



# Test Report

No.: SHAEC25021151209

Date: Aug 21, 2025

Page 1 of 16

Client Name: YANGZHOU J&V SEMICONDUCTOR CO.,LTD.

Client Address: NO.56, NEW GANQUAN EAST ROAD,AUTOMOBILE INDUSTRIAL PARK, YANGZHOU, JIANGSU, CHINA

Sample Name: OJ Dice

Lot No.: 2025.08

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

SGS Job No.: SHP25-027766

Sample Receiving Date: Aug 14, 2025

Testing Period: Aug 14, 2025 ~ Aug 19, 2025

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

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

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

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ether (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
Element(s)	See Results
Halogen	See Results
Medium Chain Chlorinated Paraffin(C14-C17)(MCCP)	See Results
TBBP-A	See Results
Hexabromocyclododecane (HBCDD)	See Results
PFOS, its salts and related compounds,PFOA, its salts	See Results

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

Susu Zhang  
Approved Signatory





# Test Report

No.: SHAEC25021151209

Date: Aug 21, 2025

Page 2 of 16

## Test Result(s):



### Test Part Description

SN ID	Sample No.	SGS Sample ID	Description
SN1	A2	SHA25-0211512-0001.C002	Copper solid sheet

### Remarks:

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

**EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)**



## Test Report

No.: SHAEC25021151209

Date: Aug 21, 2025

Page 3 of 16

Test Item(s)	Limit	Unit(s)	MDL	A2
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND
Bis(2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	ND

### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

### Element(s)

**Test Method:** With reference to US EPA 3052:1996, analysis was performed by ICP-OES/AAS.

Test Item(s)	Unit(s)	MDL	A2
Beryllium(Be)	mg/kg	5	ND
Antimony(Sb)	mg/kg	10	ND

### Halogen

**Test Method:** With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit(s)	MDL	A2
Fluorine(F)	mg/kg	20	ND
Chlorine(Cl)	mg/kg	50	ND
Bromine(Br)	mg/kg	50	ND
Iodine(I)	mg/kg	50	ND

### Medium Chain Chlorinated Paraffin(C14-C17)(MCCP)

**Test Method:** With reference to ISO 18219-2:2021, analysis was performed by GC-NCI-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A2
Medium Chain Chlorinated Paraffin(C <sub>14</sub> -C <sub>17</sub> )(MCCP)	85535-85-9	mg/kg	50	ND

### TBBP-A

**Test Method:** With reference to US EPA 3540C:1996, analysis was performed by GC-MS/LC-MS.



## Test Report

No.: SHAEC25021151209

Date: Aug 21, 2025

Page 4 of 16

Test Item(s)	CAS No.	Unit(s)	MDL	A2
TBBP-A	79-94-7	mg/kg	10	ND

### Hexabromocyclododecane (HBCDD)

**Test Method:** With reference to US EPA 3550C:2007, analysis was performed by GC-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A2
Hexabromocyclododecane (HBCDD)	134237-50-6 /134237-51-7 /134237-52-8 /25637-99-4 /3194-55-6	mg/kg	10	ND

### PFOS, its salts and related compounds, PFOA, its salts

**Test Method:** Modified EN 17681-1:2025, analysis was performed by LC-MS or LC-MS/MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A2
<b>PFOS, its salts</b>				
Perfluorooctane sulfonic acid (PFOS), its salts^	1763-23-1	mg/kg	0.010	ND
<b>PFOS-related compounds</b>				
N-ethylperfluoro-1-octanesulfonamide (N-EtFOSA)	4151-50-2	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide (N-MeFOSA)	31506-32-8	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (N-EtFOSE)	1691-99-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol (N-MeFOSE)	24448-09-7	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA), its salts^	754-91-6	mg/kg	0.010	ND
Perfluorooctane sulfonamidoacetic Acid (FOSAA), its salts^	2806-24-8	mg/kg	0.010	ND
N-Methylperfluoro-1-octanesulfonamidoacetic Acid (N-MeFOSAA), its salts^	2355-31-9	mg/kg	0.010	ND
N-Ethylperfluorooctane sulfonamidoacetic Acid (N-EtFOSAA), its salts^	2991-50-6	mg/kg	0.010	ND
Sum of PFOS-related compounds	-	mg/kg	-	ND
<b>PFOA, its salts</b>				
Perfluorooctanoic acid (PFOA), its salts^	335-67-1	mg/kg	0.010	ND



