

# Test Report

Report No. A2180033631102003R2

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**Applicant** SHENGYI TECHNOLOGY(SUZHOU) CO.,LTD.  
**Address** 288# XINGLONG STREET, SUZHOU INDUSTRIAL PARK, JIANGSU PROVINCE

**The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client**

Sample Name Copper Clad Laminate  
Part No. S1141  
Item/Lot No. L179310849  
Color Red  
Material Epoxy Resin 、 Continuous Filament Fiber Glass 、 Copper  
Sample Received Date Mar. 23, 2018  
Testing Period Mar. 23, 2018 to Apr. 4, 2018

**Test Requested** As specified by client, to test Antimony(Sb), Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA), Hexabromocyclododecane (HBCDD), Phthalates, Polyvinyl Chloride (PVC), Beryllium(Be), Arsenic(As) , Fluorine(F), Chlorine(Cl), Bromine(Br), Iodine(I) , Tetrabromobisphenol-A(TBBP-A), Bisphenol A in the submitted sample(s).

**Test Method/Test Result(s)** Please refer to the following page(s).

Tested by

Zhou Hong

Reviewed by

Taoying

Approved by

Su Hongwei

Date

Apr. 16, 2018

Su Hongwei

Senior Laboratory Manager

Centre Testing International Pinbiao(Shanghai) Co., Ltd.

No.1996,Xinjinqiao Road, Pudong New District,Shanghai,China

No. R198691174

检验检测专用章  
Inspection & Testing Services

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## Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates(DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Perfluorooctane Sulfonates(PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Perfluorooctanoic Acid(PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270D:2014	GC-MS
Polyvinyl Chloride (PVC)	JY/T 001:1996	FT-IR
Antimony(Sb)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Arsenic(As)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Beryllium(Be)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Phthalates (DPP,DBP,BBP,DEHP, DNOP,DINP,DIDP,DNHP,DIBP, DMEP,DIPP,DNHUP,DIHP,NIPP, BADP,NHIHP)	Refer to EN 14372:2004(E)	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Tetrabromobisphenol-A (TBBP-A) (TBBP-A)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Bisphenol A	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

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**Test Result(s)**

Tested Item(s)	Result	MDL
Lead (Pb)	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg
Mercury (Hg)	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8mg/kg

Tested Item(s)	Result	MDL
<b>Polybrominated Biphenyls(PBBs)</b>		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

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Tested Item(s)	Result	MDL
<b>Phthalates</b>		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Benzylbutyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
<b>Phthalates</b>		
Dipentyl phthalate(DPP) CAS#:131-18-0	N.D.	50 mg/kg
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butylbenzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-2-ethylhexyl phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	50 mg/kg
Diisononyl phthalate (DINP) CAS#:28553-12-0, 68515-48-0	N.D.	50 mg/kg
Diisodecyl phthalate (DIDP) CAS#:26761-40-0, 68515-49-1	N.D.	50 mg/kg
Di-n-hexyl phthalate (DNHP) CAS#:84-75-3	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg
Dimethoxyethyl phthalate (DMEP) CAS#:117-82-8	N.D.	50 mg/kg
Diisopentylphthalate(DIPP) CAS#:605-50-5	N.D.	50 mg/kg
<sup>②</sup> 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) CAS#:68515-42-4	N.D.	100 mg/kg
<sup>②</sup> 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) CAS#: 71888-89-6	N.D.	100 mg/kg
N-pentyl-isopentylphthalate (NIPP) CAS#:776297-69-9	N.D.	100 mg/kg
<sup>②</sup> 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear CAS#:84777-06-0	N.D.	100 mg/kg
<sup>②</sup> 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear CAS#:68515-50-4	N.D.	100 mg/kg

