perfluoro-2-octenoic acid (6:2	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
FTUCA) (CAS No.: 70887-88-6)	analysis was performed by LC/MS/MS.	9, 9			
2H-Perfluoro-2-dodecenoic acid	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
(10:2 FTUCA) (CAS No.: 70887-94-4)	analysis was performed by LC/MS/MS.	9, 9			
2-Perfluorodecyl ethanoic acid (10:2	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
FTCA) (CAS No.: 53826-13-4)	analysis was performed by LC/MS/MS.	<i>9, 9</i>			
6:6 Perfluorophosphinic acid and its	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	_
salts (6:6 PFPi and its salts) (CAS No.:	analysis was performed by LC/MS/MS.	<i>J</i> , <i>J</i>			
40143-77-9 and its salts)					
6:8 Perfluorophosphinic acid (6:8	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
PFPi) (CAS No.: 610800-34-5)	analysis was performed by LC/MS/MS.	<i>J. J</i>			
8:8 Perfluorophosphinic acid and its	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
salts (8:8 PFPi and its salts) (CAS No.:	analysis was performed by LC/MS/MS.	<i>J. J</i>			
40143-79-1 and its salts)					
1H,1H,2H,2H-Heptadecafluorodecyl	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
acetate (8:2 FTOAc) (CAS No.: 37858-		J. J			
04-1)					
Mono-[2-	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	-
(perfluorooctyl)ethyl]phosphate and	analysis was performed by LC/MS/MS.	<i>J, J</i>			
its salts (8:2 monoPAP and its salts)					
(CAS No.: 57678-03-2 and its salts)					

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No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
1-Dodecanol,	With reference to CEN/TS 15968: 2010,	mg/kg	0.1	n.d.	1
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,	analysis was performed by GC/MS.				
12,12,12-heneicosafluoro-, 1-acetate					
(10:2 FTOAc) (CAS No.: 37858-05-2)					
Perfluoro-2,5-dimethyl-3,6-	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
dioxanonanoic acid and its salts	analysis was performed by LC/MS/MS.				
(HFPO-TA and its salts) (CAS No.:					
13252-14-7 and its salts)					
Pentafluoroethane sulfonic acid	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
(PFEtS) (CAS No.: 354-88-1)	analysis was performed by LC/MS/MS.				
Bis[2-(perfluorohexyl)ethyl]	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
Phosphate and its salts (6:2 diPAP	analysis was performed by LC/MS/MS.				
and its salts) (CAS No.: 57677-95-9					
and its salts)					
Trifluoromethanesulfonimide and its	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
salts (TFSI and its salts) (CAS No.:	analysis was performed by LC/MS/MS.				
82113-65-3 and its salts)					
Trifluoromethane sulfonic acid and	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
	analysis was performed by LC/MS/MS.				
1493-13-6 and its salts)					
Perfluoropropate sulfonic acid and	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
its salts (PFPrS and its salts) (CAS No.:	analysis was performed by LC/MS/MS.				
423-41-6 and its salts)					
1-pefluoroheptyl ethanol (7:2	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
secondary) (7:2s FTOH) (CAS No.:	analysis was performed by GC/MS.				
24015-83-6)					
4:2 Fluorotelomer iodide (4:2 FTI)	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
(CAS No.: 2043-55-2)	analysis was performed by GC/MS.				
Perfluoroheptane-1-sulfinic acid and	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
its salts (PFHpSi and its salts) (CAS	analysis was performed by LC/MS/MS.				
No.: 769067-51-8 and its salts)					
Perfluorooctylphosphoic acid and its	With reference to CEN/TS 15968: 2010,	mg/kg	0.01	n.d.	-
salts (PFOPA and its salts) (CAS No.:	analysis was performed by LC/MS/MS.				
40143-78-0 and its salts)					
1H,1H-Perfluorooctylamine (CAS	With reference to CEN/TS 15968: 2010,	mg/kg	0.2	n.d.	-
No.: 307-29-9)	analysis was performed by GC/MS.				

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Perfluoroheptanamide (CAS No.: 2358-22-7)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-
Perfluorobutyramide (CAS No.: 662-50-0)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.2	n.d.	-
1H,1H,2H,2H-Nonafluorohexyl acrylate (4:2 FTA) (CAS No.: 52591- 27-2)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.2	n.d.	-
N-methylperfluoro-1- butanesulfonamide (CAS No.: 68298- 12-4)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
N-Ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluoro-N-(2-hydroxyethyl)-1- hexanesulfonamide (CAS No.: 34455-03-3)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01	n.d.	-
Ethyl perfluoroisobutyl ether and its isomers (CAS No.: 163702-05-4 and others)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	10	n.d.	-
1,1,1,2,2,3,4,5,5,5,-decafluoro- Pentane (CAS No.: 138495-42-8)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	10	n.d.	-
Trifluorotoluene (CAS No.: 98-08-8)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	1	n.d.	-
1-Chloro-4 (Trifluoromethyl)Benzene (CAS No.: 98-56-6)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	1	n.d.	-
1H,1H,2H,2H- Perfluorodecylmethyldichlorosilane (CAS No.: 3102-79-2)	With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.	mg/kg	0.1	n.d.	-

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Note:

- 1. mg/kg = ppm; 0.1wt% = 0.1% = 1000ppm
- 2. MDL = Method Detection Limit
- 3. n.d. = Not Detected (Less than MDL)
- 4. "-" = Not Regulated
- 5. Testing range of asbestos qualitative analysis is from less than 0.1% to 100%. The judgment criterion: asbestos fibers being found is shown as "Positive"; asbestos fibers not being found is shown as "Negative".
- 6. ▲ : The MDL was evaluated for element / tested substance.

Conversion Formula : $AX = A \times F$

AX	Α	F
Bis(tributyltin)oxide (TBTO)	Tributyl Tin (TBT)	1.0276

Parameter Conversion Table: https://eecloud.sgs.com/Region_TW/DocDownload.aspx?name=Others

- 7. Negative*/Positive*: The test result of Geiger counter is from comparison between test outcome and environment background. In general, there is little radiation dose existing in environment. (Radiation dose from environment background usually less than or equal to 0.2µSv/hr)
 - The test result less than environment background was shown as Negative*; the result greater than environment background was shown as Positive*.
- 8. 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. According to this rule, the judgement of conformity is based on the comparing test results with limits.
- 9. Detail explanation of the regulation is available at the following link. https://www.ecfr.gov/current/title-40/chapter-I/subchapter-R/part-751?toc=1
- 10. N/A(*1): The submitted sample is exempted from the regulated scope if it is anyone of the following:
 - Hydraulic fluids for aviation or military
 - Lubricants and grease
 - New and replacement parts for motor and aerospace vehicles
 - Manufacture of cyanoacrylate adhesives in closed systems
 - Specialized engine air filters for locomotive and marine applications
 - Plastic for recycling from PIP (3:1)-containing products or articles
 - Finished products or articles made of plastic recycled from PIP (3:1)-containing products or articles
 - Distribution in commerce of PIP (3:1)-containing articles before October 31, 2026
 - Circuit boards and wire harnesses, including but not limited to terminal and fuse covers, cable sleeves, casings, connectors, and tapes
 - Articles that contain PIP (3:1), and where PIP (3:1) has not been newly added, for the purpose of repair or maintenance
 - New manufacturing equipment, including in the semiconductor industry, for new heating, ventilation, air-conditioning, refrigeration, and water-heating equipment, new power generating equipment, new laboratory equipment, new commercial electronic equipment

