

Test Report

No.: CANEC23003966801

Date: Jun 08, 2023

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Client Name: SHENGYI TECHNOLOGY CO.,LTD.

Client Address: NO.5, WEST INDUSTRY ROAD, SONGSHAN LAKE, DONGGUAN, GUANGDONG PROVINCE

Sample Name: Low signal loss polyimide single-side FCCL

Model No.: SLF

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

SGS Job No.: GZP23-003434

Sample Receiving Date: Jun 02, 2023

Testing Period: Jun 02, 2023 ~ Jun 08, 2023

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 (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
Perfluorooctane Sulfonates (PFOS) and its derivatives and Perfluorooctanoic Acid (PFOA) and its salts	See Results
Halogen	See Results
Element(s)	See Results
Phthalates	See Results
Flame Retardants	See Results

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Jessie Li

Jessie-JX Li
Approved Signatory

scan to see the report



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Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN23-0039668-0001.C001	Copper clad grey laminate

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 (PBBs), Polybrominated diphenyl ethers (PBDEs), 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, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1
Cadmium(Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Polybromobiphenyl (PBBs)	1000	mg/kg	-	ND
Monobromobiphenyl (MonoBB)	-	mg/kg	5	ND
Dibromobiphenyl (DiBB)	-	mg/kg	5	ND
Tribromobiphenyl (TriBB)	-	mg/kg	5	ND
Tetrabromobiphenyl (TetraBB)	-	mg/kg	5	ND
Pentabromobiphenyl (PentaBB)	-	mg/kg	5	ND
Hexabromobiphenyl (HexaBB)	-	mg/kg	5	ND
Heptabromobiphenyl (HeptaBB)	-	mg/kg	5	ND
Octabromobiphenyl (OctaBB)	-	mg/kg	5	ND
Nonabromobiphenyl (NonaBB)	-	mg/kg	5	ND
Decabromobiphenyl (DecaBB)	-	mg/kg	5	ND
Polybromodiphenyl ether(PBDEs)	1000	mg/kg	-	ND
Monobromodiphenylether (MonoBDE)	-	mg/kg	5	ND
Dibromodiphenylether (DiBDE)	-	mg/kg	5	ND
Tribromodiphenylether (TriBDE)	-	mg/kg	5	ND
Tetrabromodiphenylether (TetraBDE)	-	mg/kg	5	ND
Pentabromodiphenylether (PentaBDE)	-	mg/kg	5	ND
Hexabromodiphenylether (HexaBDE)	-	mg/kg	5	ND
Heptabromodiphenylether (HeptaBDE)	-	mg/kg	5	ND
Octabromodiphenylether (OctaBDE)	-	mg/kg	5	ND
Nonabromodiphenylether (NonaBDE)	-	mg/kg	5	ND
Decabromodiphenylether (DecaBDE)	-	mg/kg	5	ND
Dibutyl Phthalate(DBP)	1000	mg/kg	50	ND
BenzyI Butyl Phthalate(BBP)	1000	mg/kg	50	ND



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Test Item(s)	Limit	Unit(s)	MDL	A1
Bis-(2-ethylhexyl) Phthalate(DEHP)	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.

Perfluorooctane Sulfonates (PFOS) and its derivatives and Perfluorooctanoic Acid (PFOA) and its salts

Test Method: With reference to 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) and its salts*	-	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)	754-91-6	mg/kg	0.010	ND
Perfluorooctanoic Acid (PFOA) and its salts*	-	mg/kg	0.010	ND

Notes:

- (1) Perfluorooctanoic acid (PFOA) and its salts* including PFOA (CAS No. 335-67-1), APFO (CAS No. 3825-26-1), PFOA-Na (CAS No. 335-95-5), PFOA-K (CAS No. 2395-00-8), PFOA-Ag (CAS No. 335-93-3) and PFOA-F (CAS No. 335-66-0). The result of PFOA is used to represent PFOA and its salts.
- (2) Perfluorooctane sulfonates (PFOS) and its salts* including PFOS (CAS No. 1763-23-1), POSF(CAS No. 307-35-7), PFOS-K (CAS No. 2795-39-3), PFOS-NH₄ (CAS No. 29081-56-9), PFOS-N(C₁₀H₂₁)₂(CH₃)₂ (CAS No. 251099-16-8), PFOS-NH₂(C₂H₄OH)₂ (CAS No. 70225-14-8), PFOS-Li (CAS No. 29457-72-5), PFOS-N(C₂H₅)₄ (CAS No. 56773-42-3) and PFOS-Na (CAS No. 4021-47-0). The result of PFOS is used to represent PFOS and its salts.