## Test Report

No.: SHAEC25021151209

Date: Aug 21, 2025

Page 5 of 16

Perfluorooctane sulfonic acid (PFOS)	1763-23-1
Potassium Perfluorooctanesulfonate (PFOS-K)	2795-39-3
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
Sodium perfluorooctanesulfonate (PFOS-Na)	4021-47-0
Ammonium perfluorooctanesulfonate (PFOS-NH <sub>4</sub> )	29081-56-9
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH <sub>2</sub> (C <sub>2</sub> H <sub>4</sub> OH) <sub>2</sub> )	70225-14-8
Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )	56773-42-3
N-decyl-N,N-dimethyldecyl-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctane-1-sulfonate (PFOS-N(C <sub>10</sub> H <sub>21</sub> ) <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub> )	251099-16-8
Tetrabutylammonium perfluorooctanesulfonate (PFOS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )	111873-33-7
Perfluorooctane Sulfonyl fluoride (PFOS-F)	307-35-7
Magnesium bis(heptadecafluorooctanesulphonate) (PFOS-Mg)	91036-71-4
Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctanesulfonate	71463-74-6
Perfluorooctanesulfonate	45298-90-6
Triethylammonium perfluorooctane sulfonate (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> )	54439-46-2
Tetramethylammonium perfluorooctane sulfonate (PFOS-N(CH <sub>3</sub> ) <sub>4</sub> )	56773-44-5
N,N,N-Tripropylpentan-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-N(C <sub>3</sub> H <sub>7</sub> ) <sub>3</sub> (C <sub>5</sub> H <sub>11</sub> ))	56773-56-9
N,N-Dibutyl-N-methylbutan-1-aminium heptadecafluorooctane-1-sulfonate (PFOS-N(C	



## Test Report

No.: SHAEC25021151209

Date: Aug 21, 2025

Page 6 of 16

Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na) 3871-50-9

### **PFOSA, its salts**

Perfluorooctane Sulfonamide (PFOSA) 754-91-6  
Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li) 76752-79-9  
Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na) 76752-78-8  
Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K) 76752-70-0  
Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH<sub>4</sub>) 76752-72-2  
Heptadecafluorooctane-1-sulphonamide, compound with triethylamine (1:1) (PFOSA-C<sub>6</sub>H<sub>15</sub>N) 76752-82-4

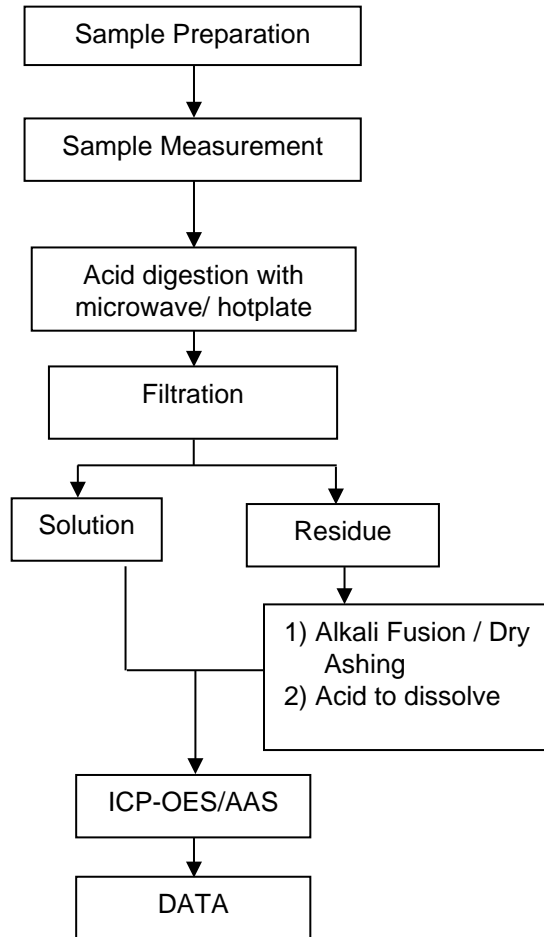
### **PFOA, its salts & derivatives**

Perfluorooctanoic acid (PFOA) 335-67-1  
Sodium perfluorooctanoate (PFOA-Na) 335-95-5  
Potassium perfluorooctanoate (PFOA-K) 2395-00-8  
Silver perfluorooctanoate (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 acid--piperazine (2/1) (PFOA-NH(C<sub>4</sub>H<sub>10</sub>N)) 423-52-9  
Pentadecafluorooctanoate (anion) 45285-51-6  
Perfluorooctanoic Anhydride 33496-48-9  
N,N,N-Triethylethanaminium perfluorooctanoate 98241-25-9  
Perfluorooctanoate N,N,N-Trimethylmethanaminium 32609-65-7  
Tetrapropylammonium perfluorooctanoate 277749-00-5  
Potassium pentadecafluorooctanoate--water (1/1/2) (PFOA-K(H<sub>2</sub>O)<sub>2</sub>) 98065-31-7  
Perfluorooctanoic acid compd. with ethanamine (1:1) (PFOA-C<sub>2</sub>H<sub>2</sub>)