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

- 11. N/A(*2): The submitted sample is exempted from the regulated scope if it is not oil and lubricant additives.
- 12. N/A(*3): The submitted sample is exempted from the regulated scope if it is anyone of the following: Exempts processing and distribution for recycling of DecaBDE-containing plastic from products or articles and DecaBDE-containing products or articles made from such recycled plastic.

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PFAS Remark:

The quantitative technology of PFAS is to analyze the specific structure of PFAS substances. However, PFAS acid and its salts with the same carbon number group have the same specific structure that can be identified. The tested results of the analyzed specific structure cannot be distinguished to identify the contribution from PFAS acid or its salts. Therefore, the tested results display the sum of concentrations of PFAS acids and its salts with the same carbon number group. The concentration of PFAS substances in the below table have been included in the tested results, please refer to the table for relevant information: (The listed PFAS substances are examples only, it do not include all PFAS salts with the same carbon number group.)

Group Name	Substance Name	CAS No.
	Perfluorobutane acid (PFBA)	375-22-4
	Ammonium perfluorobutanoate (PFBA-NH ₄)	10495-86-0
	Sodium perfluorobutanoate (PFBA-Na)	2218-54-4
DEDA ita aalta	Potassium heptafluorobutanoate (PFBA-K)	2966-54-3
PFBA, its salts	Silver perfluorobutanoate (PFBA-Ag)	3794-64-7
	Lithium perfluorobutanoate (PFBA-Li)	4146-76-3
	Heptafluorobutanoic acid-piperazine (1:1)	375-04-2
	Perfluorobutanoate (anion)	45048-62-2
	Perfluorobutane sulfonate (PFBS)	375-73-5
	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, sodium salt (1:1) (PFBS-Na)	60453-92-1
	Lithium perfluorobutanesulfonate (PFBS-Li)	131651-65-5
	Magnesium perfluorobutanesulfonate (PFBS-Mg)	507453-86-3
	Perfluorobutane Sulfonate K-salt (PFBS-K)	29420-49-3
	Perfluorobutane sulfonyl fluoride (PFBS-F)	375-72-4
	Tetraethylammonium perfluorobutanesulfonate (PFBS-N(CH ₃ CH ₂) ₄)	25628-08-4
PFBS, its salts & derivatives	Triphenylsulfanium perfluorobutane sulfonate (TPS-PFBS)	144317-44-2
	Dimethyl(phenyl)sulfanium perfluorobutane sulfonate	220133-51-7
	Tetrabutyl-phosphonium nonafluoro-butane-1-sulfonate	220689-12-3
	Morpholinium perfluorobutanesulfonate	503155-89-3
	Ammonium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonate (PFBS-NH ₄)	68259-10-9
	Nonafluorobutanesulfonic acidHydrate	59933-66-3
	Nonafluoro-1-butanesulfonyl chloride (PFBS-Cl)	2991-84-6
	$\begin{array}{c} \text{Bis}(4\text{-tert-butylphenyl}) \text{iodonium perfluoro-1-butanesulfonate} \\ (\text{PFBS-I}(C_6H_4)_2(C_4H_9)_2) \end{array}$	194999-85-4

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Group Name	Substance Name	CAS No.
	1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonic acid, compound with 2,2'-iminodiethanol (1:1) (PFBS-NH(C_2H_5O) ₂)	70225-18-2
	1-(4-butoxy-1-naphthyl)tetrahydrothiophenium nonafluorobutane-1-sulfonate (PFBS-SC ₁₈ H ₂₃ O)	209482-18-8
	Tetrabutylammonium nonafluorobutanesulfonate ((PFBS- $N(C_4H_9)_4$))	108427-52-7
	Diphenyliodanium nonafluorobutane-1-sulfonate((PFBS- $I(C_6H_5)_2$))	194999-82-1
	Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	241806-75-7
	Sulfonium, (4-cyclohexylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	425670-64-0
	Thiophenium, tetrahydro-1-(1-methyl-1H-indol-3-yl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	867373-18-0
	Pyridinium, 1-ethyl-3-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	1015420-87-7
PFBS, its salts & derivatives	1H-Imidazolium, 1-methyl-3-octyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	905972-83-0
T 55, its saits & dematives	1H-Imidazolium, 3-hexyl-1-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	1001557-05-6
	2-Propanaminium, N,N-dimethyl-N-(1-methylethyl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	374571-81-0
	Sulfonium, [4-[2-(1,1-dimethylethoxy)-2-oxoethoxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	857285-80-4
	1-Butanaminium, N,N-dibutyl-N-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	124472-66-8
	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, zinc salt (2:1) (PFBS-Zn)	502457-69-4
	1-Pentanaminium, N,N,N-tripropyl-, 1,1,2,2,3,3,4,4,4- nonafluoro-1-butanesulfonate (1:1)	56773-55-8
	Perfluorobutanesulfonic acid tetramethylammonium salt (PFBS-N(CH ₃) ₄)	25628-17-5
	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, 1,1'- anhydride	36913-91-4
	Perfluorobutane sulfonate (anion)	45187-15-3