Halogen

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



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Test Item(s)	Unit(s)	MDL	A1
Fluorine(F)	mg/kg	20	21816
Chlorine(Cl)	mg/kg	50	120
Bromine(Br)	mg/kg	50	ND
Iodine(I)	mg/kg	50	ND

Element(s)

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

Test Item(s)	Unit(s)	MDL	A1
Arsenic(As)	mg/kg	10	ND
Beryllium(Be)	mg/kg	5	ND
Antimony(Sb)	mg/kg	10	ND

Phthalates

Test Method: With reference to EN 14372:2004, analysis was performed by GC-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A1
Dibutyl Phthalate(DBP)	84-74-2	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate(DEHP)	117-81-7	%	0.003	ND
Benzyl Butyl Phthalate(BBP)	85-68-7	%	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	%	0.010	ND
Di-n-Octyl Phthalate(DNOP)	117-84-0	%	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 /68515-49-1	%	0.010	ND
Dimethyl Phthalate(DMP)	131-11-3	%	0.003	ND
Diisobutyl Phthalate(DIBP)	84-69-5	%	0.003	ND
Dipentyl Phthalates (DnPP)	131-18-0	%	0.003	ND
Di-n-Hexyl Phthalate(DnHP)	84-75-3	%	0.003	ND
Bis(2-methoxyethyl)phthalate(DMEP)	117-82-8	%	0.003	ND
Diisopentyl Phthalate(DIPP)	605-50-5	%	0.003	ND
n-pentyl Isopentyl Phthalate(nPIPP)	776297-69-9	%	0.003	ND
1,2-Benzenedicarboxylic Acid,di-C6-8-branched alkyl esters,C7-rich(DIHP)	71888-89-6	%	0.010	ND
1,2-Benzenedicarboxylic Acid,Di-C7-11-Branched and Linear Alkyl Esters(DHNUP)	68515-42-4	%	0.010	ND
1,2-Benzenedicarboxylic Acid,Dipentyl Ester,Branched and Linear	84777-06-0	%	0.010	ND
1,2-benzenedicarboxylic Acid,dihexyl ester branched and linear(DHxP)	68515-50-4	%	0.010	ND

Flame Retardants



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Test Method: With reference to US EPA 3550C:2007 and US EPA 8270D:2014, analysis was performed by GC-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A1
Hexabromocyclododecane (HBCDD)	134237-50-6 /134237-51-7 /134237-52-8 /25637-99-4 /3194-55-6	mg/kg	5	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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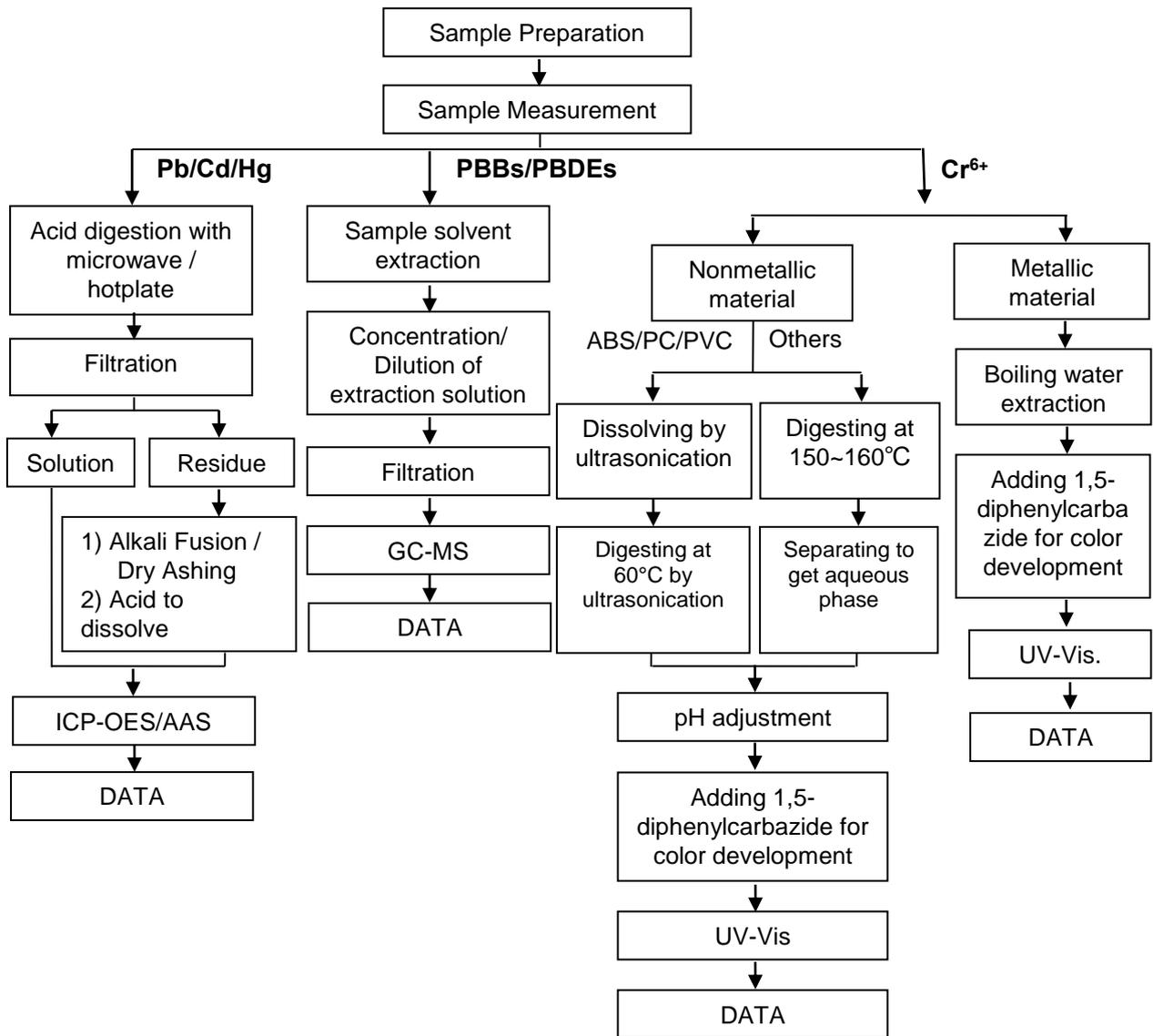
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Attachment:

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Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

- 1) Name of the person who made testing: Edith Zhang/Blue Lan/Judy Chen
- 2) Name of the person in charge of testing: Bella Wang/Qiong Liu
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



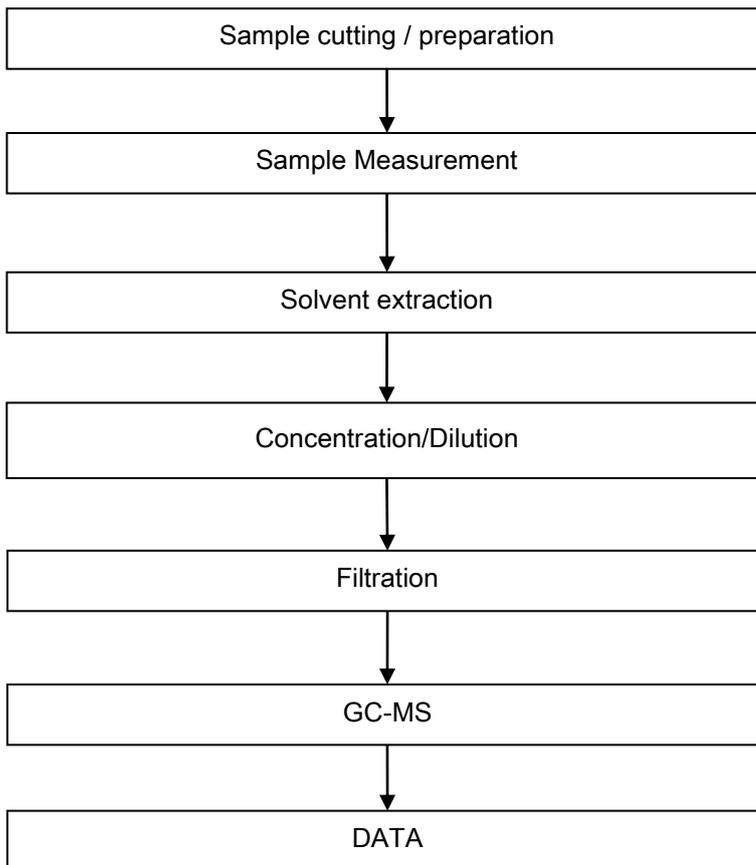
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HBCDD Testing Flow Chart

- 1) Name of the person who made testing: Judy Chen
- 2) Name of the person in charge of testing: Qiong Liu