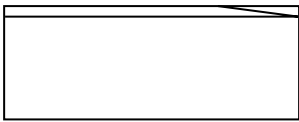
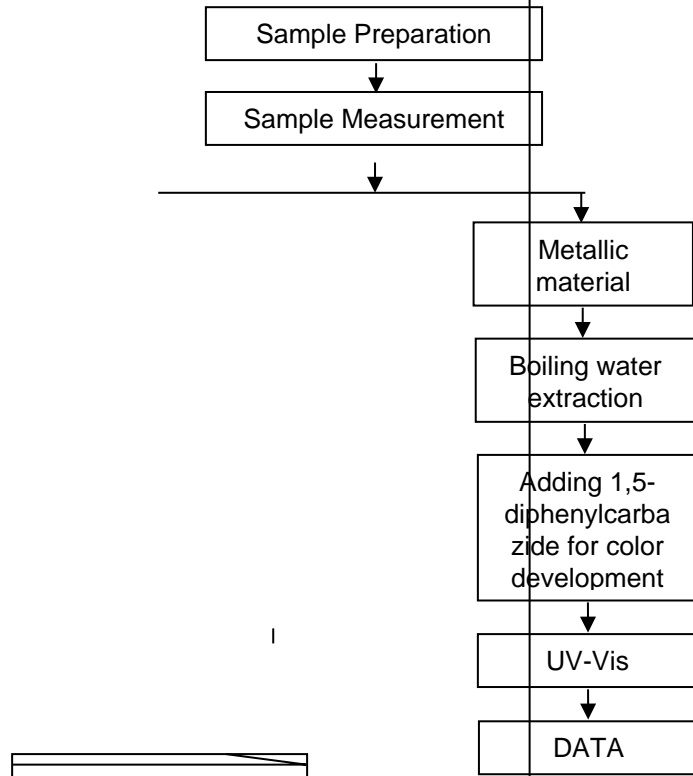
**Elements Testing Flow Chart**