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Group Name	Substance Name	CAS No.
PFBS, its salts & derivatives	1-(4-butoxy-1-naphthalenyl)tetrahydrothiophenium - 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate	EC No. 468-770-4
	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, compd. with N,N-diethylethanamine (1:1)	182059-38-7
	1-Octanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	334529-55-4
	Pyridinium, 1-hexadecyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	334529-62-3
	Pyridinium, 1-butyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1- butanesulfonate (1:1)	334529-64-5
	1-Octanaminium, N-methyl-N,N-dioctyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1)	495417-51-1
	Sulfonium, tris(4-methylphenyl)-, 1,1,2,2,3,3,4,4,4-nonafluoro- 1-butanesulfonate (1:1)	722538-68-3
	Perfluoropentane acid (PFPA)	2706-90-3
	Sodium perfluoropentanoate (PFPA-Na)	2706-89-0
	Potasium perfluoropentanoate (PFPA-K)	336-23-2
	Ammonium perfluoropentanoate (PFPA-NH ₄)	68259-11-0
PFPA, its salts	Lithium perfluoropentanoate (PFPA-Li)	198482-22-3
PFPA, Its Saits	Silver perfluoropentanoate (PFPA-Ag)	2795-30-4
	Perfluoropentanoate (anion)	45167-47-3
	Pentanoic acid, 2,2,3,3,4,4,5,5,5-nonafluoro-, compd. with phenylmethyl carbamimidothioate (1:1) (PFPeA-C ₈ H ₁₀ N ₂ S)	64808-55-5
	Nonafluoropentanoic anhydrid (PFPeAA)	308-28-1
	Perfluorohexane acid (PFHxA)	307-24-4
	Ammonium perfluorohexanoate (PFHxA-NH₄)	21615-47-4
	Sodium perfluorohexanoate (PFHxA-Na)	2923-26-4
	Potassium perfluorohexanoate (PFHxA-K)	3109-94-2
	Perfluorohexanoyl fluoride (PFHxA-F)	355-38-4
	Silver perfluorohexanoate (PFHxA-Ag)	336-02-7
PFHxA, its salts & derivatives	Lithium perfluorohexanoate (PFHxA-Li)	90430-61-8
i i i i i i i i i i i i i i i i i i i	Perfluorohexanoic anhydride	308-13-4
	Hexanoic acid, undecafluoro-, compd. with piperazine (2:1) (8CI,9CI)	423-47-2
	Perfluorohexanoate (anion)	92612-52-7
	Perfluorohexanoyl chloride (PFHxA-Cl)	335-53-5
	Hexanoic acid, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-, compd. with 1-hexanamine (1:1) (PFHxA-C ₆ H ₁₅ N)	565225-91-4

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Group Name	Substance Name	CAS No.
PFHxA, its salts & derivatives	Hexanoic acid, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-, compd. with 1-phenylpiperazine (1:1) (PFHxA- $C_{10}H_{14}N_2$)	985-60-4
	1H,1H,2H,2H-Perfluorooctanesulphonic acid (6:2 FTS)	27619-97-2
	Sodium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-Na)	27619-94-9
	Potassium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-K)	59587-38-1
6:2 FTS, its salts	Ammonium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-NH ₄)	59587-39-2
	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
	3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctane-1-sulfonate (6:2 FTS(anion))	425670-75-3
	Perfluorohexane sulfonate (PFHxS)	355-46-4
	Perfluorohexanesulfonate Na-salt (PFHxS-Na)	82382-12-5
	Perfluorohexanesulfonate K-salt (PFHxS-K)	3871-99-6
	Ammonium perfluorohexanesulfonate (PFHxS-NH ₄)	68259-08-5
	Perfluorohexanesulfonate Li-salt (PFHxS-Li)	55120-77-9
	Perfluorohexanesulfonate Zn-salt (PFHxS-Zn)	70136-72-0
	Perfluorohexanesulfonate sulfonyl fluoride (PFHxS-F)	423-50-7
	Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	1000597-52-3
	N,N,N-tributylbutan-1-aminium tridecafluorohexane-1- sulfonate	108427-54-9
	N,N,N-triethylethanaminium tridecafluorohexane-1-sulfonate (1:1)	108427-55-0
PFHxS, its salts & derivatives	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. With pyrrolidine (1:1)	1187817-57-7
	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)	1310480-24-0
	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-tridecafluoro-1-hexanesulfonate (1:1)	1310480-27-3
	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)	1310480-28-4

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Group Name	Substance Name	CAS No.
	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)	1329995-45-0
	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)	1329995-69-8
	Sulfonium, triphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	144116-10-9
	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)	1462414-59-0
	lodonium, diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	153443-35-7
	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)	189274-31-5
	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)	202189-84-2
	lodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	213740-81-9
PFHxS, its salts & derivatives	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, gallium salt (9Cl)	341035-71-0
	Sulfonium, bis(4-methylphenyl)phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	341548-85-4
	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
	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, neodymium(3+) salt (3:1) (PFHxS-Nd)	41184-65-0
	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, yttrium(3+) salt (3:1) (PFHxS-Y)	41242-12-0
	Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:2)	421555-73-9
	lodonium, bis[4-(1,1-dimethylpropyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid	421555-74-0
	Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	425670-70-8
	Tridecafluorohexanesulphonic acid, compound with 2,2'-iminodiethanol (1:1)	70225-16-0

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Group Name	Substance Name	CAS No.
	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with N,N-diethylethanamine (1:1)	72033-41-1
	lodonium, bis[(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (9CI)	866621-50-3
	Sulfonium, (4-methylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	910606-39-2
	Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	911027-68-4
	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, cesium salt (1:1) (PFHxS-CsH)	92011-17-1
PFHxS, its salts & derivatives	Dibenzo[k,n][1,4,7,10,13]tetraoxathiacyclopentadecinium, 19- [4-(1,1-dimethylethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	928049-42-7
	Perfluorohexylsulfonyl chloride (PFHxS-Cl)	55591-23-6
	Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate	911027-69-5
	Perfluorohexane sulfonate (anion)	108427-53-8
	Tetrabutylphosphonium tridecafluorohexane-1-sulfonate (PFHxS-P (C_4H_9) ₄))	2310194-12-6
	Glycine, N-ethyl-N-[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] (EtFHxSAA)	68957-32-4
EtFHxSAA, its salts	Potassium N-ethyl-n-[(tridecafluorohexyl)sulfonyl]glycinate (EtFHxSAA-K)	67584-53-6
	Sodium N-ethyl-N-((tridecafluorohexyl)sulphonyl)glycinate (EtFHxSAA-Na)	68555-70-4
	Perfluoroheptane acid (PFHpA)	375-85-9
	Sodium perfluoroheptanoate (PFHpA-Na)	20109-59-5
	Potassium perfluoroheptanoate (PFHpA-K)	21049-36-5
PFHpA, its salts	Ammonium perfluoroheptanoate (PFHpA-NH ₄)	6130-43-4
rrnpm, its saits	Cesium perfluoroheptanoate (PFHpA-Cs)	171198-24-6
	Silver perfluoroheptanoate (PFHpA-Ag)	424-05-5
	Lithium perfluoroheptanoate (PFHpA-Li)	60871-90-1
	Perflluoroheptanoate (anion)	120885-29-2