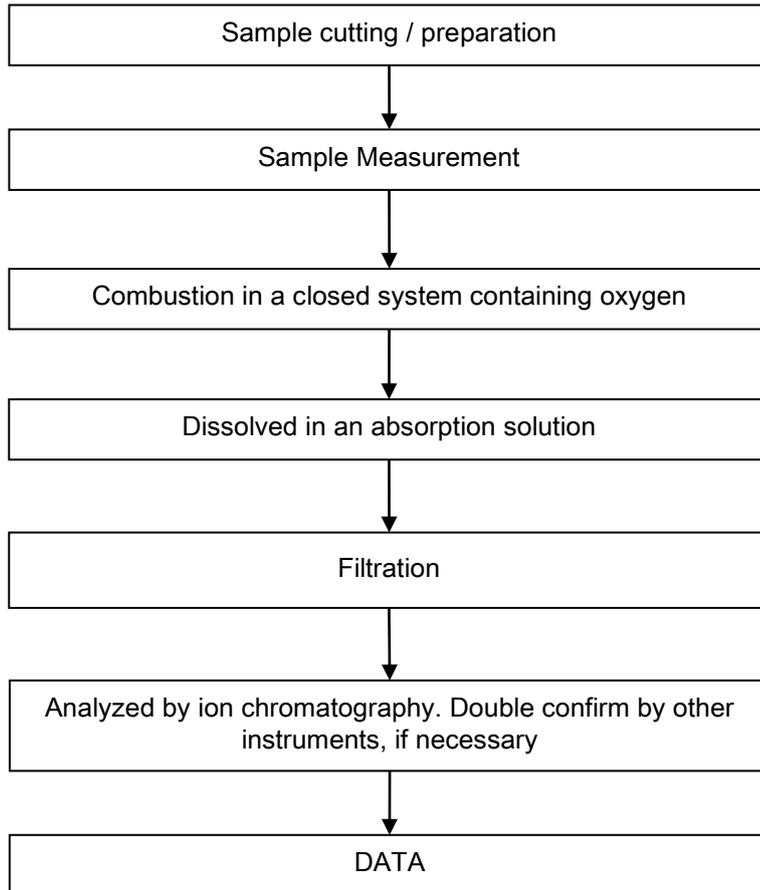


Attachment:

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Halogen Testing Flow Chart

- 1) Name of the person who made testing: Allen Shi
- 2) Name of the person in charge of testing: Bella Wang

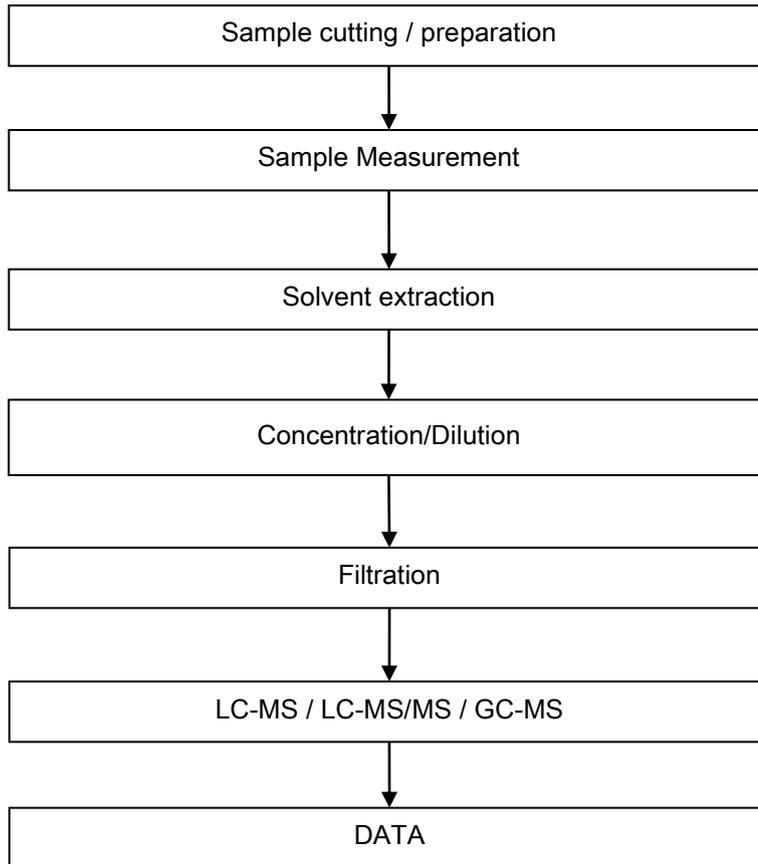


Attachment:

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PFAS Testing Flow Chart

- 1) Name of the person who made testing: Olivia Li
- 2) Name of the person in charge of testing: Qiong Liu



