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est Report	No.:	CKGEC24000375201	Date:	May 08, 202	Page 1 of
Client Name: UNISEM	CHE	NGDU CO., LTD.			
Client Address: NO,8-2 K CHINA	KEXIN	ROAD ,WEST PARK OF CH	IENGDU H	I-TECH ZONE	5,611731 SICHUAN, PR
Sample Name:	S	LP (QFN/DFN) Package			
The above sample(s) and	l infor	mation were provided by the	client.		
SGS Job No.:	С	QP24-004350			
Sample Receiving Date:	Α	pr 28, 2024			
Testing Period:	Α	pr 28, 2024 ~ May 08, 2024			
Test Requested:	S	elect test(s) as requested by	the client.		
Test Method(s):	Р	lease refer to next page(s).			
Test Result(s):	Р	lease refer to next page(s).			
Test Requirement					Conclusion
- Lead, Mercury, Cadmi (PBB), Polybrominated	um, H dipher	5/863 amending Annex II to D exavalent chromium, Polybro nyl ethers (PBDE), Bis(2-ethy e (BBP), Dibutyl phthalate (D	minated bip (hexyl) phth	ohenyls nalate	Pass
Perfluorooctane sulfona acid (PFOA) and its salt		FOS) and its derivatives and	Perfluoroo	ctanoic	See Results
Element(s)					See Results
Halogen					See Results
Hexabromocyclododeca	ne (H	BCDD)			See Results
Phthalates					See Results

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

Many Zou

Mary Zou Approved Signatory



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Test Report

No.: CKGEC24000375201

Date: May 08, 2024

Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CKG24-0003752-0001.C001	"SLP (QFN/DFN) Package"

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 Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Cadmium (Cd)	100	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	5	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	5	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	5	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	5	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	5	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	5	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	5	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	5	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	5	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	5	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	5	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	5	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	5	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	5	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	5	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	5	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	5	ND



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est Report No.: CKGEC240	00375201	Date: Ma	ay 08, 2024	Page 3 of 14
Test Item(s)	Limit	Unit(s)	MDL	A1
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	5	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	5	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	5	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:

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(1) The maximum permissible limit is guoted 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.

Perfluorooctane sulfonates (PFOS) and its derivatives and Perfluorooctanoic acid (PFOA) and its salts

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

Test Item(s)	CAS No.	Unit(s)	MDL	A1
PFOS and its derivatives	-	mg/kg	-	ND
Perfluorooctane sulfonates (PFOS), its salts [^]	1763-23-1	mg/kg	0.010	ND
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
Perfluorooctanoic acid (PFOA), its salts^	335-67-1	mg/kg	0.010	ND

Notes:

1. ^=Substances refer to its salts/derivative listed in below table.

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Substance Name	CAS No.
PFOS, its salts & derivatives	
Perfluorooctane sulfonates (PFOS)	1763-23-1
Potassium Perfluorooctanesulfonate (PFOS-K)	2795-39-3



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Perfluorooctanes	ulfonic acid,	lithium salt (PFOS-Li)		29457-7	2-5
Sodium perfluor	octanesulfor	nate (PFOS-Na)		4021-47	'-O
Ammonium perfl	uorooctanesu	ulfonate (PFOS-NH4)		29081-5	6-9
Perfluorooctane	sulfonate diet	thanolamine salt (PFOS-N	$H_2(C_2H_4OH)_2)$	70225-1	4-8
Perfluorooctanes	ulfonic acid,t	etraethylammonium salt (PFOS-N(C ₂ H ₅))4) 56773-4	2-3
N-decyl-N,N-dim heptadecafluoro	ethyldecan-1 octane-1-sulf	-aminium 1,1,2,2,3,3,4,4,5 onate (PFOS-N(C ₁₀ H ₂₁) ₂ (C	5,5,6,6,7,7,8,8, CH ₃) ₂)	.8- 251099-1	6-8
Perfluorooctane	Sulfonyl fluor	ide (PFOS-F)		307-35	-7
Magnesium bis(I	neptadecafluc	prooctanesulphonate) (PF	OS-Mg)	91036-7	1-4
Piperidine 1,1,2,	2,3,3,4,4,5,5,	6,6,7,7,8,8,8-heptadecaflu	orooctanesulf	onate 71463-7	4-6
PFOSA, its salt	5				
Perfluorooctane	Sulfonamide	(PFOSA)		754-91	-6
Perfluorooctanes	ulfonamide li	ithium salt (1:1) (PFOSA-L	_i)	76752-7	9-9
PFOA, its salts					
Perfluorooctanoi	c acid (PFOA	()		335-67	-1
Sodium perfluor	octanoate (P	PFOA-Na)		335-95	-5
Potassium perflu	orooctanoate	e (PFOA-K)		2395-00)-8
Silver perfluoroo	ctanoate (PF	OA-Ag)		335-93	-3
Perfluorooctano	l fluoride (PF	OA-F)		335-66	-0
Ammonium pent	adecafluoroo	ctanoate (APFO)		3825-26	<u>5-1</u>
Lithium perfluoro	octanoate(PF	FOA-Li)		17125-5	8-5

Element(s)

Test Method: With reference to SGS In-House Method, analysis was performed by ICP-OES/AAS.