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Group Name	Substance Name	CAS No.
HPFHpA, its salts	7H-Dodecanefluoroheptane acid (HPFHpA)	1546-95-8
	Sodium 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoate (HPFHpA-Na)	2264-25-7
	Ammonium 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoate (HPFHpA-NH ₄)	376-34-1
	7H-Perfluoroheptanoate (HPFHpA(anion))	69681-35-2
	Perfluoroheptane sulfonate (PFHpS)	375-92-8
	Perfluoroheptanesulfonate Na-salt (PFHpS-Na)	21934-50-9
	Potassium perfluoroheptanesulfonate (PFHpS-K)	60270-55-5
	Ammonium perfluoroheptanesulfonate (PFHpS-NH ₄)	68259-07-4
	Lithium perfluoroheptanesulfonate (PFHpS-Li)	117806-54-9
PFHpS, its salts	1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7- pentadecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	70225-15-9
	Perfluoroheptane sulfonate (anion)	146689-46-5
	Triethylammonium perfluoroheptane sulfonate	72033-40-0
	Tetraethylammonium perfluoroheptane sulfonate	439863-97-5
	1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7- pentadecafluoro-, anhydride (9CI) (PFHpSA)	140429-92-1
	Perfluorooctane sulfonates (PFOS)	1763-23-1
	Potassium perfluorooctanesulfonate (PFOS-K)	2795-39-3
	Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
	Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9
	Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8
	Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOSN(C_2H_5) ₄)	56773-42-3
PFOS, its salts & derivatives	N-decyl-N,N-dimethyldecan-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctane-1- sulfonate (PFOS-DDA)	251099-16-8
	Tetrabutyl Ammonium perfluorooctane sulfonate (PFOS-N(C_4H_9) ₄)	111873-33-7
	Perfluorooctane sulfonyl fluoride (POSF)	307-35-7
	Perfluorooctanesulfonic acid, magnesium salt (PFOS-Mg)	91036-71-4
	Perfluorooctanesulfonic acid, sodium salt (PFOS-Na)	4021-47-0
	Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctanesulfonate	71463-74-6
	Perfluorooctanesulfonate (anion)	45298-90-6

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Group Name	Substance Name	CAS No.
	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, compd. with N,N-diethylethanamine (1:1) (PFOS-N(C_2H_5) ₃)	54439-46-2
	Methanaminium, N,N,N-trimethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1) (PFOS-N(CH ₃) ₄)	56773-44-5
	1-Pentanaminium, N,N,N-tripropyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1) (PFOS-N(C_3H_7) ₃ (C_5H_{11}))	56773-56-9
	1-Butanaminium, N,N-dibutyl-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1) (PFOS-N(C ₄ H ₉) ₃ (CH ₃))	124472-68-0
	lodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1)	213740-80-8
PFOS, its salts & derivatives	Sulfonium, diphenyl(2,4,6-trimethylphenyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1)	258341-99-0
	Pyridinium, 1-hexadecyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)	334529-63-4
	1-Decanaminium, N,N,N-triethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1)	773895-92-4
	Tetrabutylphosphonium perfluorooctane sulfonate (PFOS- $P(C_4H_9)_4)$)	2185049-59-4
	Perfluorooctanesulfonic acid diethylamine salt (PFOS-C ₄ H ₁₁ N)	2205029-08-7
	$\label{eq:heptyldimethyl} Heptyldimethyl \ \{2-[(2-methylprop-2-enoyl)oxy]ethyl\} azanium \\ perfluorooctanesulfonate (PFOS-C_{15}H_{30}NO_2)$	1203998-97-3
	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- heptadecafluoro-, 1,1'-anhydride (PFOSAN)	423-92-7
	Perfluoroctanesulfonamide (PFOSA)	754-91-6
	Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)	76752-79-9
	Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)	76752-78-8
DEOCA ita calta	Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)	76752-70-0
PFOSA, its salts	Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH ₄)	76752-72-2
	heptadecafluorooctane-1-sulphonamide, compound with triethylamine(1:1) (PFOSA- $C_6H_{15}N$)	76752-82-4

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Group Name	Substance Name	CAS No.
	Perfluorooctanoic acid (PFOA)	335-67-1
	Sodium perfluorooctanoate (PFOA-Na)	335-95-5
	Potassium perfluorooctanoate (PFOA-K)	2395-00-8
	Silver perfluorooctanote (PFOA-Ag)	335-93-3
	Perfluorooctanoyl fluoride (PFOA-F)	335-66-0
	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
	Lithium perfluorooctanoate (PFOA-Li)	17125-58-5
	Cobalt perfluorooctanoate (PFOA-Co)	35965-01-6
	Cesium perfluorooctanoate (PFOA-Cs)	17125-60-9
	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
	Pentadecafluorooctanoic acidpiperazine (2/1)PFOA- $NH(C_4H_{10}N)$	423-52-9
	Pentadecafluorooctanoate (anion)	45285-51-6
PFOA, its salts & derivatives	Perfluorooctanoic Anhydride	33496-48-9
	Ethanaminium, N,N,N-triethyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1)	98241-25-9
	Tetramethylammoniumperfluoroctanoat	32609-65-7
	1-Propanaminium, N,N,N-tripropyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1)	277749-00-5
	Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, potassium salt, hydrate (1:1:2) (PFOA-K(H ₂ O) ₂)	98065-31-7
	Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, compd. with ethanamine (1:1) (PFOA- C_2H_7N)	1376936-03-6
	Octanoic acid, pentadecafluoro-, compd. with pyridine (1:1) (9CI) (PFOA- C_5H_5N)	95658-47-2
	Pentadecafluorooctanoic acid- 1-phenylpiperazine(1:1) (PFOA- $C_{10}H_{14}N_2$)	1514-68-7
	1-Octanaminium, N,N,N-trimethyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1) (PFOA- C ₁₁ H ₂₆ N)	927835-01-6
	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4
8:2 FTS, its salts	1H,1H,2H,2H-Perfluorodencane sulfonate acid Potassium salt (8:2 FTS-K)	438237-73-1
	1H,1H,2H,2H-Perfluorodencane sulfonate acid Ammonium salt (8:2 FTS-NH ₄)	149724-40-3
	1H,1H,2H,2H-Perfluorodencane sulfonate acid Sodium salt (8:2 FTS-Na)	27619-96-1
	8: 2 Fluorotelomer sulfonate (anion) (8:2 FTS(anion))	481071-78-7