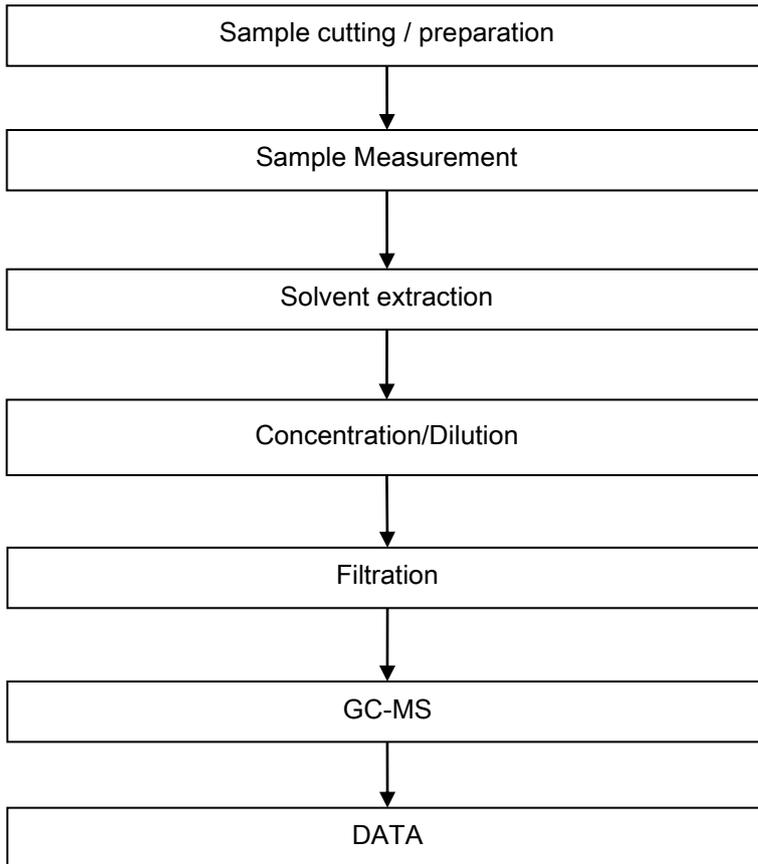
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Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Judy Chen
- 2) Name of the person in charge of testing: Qiong Liu



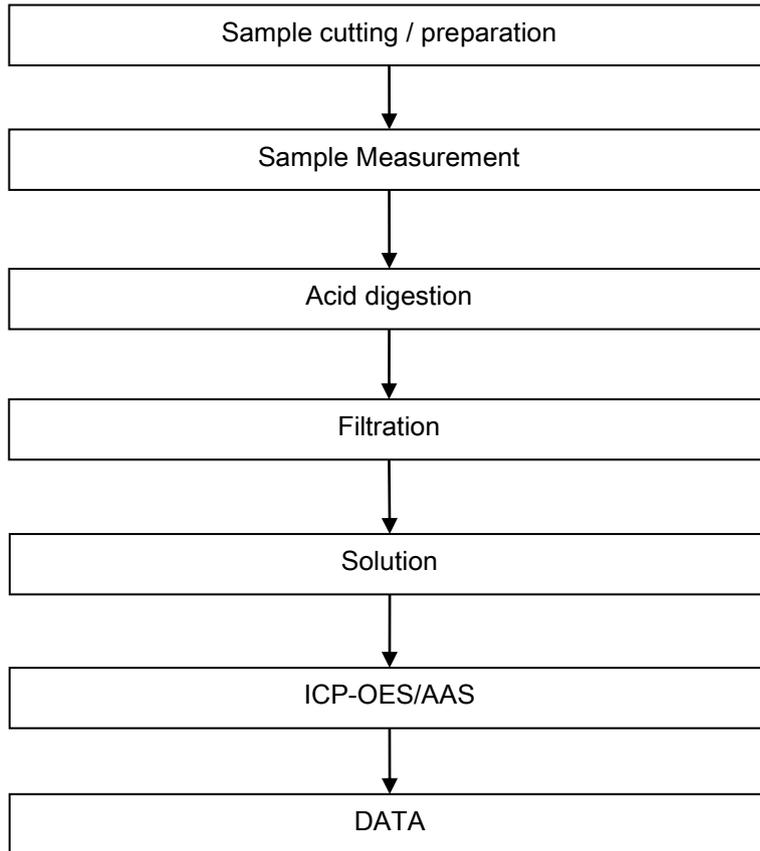
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Elementary Testing Flow Chart

- 1) Name of the person who made testing: Edith Zhang
- 2) Name of the person in charge of testing: Bella Wang



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Sample Photo:



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



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