

## Test Report

No. TAOEC2308789607

Date: 12 Dec 2023

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Client Name : Anhui Jixin Microelectronics Technology Ltd.

Client Address : 2999 Jiangqiao Road, Yuhui District, Bengbu Area, China (Anhui) Pilot Free Trade Zone

Sample Name : Chip packaging test products

Client Ref. Information : PDFN5\*6、PDFN3.3\*3.3、TOLLA-8L、TO-220、TO-247、TO-252、TO-263、TO-3P

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

SGS Job No. : SHP23-020799 - QD  
Date of Sample Received : 05 Dec 2023  
Testing Period : 05 Dec 2023 - 12 Dec 2023  
Test Requested : Selected test(s) as requested by the client.  
Test Method(s) : Please refer to next page(s).  
Test Result(s) : Please refer to next page(s).

Result Summary :

### Test Requested

Entry 68 of Regulation (EU) 2021/1297 amending Annex XVII of REACH Regulation (EC) No 1907/2006-- C9-C14 PFCAs, their salts and C9-C14 PFCa-related substances

### Conclusion

PASS

Signed for and on behalf of  
SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.

Justin

Zhang Bo, Justin  
Approved Signatory



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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	TAO23-087896.003	black body with silvery metal pin

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

**Entry 68 of Regulation (EU) 2021/1297 amending Annex XVII of REACH Regulation (EC) No 1907/2006 – C9-C14 PFCA, their salts and C9-C14 PFCA-related substances**

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

Test Item(s)	Limit	CAS No.	Unit(s)	MDL	003
<b>C9-C14 PFCA, their salts</b>					
Perfluorononane Acid (PFNA), its salts <sup>^</sup>	-	375-95-1	µg/kg	10	ND
Perfluorodecane Acid (PFDA), its salts <sup>^</sup>	-	335-76-2	µg/kg	10	ND
Perfluoroundecanoic Acid (PFUnDA), its salts <sup>^</sup>	-	2058-94-8	µg/kg	10	ND
Perfluorododecanoic Acid (PFDoDA), its salts <sup>^</sup>	-	307-55-1	µg/kg	10	ND
Perfluorotridecanoic Acid (PFTrDA), its salts <sup>^</sup>	-	72629-94-8	µg/kg	10	ND
Perfluorotetradecanoic Acid (PFTDA)	-	376-06-7	µg/kg	10	ND
Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)	-	172155-07-6	µg/kg	10	ND
Sum of C9-C14 PFCA, their salts	25	-	µg/kg	-	ND
<b>C9-C14 PFCA-related substances</b>					
Perfluorodecane Sulfonate (PFDS), its salts <sup>^</sup>	-	335-77-3	µg/kg	10	ND
1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	-	865-86-1	µg/kg	100	ND
1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	-	17741-60-5	µg/kg	100	ND
1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)	-	2144-54-9	µg/kg	100	ND
1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)	-	39239-77-5	µg/kg	100	ND