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Group Name	Substance Name	CAS No.
	Perfluorononan-1-oic acid (PFNA)	375-95-1
	Perfluorononanoate Na-salt (PFNA-Na)	21049-39-8
	Perfluorononanoate ammounium salt (APFN)	4149-60-4
	Potassium perfluorononanoate (PFNA-K)	21049-38-7
	Perfluorononanoate Li-Salt (PFNA-Li)	60871-92-3
	Silver perfluorononanoate (PFNA-Ag)	7358-16-9
	Methanaminium perfluorononanoate (PFNA-NH ₃ (CH ₃))	77032-23-6
	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) $PFNA-NH_2(C_2H_5)_2)$	77032-27-0
	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
PFNA, its salts	Nonanoic acid, heptadecafluoro-, compd. with N,N-diethylethanamine (1:1) (9CI) (PFNA-NH(C ₂ H ₅) ₃)	327176-80-7
	Nonanoic acid, heptadecafluoro-, compd. with piperidine (1:1) (9CI) (PFNA-NH $_2(C_5H_{10})$)	95682-66-9
	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
	Nonanoic acid, heptadecafluoro-, compd. with cyclohexanamine (1:1) (9CI) (PFNA-NH ₃ (C ₆ H ₁₁))	328531-06-2
	Perfluorononanoate (anion)	72007-68-2
	4-[(6-Methoxy-3-pyridazinyl)sulfamoyl]anilinium heptadecafluorononanoate (PFNA- $C_{11}H_{12}N_4O_3S$)	298703-33-0
	Perfluorononanoic anhydride (PFNAA)	228407-54-3
	Perfluorodecane acid (PFDA)	335-76-2
	Perfluorodecanoate Na-salt (PFDA-Na)	3830-45-3
	Perfluorodecanoate ammonium salt (APFDA)	3108-42-7
DED A 'c	Potassium perfluorodecanoate (PFDA-K*)	51604-85-4
PFDA, its salts	Silver perfluorodecanoate (PFDA-Ag)	5784-82-7
	Lithium perfluorodecanoate (PFDA-Li)	84743-32-8
	Perfluorodecanoate (anion)	73829-36-4
	Perfluorodecanoic anhydride (PFDAA)	942199-24-8
	Perfluoroundecanoic acid (PFUnDA)	2058-94-8
PFUnDA, its salts	Ammonium perfluoroundecanoate (PFUnDA-NH ₄)	4234-23-5
	Perfluoroundecanoic acid sodium salt (PFUnDA-Na)	60871-96-7
	Potassium perfluoroundecanoate (PFUnDA-K)	30377-53-8

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Group Name	Substance Name	CAS No.
PFUnDA, its salts	Calcium perfluoroundecanoate (PFUnDA-Ca)	97163-17-2
	Perfluoroundecanoate (anion)	196859-54-8
	Perfluorododecanoic acid (PFDoDA)	307-55-1
PFDoDA, its salts	Ammonium perfluorododecanoate (APFDoDA)	3793-74-6
	Perfluorododecanoate (anion)	171978-95-3
	Pentacosafluorotridecanoic acid (PFTrDA)	72629-94-8
DET DA ita aalta	Ammonium perfluorotridecanoate (PFTrDA-NH ₄)	4288-72-6
PFTrDA, its salts	Sodium perfluorotridecanoate (PFTrDA-Na)	60872-01-7
	Perfluorotridecanoate (anion)	862374-87-6
DETDA '. I.	Perfluorotetradecanoic acid (PFTDA)	376-06-7
PFTDA, its salts	Perfluorotetradecanoate (anion)	365971-87-5
	1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0
10:2 FTS, its salts	1H,1H,2H,2H-Perfluorododecane sulfonic acid Sodium Salt (10:2 FTS-Na)	108026-35-3
	Perfluorononane sulfonic acid (PFNS)	68259-12-1
	Sodium perfluoro-1-nonanesulfonate (PFNS-Na*)	98789-57-2
PFNS, its salts	Ammonium nonadecafluorononanesulphonate (PFNS-NH ₄)	17202-41-4
	Potassium perfluorononanesulfonate (PFNS-K*)	29359-39-5
	Perfluorononane sulfonate (anion)	474511-07-4
DELL DC 's b	Perfluoroundecane sulfonic acid (PFUnDS)	749786-16-1
PFUnDS, its salts	Perfluoroundecanesulfonate (anion)	441296-91-9
	Perfluorododecane sulfonic acid (PFDoDS)	79780-39-5
DED DO 's le	Sodium perfluoro-1-dodecanesulfonate (PFDoDS-Na*)	1260224-54-1
PFDoDS, its salts	Potassium perfluorododecanesulfonate (PFDoDS-K)	85187-17-3
	Perfluorododecane sulfonate (anion)	343629-43-6
DET-DC itlt-	Perfluorotridecane sulfonic acid (PFTrDS)	791563-89-8
PFTrDS, its salts	Sodium perfluoro-1-tridecanesulfonate (PFTrDS-Na*)	174675-49-1
	10:2 Fluortelomerphosphatediester (10:2 diPAP)	1895-26-7
10:2 diPAP, its salts	bis[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafluorododecyl] hydrogen phosphate, compound with 2,2'-iminodiethanol (1:1) (10:2 diPAP-C ₄ H ₁₁ O ₂)	57677-98-2
100 015 5	10:2 Fluortelomerphosphatemonoester (10:2 monoPAP)	57678-05-4
10:2 monoPAP, its salts	10:2 Fluorotelomer diammonium dihydrogen phosphate	93857-45-5
	Perfluoropentadecanoic acid (PFPeDA, C15)	141074-63-7
PFPeDA, its salts	Nonacosafluoropentadecanoate (PFPeDA (anion))	1214264-29-5
DELL DA S. II.	Perfluorohexadecanoic acid (PFHxDA, C16)	67905-19-5
PFHxDA, its salts	Hentriacontafluorohexadecanoate anion (PFHxDA (anion))	1214264-30-8

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Group Name	Substance Name	CAS No.
PFODA, its salts	Perfluorooctadecanoic acid (PFODA, C18)	16517-11-6
	Perfluorooctadecanoate anion (PFODA (anion))	798556-82-8
PFDS, its salts	Perfluorodecane sulfonate (PFDS)	335-77-3
	Perfluorodecanesulfonate Na-salt (PFDS-Na)	2806-15-7
	Perfluorodecanesulfonate K-salt (PFDS-K)	2806-16-8
	Perfluoroaliphatic dean-sulfonate salt of NH ₄ (PFDS-NH ₄)	67906-42-7
	Perfluorodecane sulfonate (anion)	126105-34-8
	Perfluorodecane sulfonic anhydride (PFDSA)	51667-62-0
	2H,2H-Perfluorodecane acid (H2PFDA)	27854-31-5
H2PFDA, its salts	Tetrabutylphosphonium 2H,2H-Perfluorodecanoate	882489-14-7
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4
ADONA, its salts	Ammonium 4,8-dioxa-3H-perfluorononanoate (ADONA-NH ₄)	958445-44-8
	Sodium 4,8-dioxa-3H-perfluorononanoate (ADONA-Na)	2250081-67-3
	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acide (HFPO-DA)	13252-13-6
	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-(2R)-	75579-39-4
	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-(2S)-	75579-40-7
	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionicacid, K-salts	67118-55-2
	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionicacid, ammonium salts	62037-80-3
HFPO-DA, its salts & derivatives	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, sodium salt (1:1)	67963-75-1
	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, ion(1-)	122499-17-6
	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, compd. with N-propyl-1-propanamine (1:1)	165951-17-7
	Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-, compd. with N,N-diethylethanamine (1:1) (9Cl)	165951-18-8
	4-[(6-Methoxy-3-pyridazinyl)sulfamoyl]anilinium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate	298703-31-8
	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionicacid, its acyl halides	2062-98-8