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Tested Item(s)	Result	MDL
Perfluorooctane Sulfonates (PFOS)	N.D.	5 mg/kg
Perfluorooctanoic Acid(PFOA)	N.D.	5 mg/kg
Hexabromocyclododecane (HBCDD)	N.D.	5 mg/kg
Polyvinyl Chloride (PVC)	Negative	/
Antimony(Sb)	N.D.	10 mg/kg
Arsenic(As)	N.D.	10 mg/kg
Beryllium(Be)	N.D.	10 mg/kg
Bisphenol A	N.D.	100 mg/kg
Tetrabromobisphenol-A (TBBP-A)	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
<b>Halogen</b>		
Fluorine (F)	552 mg/kg	10mg/kg
Chlorine (Cl)	433 mg/kg	10mg/kg
Bromine (Br)	57318 mg/kg	10mg/kg
Iodine (I)	N.D.	10mg/kg

**Tested Sample/Part Description** Cupreous clad laminate

**Remark:**

- MDL = Method Detection Limit; N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- Negative = Not Contained Polyvinyl Chloride(PVC)
- The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Antimony, Arsenic, Beryllium,.
- <sup>®</sup>:In view of the substances are established as UVCB substances (substances of unknown or variable composition, complex reaction products or biological materials) consisting of different and variable constituents, the test results are calculated based on the main constituents of the representative compounds for substances.

**Note:**

This testing report displaces the original report of No. A2180033631102003R1, and the original one No. A2180033631102003R1 was invalid since the date of this testing report released.



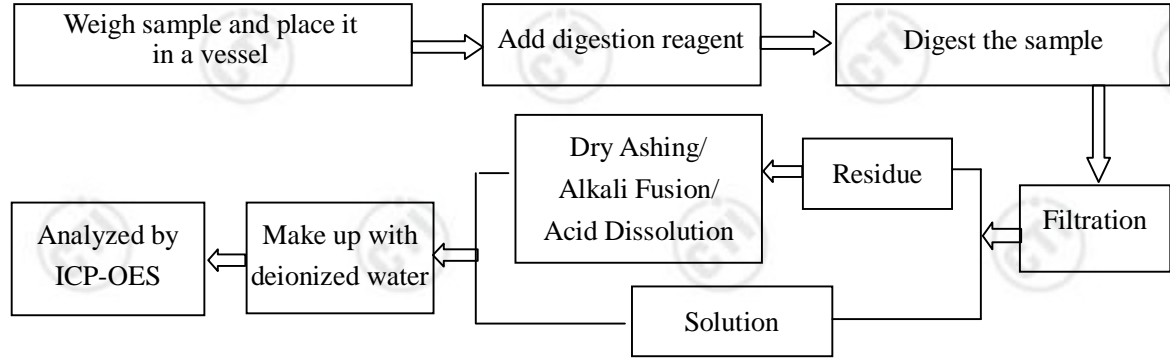
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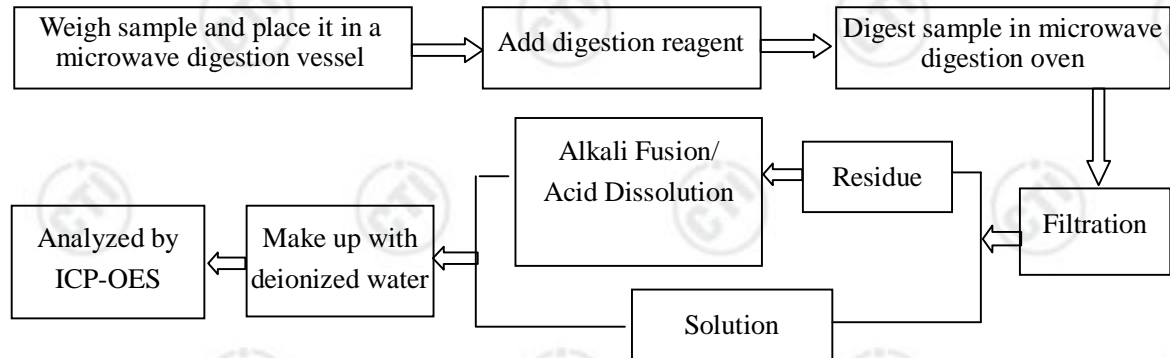
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## Test Process