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1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	-	120226-60-0	µg/kg	10	ND
1,1,2,2-Tetrahydroperfluorododecyl iodide (10:2 FTI)	-	2043-54-1	µg/kg	100	ND
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)	-	30046-31-2	µg/kg	100	ND
Perfluorononane sulfonic acid (PFNS), its salts <sup>#</sup>	-	68259-12-1	µg/kg	10	ND
Perfluoroundecane sulfonic acid (PFUnDS)	-	749786-16-1 / 441296-91-9 (anion)	µg/kg	10	ND
Perfluorododecane sulfonic acid (PFDoDS), its salts <sup>#</sup>	-	79780-39-5	µg/kg	10	ND
Perfluorotridecane sulfonic acid (PFTrDS), its salts <sup>#</sup>	-	791563-89-8	µg/kg	10	ND
10:2 Fluortelomerphosphatediester (10:2 diPAP)	-	1895-26-7	µg/kg	100	ND
Perfluorodecyl iodide (PFDI)	-	423-62-1	µg/kg	100	ND
Perfluorododecyl iodide (PFDoDI)	-	307-60-8	µg/kg	100	ND
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS), its salts <sup>^</sup>	-	39108-34-4	µg/kg	10	ND
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	-	27905-45-9	µg/kg	100	ND
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	-	1996-88-9	µg/kg	100	ND
2H,2H-Perfluorodecane Acid (H <sub>2</sub> PFDA/8:2 FTCA), its salts <sup>^</sup>	-	27854-31-5	µg/kg	10	ND
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	-	678-39-7	µg/kg	100	ND
1-Iodo-1H,1H,2H,2H-perfluorodecane (8:2 FTI)	-	2043-53-0	µg/kg	100	ND
1H,1H,2H,2H-Perfluorodecyltriethoxysilane (8:2 FTSi(OC <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> )	-	101947-16-4	µg/kg	100	ND
bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-h eptadecafluorodecyl) hydrogen phosphate (8:2 diPAP)	-	678-41-1	µg/kg	10	ND
2H,2H,3H,3H-Perfluoroundecanoic acid (H <sub>4</sub> PFUnDA/ 8:3 FTCA), its salts <sup>^</sup>	-	34598-33-9	µg/kg	10	ND
1H,1H,2H-Heptadecafluoro-1-decene (PFDE)	-	21652-58-4	µg/kg	100	ND
Sum of C9-C14 PFCA-related substances	260	-	µg/kg	-	ND
<b>Conclusion</b>					<b>Pass</b>

**Notes:**



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- (1) 1µg/kg=1ppb.
- (2) Until 25 August 2024, the concentration limit for the sum of C9-C14 PFCAs in fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups. From 25 August 2024, the concentration limit shall be 100 ppb for the sum of C9-C14 PFCAs, in fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups.
- (3) The concentration limit shall be 1000ppb for the sum of C9-C14 PFCAs, where these are present in PTFE micro powders produced by ionising irradiation or by thermal degradation, as well as in mixtures and articles for industrial and professional uses containing PTFE micro powders.
- (4) ^=Substances refer to its salts/derivative listed in below table.

Substance Name	CAS No.
<b>PFNA, its salts</b>	
Perfluorononane Acid (PFNA)	375-95-1
Perfluorononanoate Na-Salt (PFNA-Na)	21049-39-8
Nonanoic acid, heptadecafluoro-, ammonium salt (PFNA-NH <sub>4</sub> )	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
<b>PFDA, its salts</b>	
Perfluorodecane Acid (PFDA)	335-76-2
Sodium perfluorodecanoate (PFDA-Na)	3830-45-3
Perfluorodecanoate ammonium salt (PFDA-NH <sub>4</sub> )	3108-42-7
Potassium perfluorodecanoate (PFDA-K)	51604-85-4
Silver perfluorodecanoate (PFDA-Ag)	5784-82-7
Lithium perfluorodecanoate (PFDA-Li)	84743-32-8
<b>PFA, its salts</b>	
Perfluoroundecanoic Acid (PFA)	2058-94-8
Perfluoroundecanoic acid sodium salt (PFA-Na)	60871-96-7
Ammonium perfluoroundecanoate (PFA-NH <sub>4</sub> )	4234-23-5
Potassium perfluoroundecanoate (PFA-K)	30377-53-8
Calcium perfluoroundecanoate (PFA-Ca)	97163-17-2
<b>PFDaDA, its salts</b>	
Perfluorododecanoic Acid (PFDaDA)	307-55-1
Ammonium tricosafuorododecanoate (PFDaDA-NH <sub>4</sub> )	3793-74-6
Sodium perfluorododecanoate (PFDaDA-Na)	60872-01-7
<b>PFTTrDA, its salts</b>	
Perfluorotridecanoic Acid (PFTTrDA)	72629-94-8
Ammonium perfluorotridecanoate (PFTTrDA-NH <sub>4</sub> )	4288-72-6
<b>PFDS, its salts</b>	