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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Group Name	Substance Name	CAS No.
HFPO-DA, its salts & derivatives	Benzoic acid, 2,3,6-triiodo-, (1-methyl-3-piperidinyl)methyl ester, compd. with 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoro propoxy)propanoate (1:1) (HFPO- $C_{14}H_{16}I_3NO_2$)	2412106-69-3
4:2 FTS, its salts	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	757124-72-4
	1H,1H,2H,2H-perfluorohexane sulfonate acid sodium salt	27619-93-8
	4: 2 Fluorotelomer sulfonate (4:2FTS(anion))	414911-30-1
	Perfluorooctane sulfonamidoacetic acid (FOSAA)	2806-24-8
	N-[(Perfluorooctyl)sulfonyl]glycinate (FOSAA(anion))	909405-47-6
FOSAA, its salts	N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)	75260-69-4
	N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)	115716-87-5
	N-methylperfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	2355-31-9
N-MeFOSAA, its salts	2-(N-Methylperfluorooctanesulfonamido)acetate (N-Me-FOSAA(anion))	909405-48-7
	Potassium N-((heptadecafluorooctyl)sulphonyl)-N-methylglycinate (N-Me-FOSAA-K)	70281-93-5
	N-ethylperfluorooctane sulfonamidoacetic acid (N-EtFOSAA)	2991-50-6
	Potassium N-ethyl-N- ((heptadecafluorooctyl)sulphonyl)glycinate (N-Et-FOSAA-K)	2991-51-7
N-EtFOSAA, its salts	2-(N-Ethyl-perfluorooctanesulfonamido)acetate (N-Et-FOSAA(anion))	909405-49-8
TV Ed OS/V, its suits	Ammonium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-NH ₄)	2991-52-8
	Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na)	3871-50-9
	2H,2H,3H,3H-Perfluoroundecanoic Acid (4HPFUnA)	34598-33-9
4HPFUnA, its salts	Potassium 2H,2H,3H,3H-Perfluoroundecanoate (H4PFUnA-K)	83310-58-1
	Lithium 3-(perfluorooctyl)propanoate (H4PFUnA-Li)	67304-23-8
	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4
	Sodium perfluoro-1-pentanesulfonate (PFPeS-Na*)	630402-22-1
	Potassium perfluoropentane-1-sulphonate (PFPeS-K)	3872-25-1
PFPeS, its salts	Ammonium perfluoropentanesulfonate (PFPeS-NH ₄ *)	68259-09-6
	Bis(2-hydroxyethyl) ammonium 1,1,2,2,3,3,4,4,5,5,5- undecafluoropentane-1-sulphonate	70225-17-1
	Undecafluoropentane-1-sulfonic acid lithium salt (PFPeS-Li)	1046864-81-6

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Group Name	Substance Name	CAS No.
PFPeS, its salts	Perfluoropentane sulfonate (anion)	175905-36-9
	Triethylammonium perfluoropentane sulfonate	72033-42-2
	Perfluoropentane sulfonic anhydride (PFPeSA)	161877-72-1
9CI-PF₃ONS, its salts	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl- PF ₃ ONS and its salts)	756426-58-1
	Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (9Cl-PF ₃ ONS-K)	73606-19-6
	Ammonium perfluoro-2-[(6-chlorohexyl)oxy]ethane-1-sulfonate (9Cl-PF ₃ ONS-NH ₄)	1383434-28-3
11.CL DE OUNE :	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF ₃ OUdS)	763051-92-9
11Cl-PF ₃ OUdS, its salts	Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (11Cl-PF ₃ OUdS-K)	83329-89-9
	Bis(1H,1H,2H,2H-Perfluorodecyl)phosphate (8:2diPAP)	678-41-1
	Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)	114519-85-6
8:2diPAP, its salts	Bis(2-hydroxyethyl)ammonium bis((perfluorooctyl)ethyl) hydrogen phosphate	57677-97-1
	Bis[2-(perfluorooctyl)ethyl] phosphate ammonium salt (8:2diPAP-NH ₄)	93776-20-6
	8:2 Fluorotelomer phosphate diester ion	1411713-91-1
	11H-Perfluoroundecanoic acid (11H-PFUnDA)	1765-48-6
	potassium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11- icosafluoroundecanoate (11H-PFUnDA-K)	307-71-1
11H-PFUnDA, its salts	Ammonium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11- icosafluoroundecanoate (11H-PFUnDA-NH ₄)	5081-02-7
	11-H-Perfluoroundecanoate (11H-PFUnDA(anion))	69681-37-4
	Pentafluoropropionate acid (PFPrA)	422-64-0
	Sodium pentafluoropropionate (PFPrA-Na)	378-77-8
PFPrA, its salts	Silver pentafluoropropionate (PFPrA-Ag)	509-09-1
	Potassium pentafluoropropionate (PFPrA-K)	378-76-7
	Ammonium pentafluoropropionate (PFPrA-NH ₄)	2730-58-7
	6:6 Perfluorophosphinic acid (6:6 PFPi)	40143-77-9
	Sodium bis(perfluorohexyl)phosphinate (6:6 PFPi-Na)	70609-44-8
6:6 PFPi, its salts	Bis(perfluorohexyl) phosphinic acid ytterbium(3+) salt (6:6 PFPi-Yb)	500776-72-7
	Bis(perfluorohexyl) phosphinic acid erbium(3+) salt (6:6 PFPi- Er)	500776-73-8