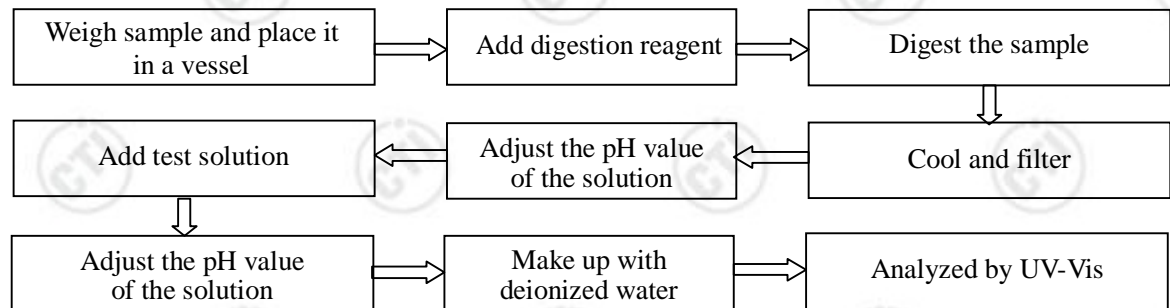
### 1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



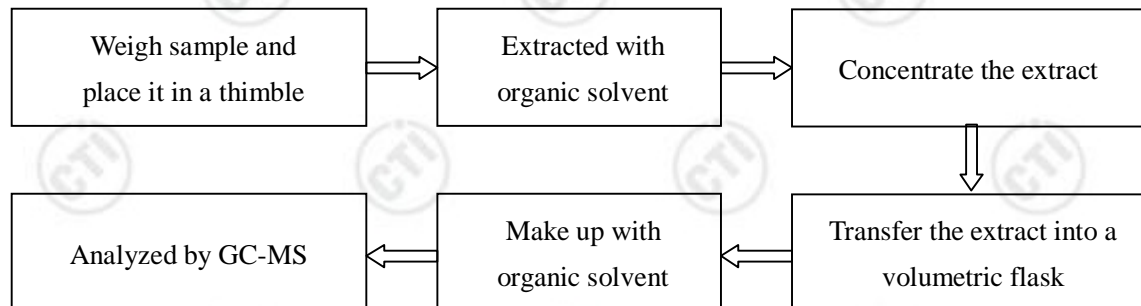
### 2. Mercury(Hg)