Test Item(s)	Unit(s)	MDL	A1
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	A1
Fluorine(F)	mg/kg	20	ND
Chlorine(Cl)	mg/kg	50	ND
Bromine(Br)	mg/kg	50	ND
lodine(l)	mg/kg	50	ND

Hexabromocyclododecane (HBCDD)

With reference to IEC 62321-9:2021, analysis was performed by GC-MS. Test Method:



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Test Item(s)		CAS No.	Unit(s)	MDL	A1	
Hexabromocycl	ododecane (HBCDD)	134237-50-6 /134237-51-7 /134237-52-8 /25637-99-4 /3194-55-6	mg/kg	20	ND	

Phthalates

Test Method: With reference to IEC 62321-8:2017, analysis was performed by GC-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A1
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	mg/kg	50	ND
Di-n-Octyl Phthalate(DNOP)	117-84-0	mg/kg	50	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 /68515-49-1	mg/kg	50	ND
Dipentyl Phthalate (DPENP/DnPP)	131-18-0	mg/kg	50	ND

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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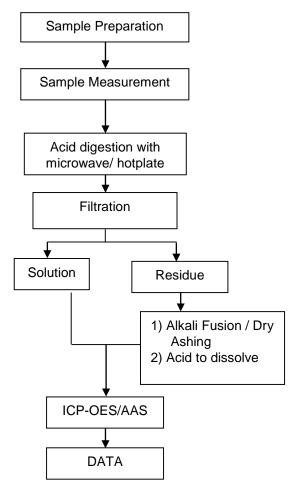
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Elements Testing Flow Chart

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



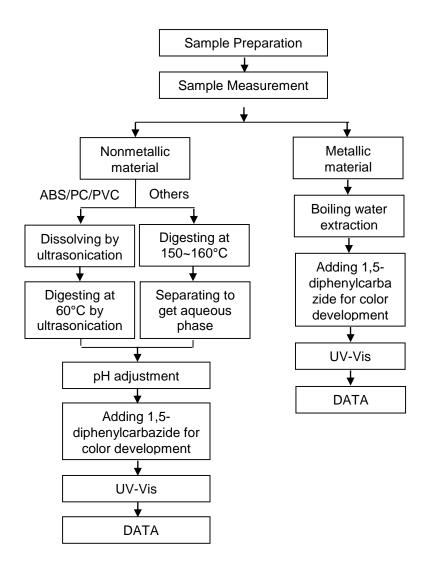




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Hexavalent Chromium (Cr(VI)) Testing Flow Chart

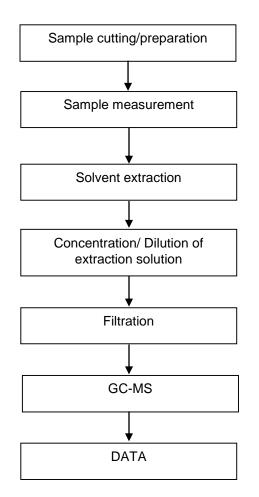






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PBB/PBDE Testing Flow Chart



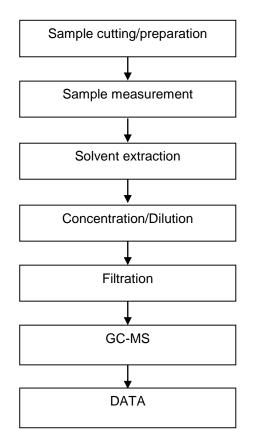




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Phthalates Testing Flow Chart





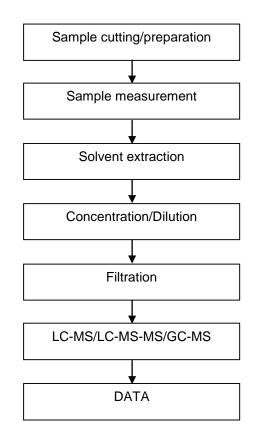
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PFASs/ PFOS/PFOA Testing Flow Chart





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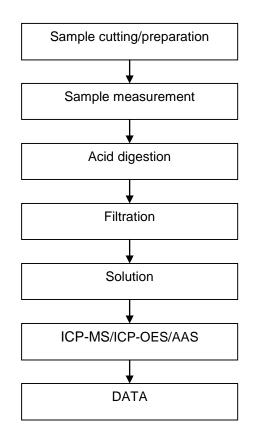
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Elements Testing Flow Chart





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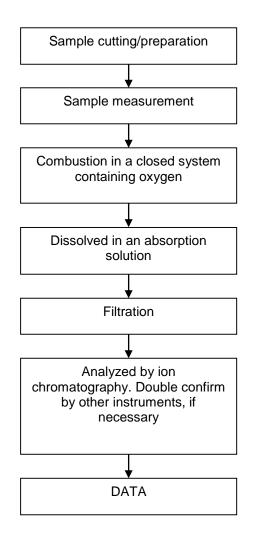
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Halogen Testing Flow Chart



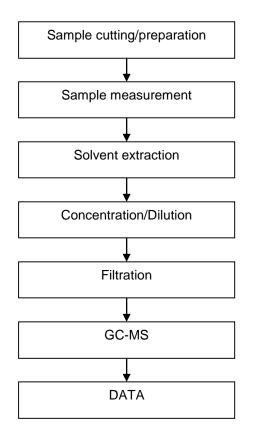




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HBCDD Testing Flow Chart

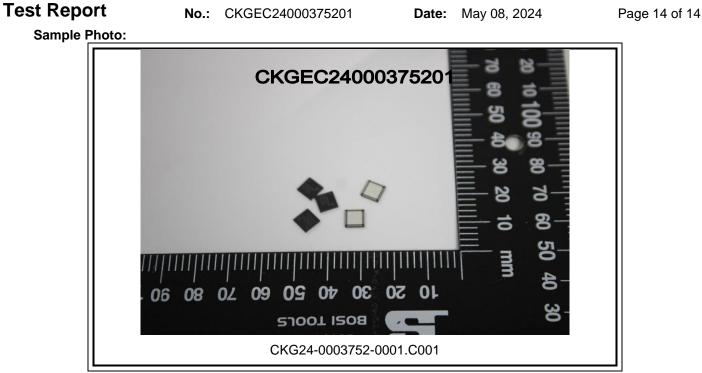




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