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Group Name	Substance Name	CAS No.
8:8 PFPi, its salts	8:8 Perfluorophosphinic acid (8:8 PFPi)	40143-79-1
	Sodium bis(perfluorooctyl)phosphinate (8:8 PFPi-Na)	500776-69-2
	Bis(perfluorooctyl) phosphinic acid erbium(3+) salt (8:8 PFPi- Er)	500776-70-5
	Bis(perfluorooctyl) phosphinic acid ytterbium(3+) salt (8:8 PFPi-Yb)	500776-71-6
	Mono[2-(perfluorohexyl)ethyl] Phosphate (6:2 monoPAP)	57678-01-0
6:2 monoPAP, its salts	Diammonium 6:2 fluorotelomer phosphate monoester (6:2 monoPAP-NH ₄ NH ₄)	1000852-37-8
	Mono-[2-(perfluorooctyl)ethyl]phosphate (8:2 monoPAP)	57678-03-2
	8:2 Fluorotelomer diammonium phosphate	93857-44-4
	Disodium 1H,1H,2H,2H-perfluorodecylphosphate	438237-75-3
	Ammonium bis[2-(perfluorohexyl)ethyl] phosphate	1764-95-0
8:2 monoPAP, its salts	3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanol phosphate ammonium salt	92401-44-0
	Sodium 1H,1H,2H,2H-perfluorooctylphosphate	144965-22-0
	Monopotassium monoperfluorohexyl ethylphosphate	150033-28-6
	Ammonium 2-(perfluorohexyl)ethyl hydrogen phosphate	2353-52-8
	1H,1H,2H,2H-Perfluorooctanephosphonic acid (6:2 FTPA)	252237-40-4
6:2 FTPA, its salts	Sodium hydrogen ((perfluorohexyl)ethyl)phosphonate (Cheminox FHP 2OH-Na(PFHEPA-Na))	1189052-95-6
	Perfluoro-2,5-dimethyl-3,6-dioxanonanoic acid (HFPO-TA)	13252-14-7
	Potassium perfluoro(2-(2-propoxypropoxy)propanoate) (HFPO-TA-K)	67118-57-4
HFPO-TA, its salts	Perfluoro-2,5-dimethyl-3,6-dioxanonanoic acid, sodium salt (HFPO-TA-Na)	67963-76-2
	2,3,3,3-Tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2- (heptafluoropropoxy)propoxy]propanoic acidammonia (HFPO-TA-NH ₄)	13043-05-5
	Hexafluoropropene oxide trimer (HFPO-TA-F)	2641-34-1
	Bis[2-(perfluorohexyl)ethyl] Phosphate (6:2 diPAP)	57677-95-9
6:2 diPAP, its salts	Sodium bis[2-(perfluorohexyl)ethyl] phosphate (6:2 diPAP-Na)	407582-79-0
	Bis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) phosphate ion (6:2 diPAP(anion))	667465-18-1
	Trifluoromethanesulfonimide (TFSI)	82113-65-3
TFSI, its salts	Pyrrolidinium, 1-butyl-1-methyl-, salt with 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamide (1:1)	223437-11-4

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Group Name	Substance Name	CAS No.
TFSI, its salts	Tributylmethyl Ammonium Bis(trifluoromethanesulfonyl) Imide	405514-94-5
	Lithium bis((trifluoromethyl)sulfonyl)azanide (TFSI-Li)	90076-65-6
	1-Decyl-3-methylimidazolium Bis(trifluoromethylsulfonyl)imide	433337-23-6
	Trifluoromethane sulfonic acid (TFMS)	1493-13-6
	Trifluoromethane sulfonic acid Sodium salt (TFMS-Na)	2926-30-9
	Silver trifluoromethanesulfonate (TFMS-Ag)	2923-28-6
	Zinc trifluoromethanesulfonate (TFMS-Zn)	54010-75-2
	Scandium trifluoromethanesulfonate (TFMS-Sc)	144026-79-9
	Trifluoromethanesulfonic anhydride	358-23-6
	Lithium trifluoromethanesulfonate (TFMS-Li)	33454-82-9
	Copper(II) trifluoromethanesulfonate (TFMS-Cu)	34946-82-2
TFMS, its salts	Barium trifluoromethanesulfonate (TFMS-Ba)	2794-60-7
	Cerium(IV) trifluoromethanesulfonate (TFMS-Ce)	107792-63-2
	Magnesium trifluoromethanesulfonate (TFMS-Mg)	60871-83-2
	Potassium trifluoromethanesulfonate (TFMS-K)	2926-27-4
	Nickel(II) Trifluoromethanesulfonate (TFMS-Ni)	60871-84-3
	Tin(II) trifluoromethanesulfonate (TFMS-Sn)	62086-04-8
	Yttrium(III) trifluoromethanesulfonate (TFMS-Y)	52093-30-8
	Iron(III) trifluoromethanesulfonate (TFMS-Fe)	63295-48-7
	Cerium(III) Trifluoromethanesulfonate (TFMS-Ce)	76089-77-5
DED.C ita aalta	Perfluoropropate sulfonic acid (PFPrS)	423-41-6
PFPrS, its salts	Perfluoropropanesulfonic acid sodium salt (PFPrS-Na)	359868-82-9
DELINC: ita calta	Perfluoroheptane-1-sulfinic acid (PFHpSi)	769067-51-8
PFHpSi, its salts	1-heptanesulfinic Acid Sodium Salt (PFHpSi-Na)	68555-66-8
	Perfluorooctylphosphoic acid (PFOPA)	40143-78-0
PFOPA, its salts	(Heptadecafluorooctyl)phosphonic acid4-methylaniline (1/1)	1263361-03-0
:hyl perfluoroisobutyl ether and its	Ethyl perfluoroisobutyl ether and its isomers	163702-05-4
isomers	Perfluoroisobutyl ethyl ether	163702-06-5

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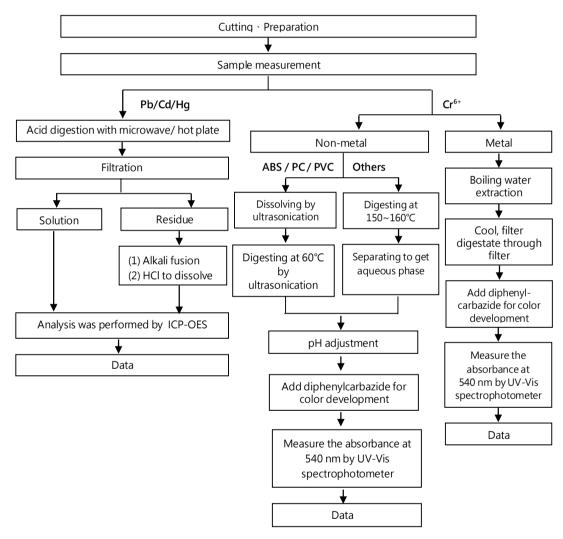
No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analytical flow chart of heavy metal

These samples were dissolved totally by pre-conditioning method according to below flow chart.

(Cr⁶⁺ test method excluded)



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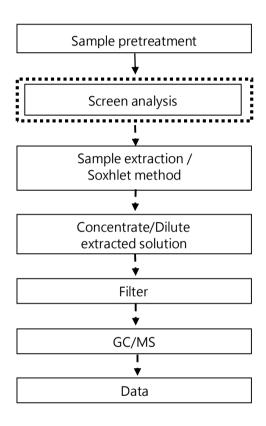


No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analytical flow chart - PBBs / PBDEs

First testing process _____
Optional screen process ____
Confirmation process ____



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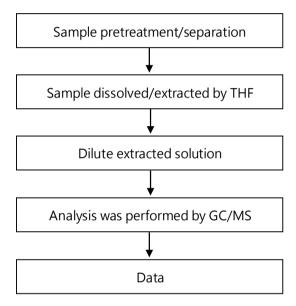


No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analytical flow chart - Phthalate

[Test method: IEC 62321-8]



