

# Test Report

No.: CANEC23003850701

Date: Jun 06, 2023

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Client Name: SHENGYI TECHNOLOGY(SHAANXI)CO., LTD.

Client Address: NO.8 YONGCHANG ROAD, QINDUDISTRICT, XIANYANG CITY, SHAANXI PROVINCE, CHINA

Sample Name: Copper Clad Laminate

Model No.: Q100C

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

SGS Job No.: GZP23-003243

Sample Receiving Date: May 31, 2023

Testing Period: May 31, 2023 ~ Jun 06, 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 |
| Element(s)   | See Results |
| Flame Retardants   | See Results |
| Phthalates   | See Results |

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

**Arsene Ye**

Arsene Ye  
Approved Signatory

scan to see the report



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Guangzhou Branch, Chemical Laboratory.

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**Test Result(s):**

Test Part Description:

| SN ID | Sample No. | SGS Sample ID           | Description                      |
|-------|------------|-------------------------|----------------------------------|
| SN1   | A1         | CAN23-0038507-0001.C001 | Double-side copper-clad 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   | 15 |
| 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 |
| Benzyl 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-NH<sub>4</sub> (CAS No. 29081-56-9), PFOS-N(C<sub>10</sub>H<sub>21</sub>)<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub> (CAS No. 251099-16-8), PFOS-NH<sub>2</sub>(C<sub>2</sub>H<sub>4</sub>OH)<sub>2</sub> (CAS No. 70225-14-8), PFOS-Li (CAS No. 29457-72-5), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (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.

**Element(s)**

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



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

**Flame Retardants**

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<br>/134237-51-7<br>/134237-52-8<br>/25637-99-4<br>/3194-55-6 | mg/kg   | 5   | 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<br>/68515-48-0 | %       | 0.010 | ND |
| Di-n-Octyl Phthalate(DNOP)   | 117-84-0                  | %       | 0.003 | ND |
| Diisodecyl Phthalate (DIDP)  | 26761-40-0<br>/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(DHNUPE) | 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 |



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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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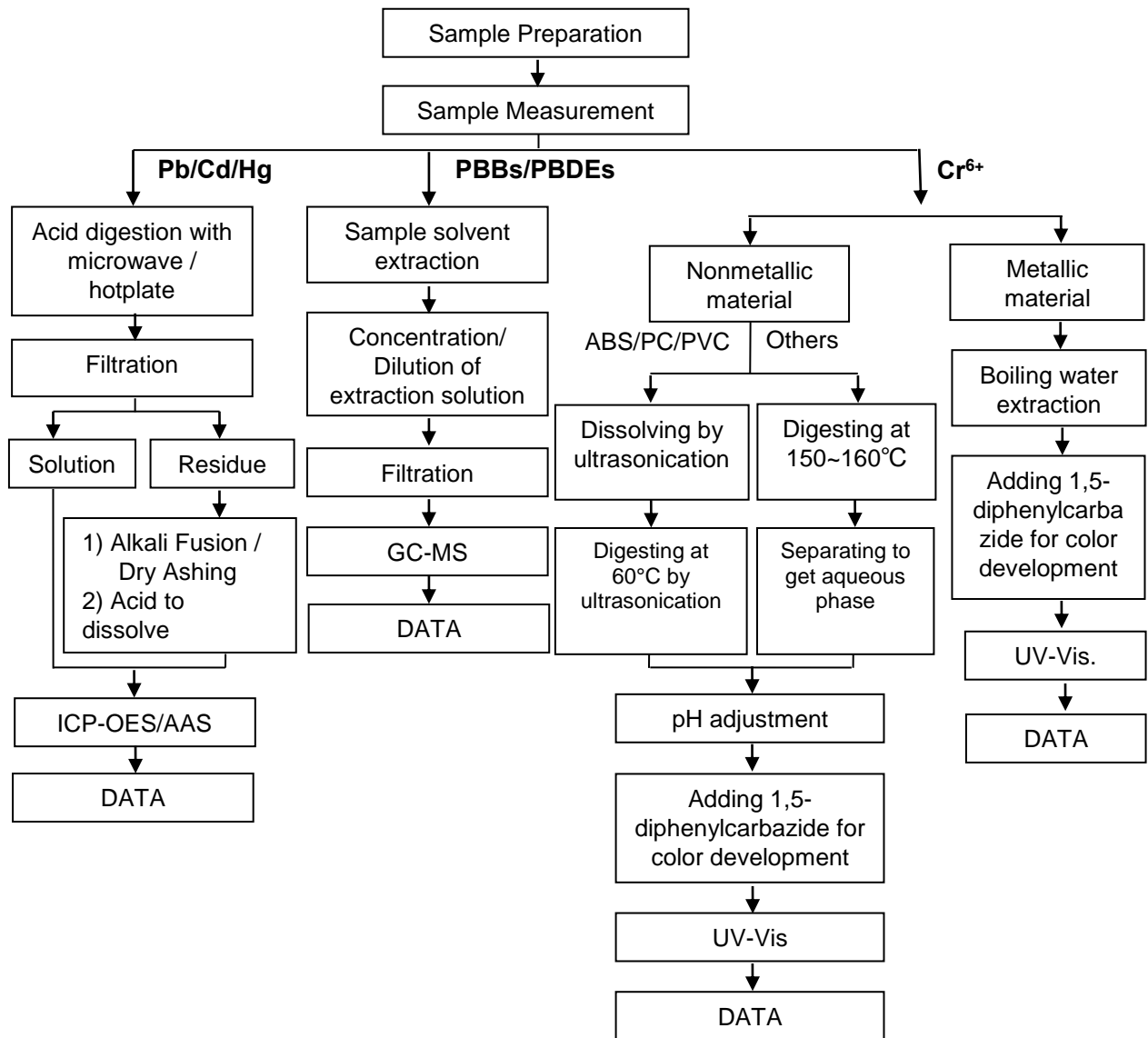
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Attachment:

**ATTACHMENTS**

**Pb/Cd/Hg/Cr<sup>6+</sup>/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. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).



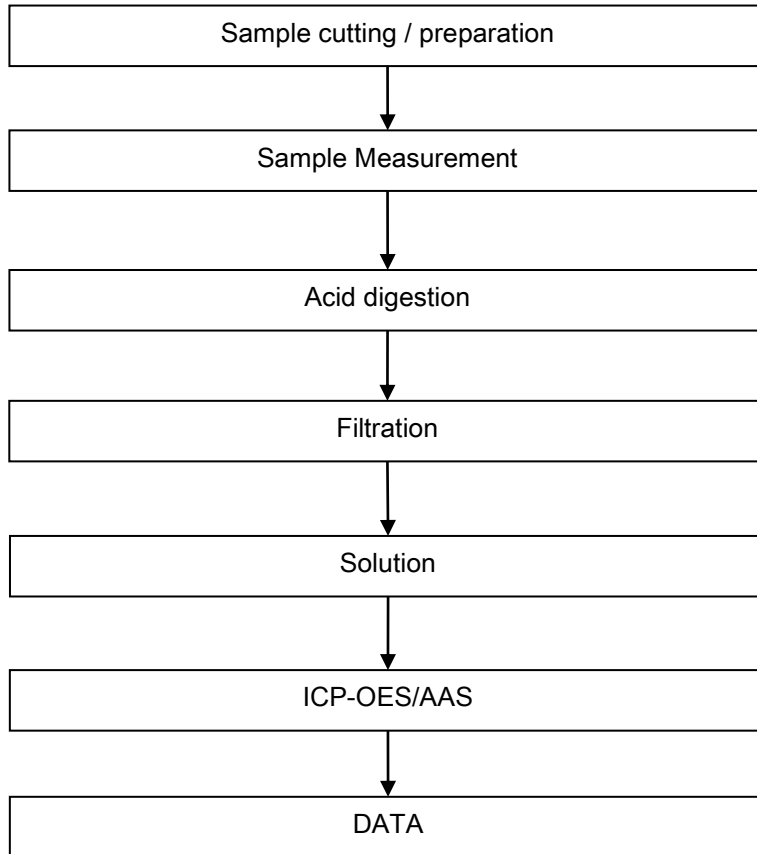
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### Elementary Testing Flow Chart

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

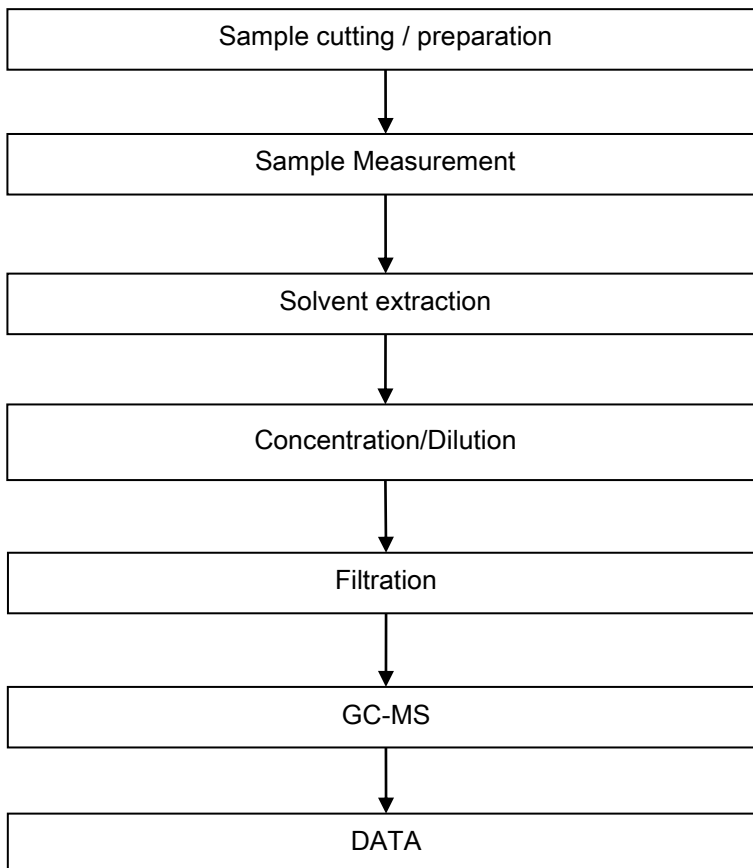


Attachment:

## ATTACHMENTS

### 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



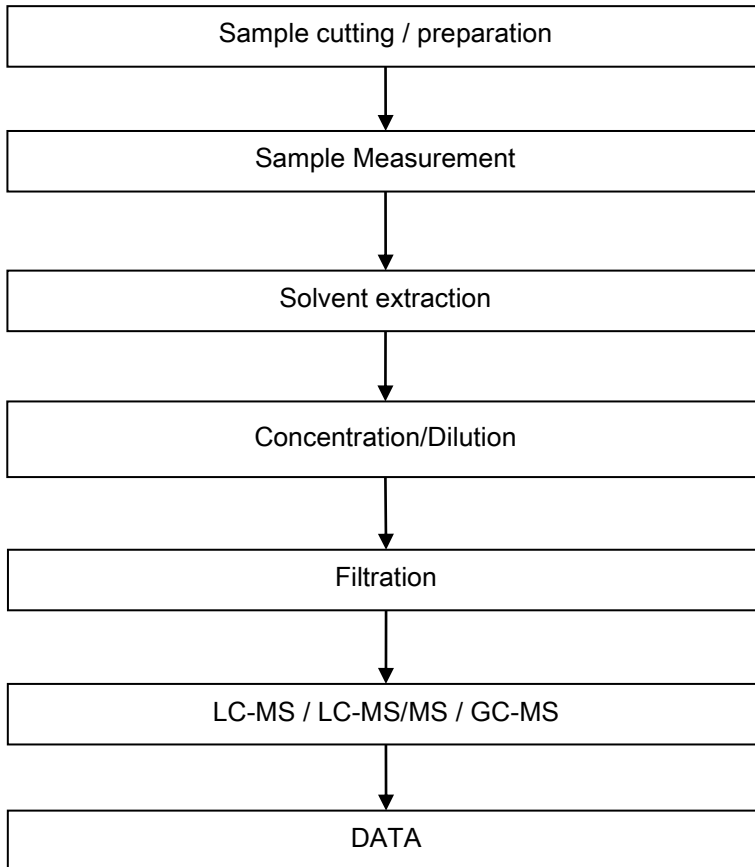


Attachment:

## ATTACHMENTS

### 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



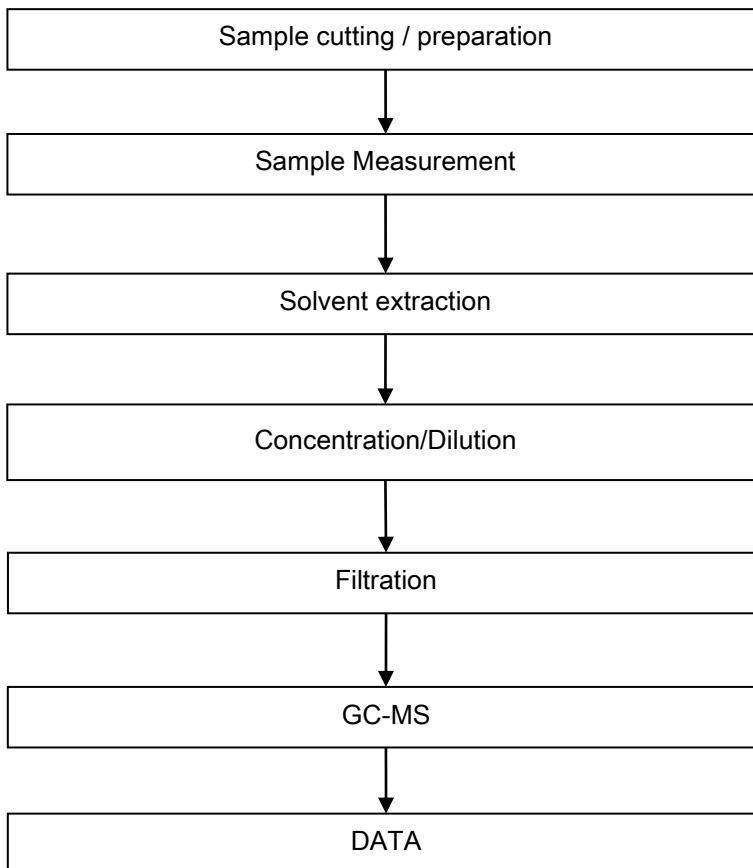
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### Phthalates Testing Flow Chart

- 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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Sample Photo:



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