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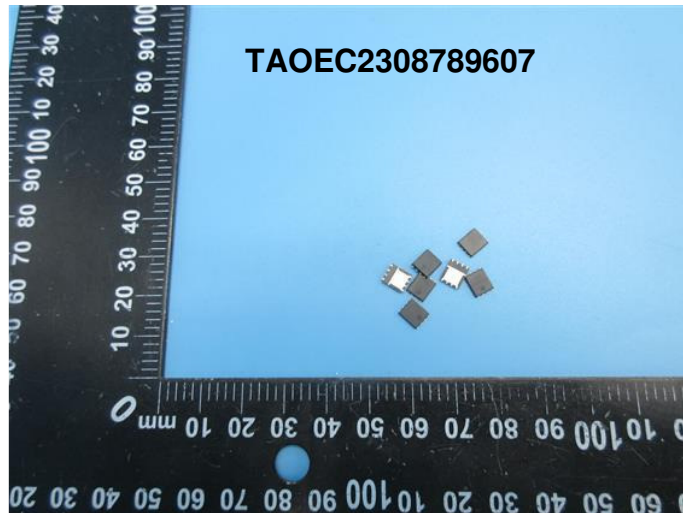
Perfluorodecane Sulfonate (PFDS)	335-77-3
Perfluorodecanesulfonate Na-salt (PFDS-Na)	2806-15-7
Perfluorodecanesulfonate K-salt (PFDS-K)	2806-16-8
Perfluorodecanesulfonic acid ammonium salt (PFDS-NH <sub>4</sub> )	67906-42-7
<b>PFNS, its salts</b>	
Perfluoro nonane sulfonic acid (PFNS)	68259-12-1
Sodium perfluoro-1-nonanesulfonate (PFNS-Na)	98789-57-2
ammonium nonadecafluorononanesulphonate (PFNS-NH <sub>4</sub> )	17202-41-4
Potassium perfluorononanesulfonate (PFNS-K)	29359-39-5
Perfluoroundecane sulfonic acid (PFUnDS)	749786-16-1/ 441296-91-9 (anion)
<b>PFD<sub>o</sub>DS, its salts</b>	
Perfluorododecanesulfonic acid (PFD <sub>o</sub> DS)	79780-39-5
Sodium perfluoro-1-dodecanesulfonate (PFD <sub>o</sub> DS-Na)	1260224-54-1
<b>PFT<sub>r</sub>DS, its salts</b>	
Perfluorotridecane sulfonic acid (PFT <sub>r</sub> DS)	791563-89-8
Sodium perfluoro-1-tridecanesulfonate (PFT <sub>r</sub> DS-Na)	174675-49-1
<b>8:2 FTS, its salts</b>	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4
Potassium 1H,1H,2H,2H-Perfluorodencane sulfonate (8:2 FTS-K)	438237-73-1
Ammonium 1H,1H,2H,2H-Perfluorodencane sulfonate (8:2 FTS-NH <sub>4</sub> )	149724-40-3
Sodium 1H,1H,2H,2H-Perfluorodencane sulfonate (8:2 FTS-Na)	27619-96-1
<b>H<sub>2</sub>PFDA/8:2 FTCA, its salts</b>	
2H,2H-Perfluorodecane Acid (H <sub>2</sub> PFDA/8:2 FTCA)	27854-31-5
Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (8:2 FTCA-P(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )	882489-14-7
<b>8:2diPAP, its salts</b>	
Bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl) hydrogen phosphate (8:2diPAP)	678-41-1
Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)	114519-85-6
<b>H<sub>4</sub>PFUnDA/ 8:3 FTCA, its salts</b>	
2H,2H,3H,3H-Perfluoroundecanoic acid (H <sub>4</sub> PFUnDA/ 8:3 FTCA)	34598-33-9
Potassium 2H,2H,3H,3H-Perfluoroundecanoate (H <sub>4</sub> PFUnDA-K)	83310-58-1

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



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