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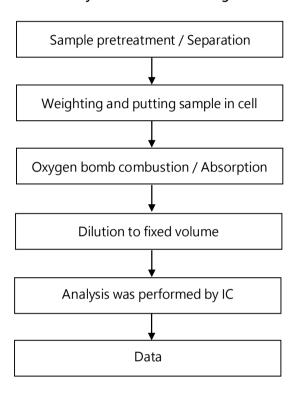
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Analytical flow chart - Halogen



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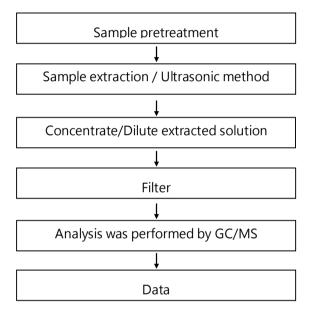
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Analytical flow chart - HBCDD



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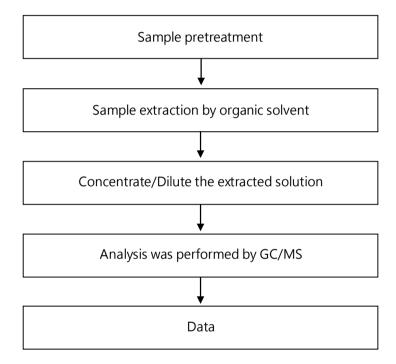


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Analytical flow chart

* Apply to: PCBs, PCNs, PCTs, Mirex, Chlorinated Paraffins, DBBT



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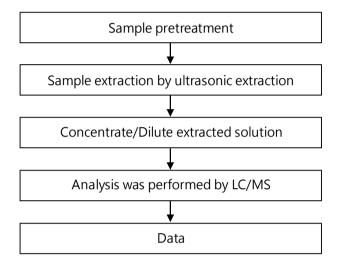
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Analytical flow chart - TBBP-A



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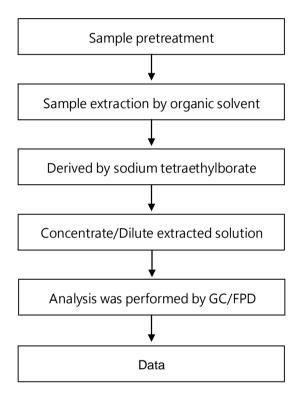
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Analytical flow chart - Organic-Tin



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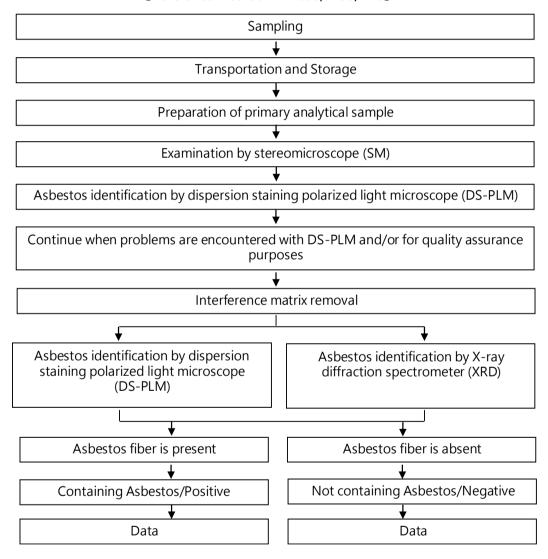
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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analysis flow chart for determination of Asbestos [Reference method: EPA 600/R-93/116]



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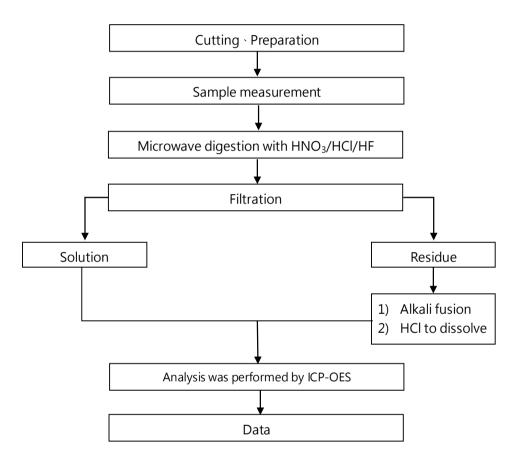
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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analytical flow chart of elements (Heavy metal included)

These samples were dissolved totally by pre-conditioning method according to below flow chart.

【Reference method: US EPA 3051A、US EPA 3052】



^{*} US EPA 3051A method does not add HF.

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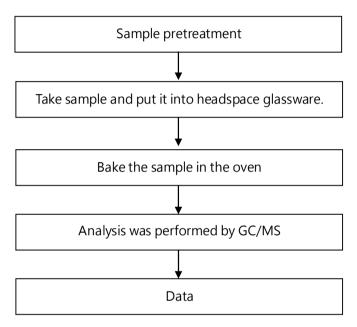


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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analytical flow chart of volatile organic compounds (VOCs)

【Reference method: US EPA 5021A】



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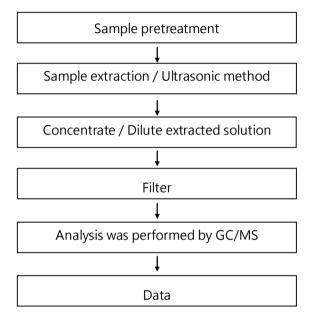
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Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

Analytical flow chart - Persistent, Bioaccumulative, Toxic (PBTs)



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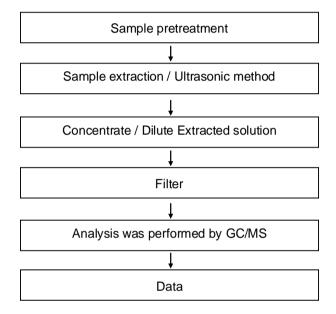
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Analytical flow chart - Ethylene glycol ether



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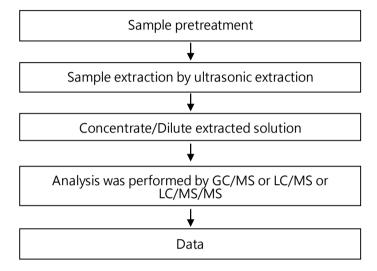
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Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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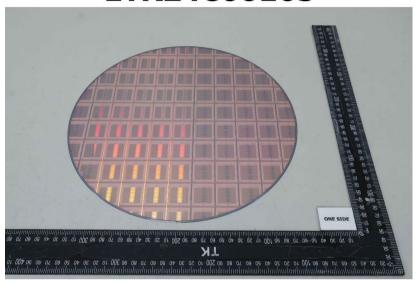


No.: ETR24C00163 Date: 18-Dec-2024

Taiwan Semiconductor Manufacturing Company, Ltd. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-096, Taiwan, R.O.C.

* The tested sample / part is marked by an arrow if it's shown on the photo. *

ETR24C00163



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** End of Report **

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