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



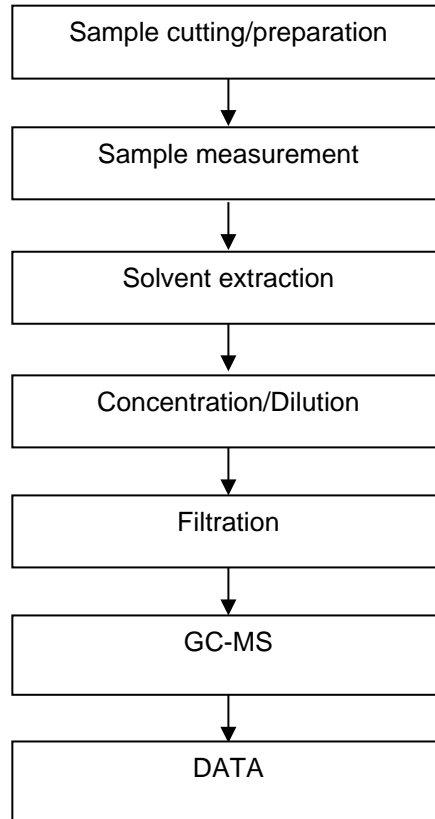


**Hexavalent Chromium (Cr(VI)) Testing Flow Chart**



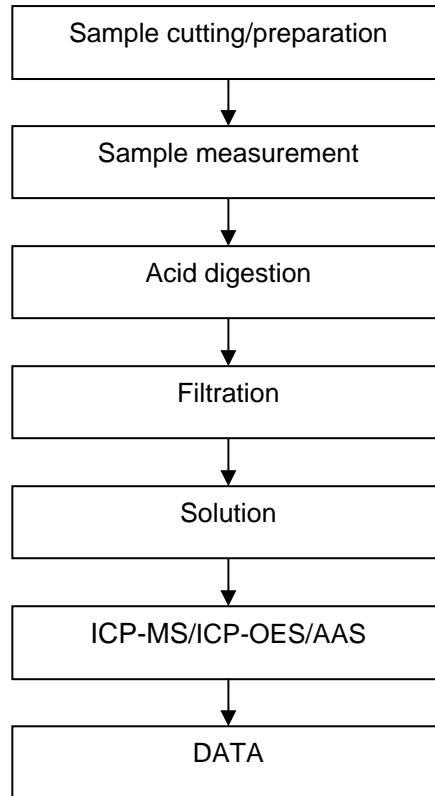


**PBB/PBDE/Phthalates Testing Flow Chart**





**Elements Testing Flow Chart**





**Test Report**

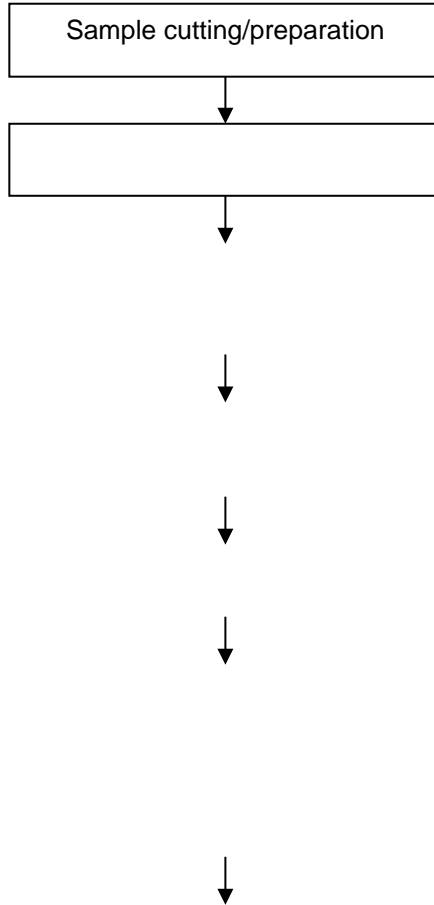
No.: SHAEC25021151209

Date: Aug 21, 2025

Page 11 of 16

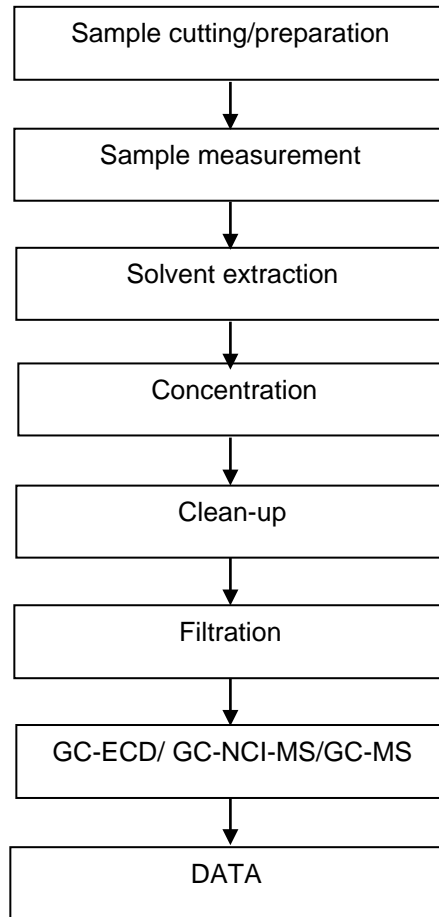
**ATTACHMENTS**

**Halogen Testing Flow Chart**





**Chlorinated Paraffin Testing Flow Chart**





**Test Report**

**ATTACHMENTS**

**No.:** SHAEC25021151209

**Date:** Aug 21, 2025

Page 13 of 16

**TBBP-A Testing Flow Chart**

Sample cutting/preparation

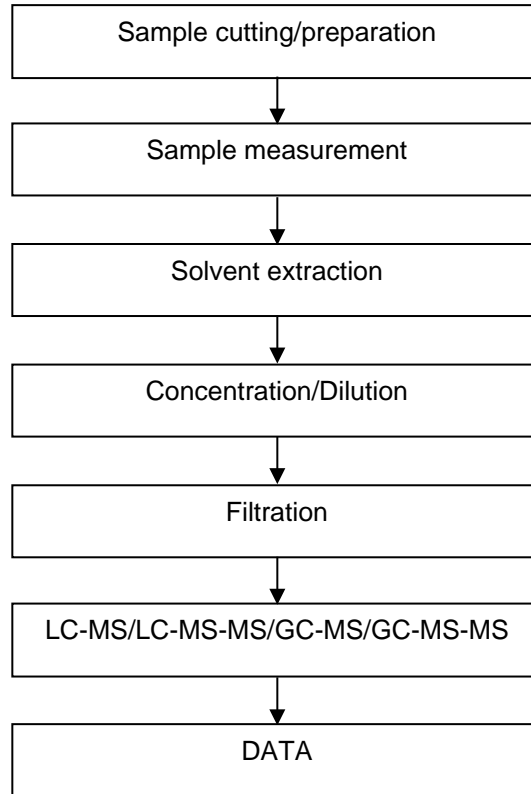
---

DATA





**PFASs/ PFOS/PFOA Testing Flow Chart**





**Test Report**

**No.:** SHAEC25021151209

**Date:** Aug 21, 2025

Page 16 of 16

**Sample Photo:**



SGS authenticate the photo on original report only  
\*\*\* End of Report \*\*\*