### 3. Hexavalent Chromium (Cr(VI))



### 4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs)

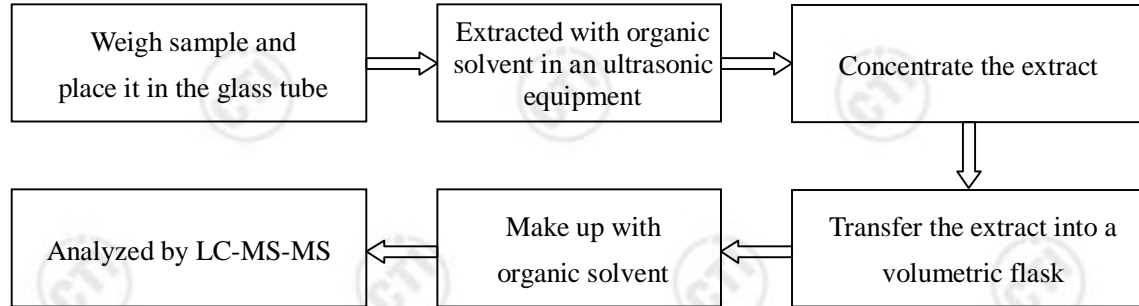


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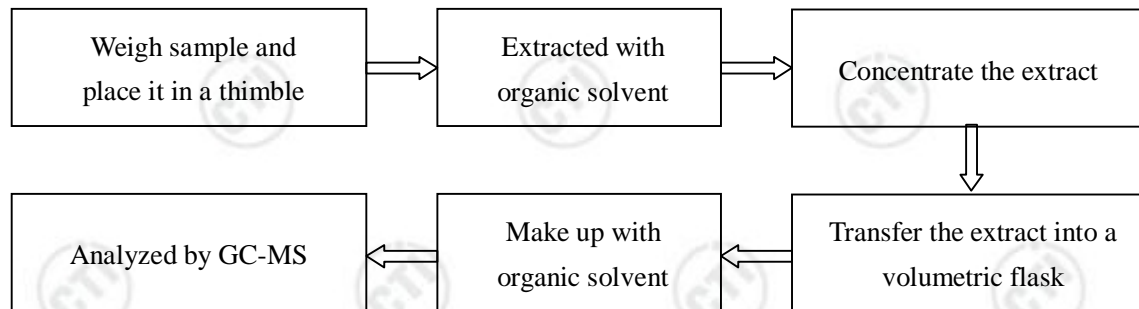
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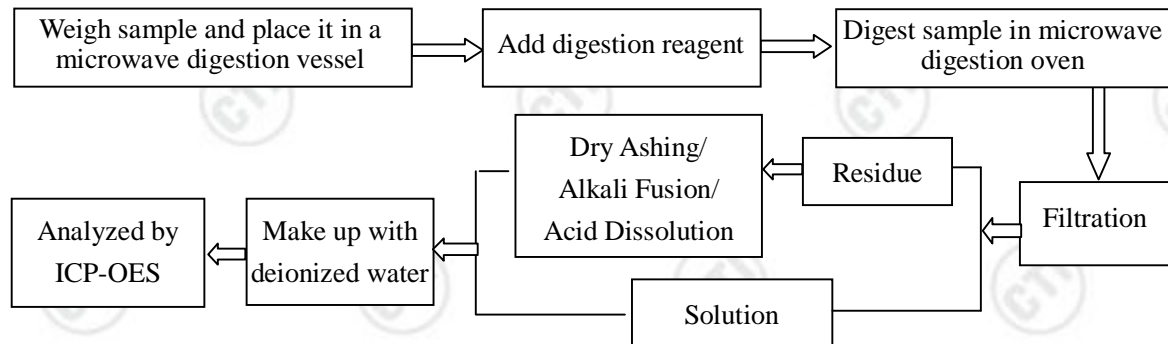
## 5. Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)



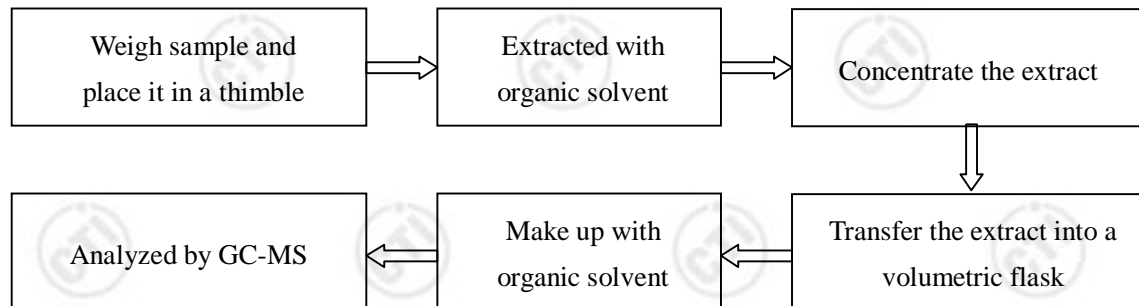
## 6. Hexabromocyclododecane(HBCDD)



## 7. Antimony (Sb), Arsenic(As), Beryllium(Be)



## 8. Phthalates

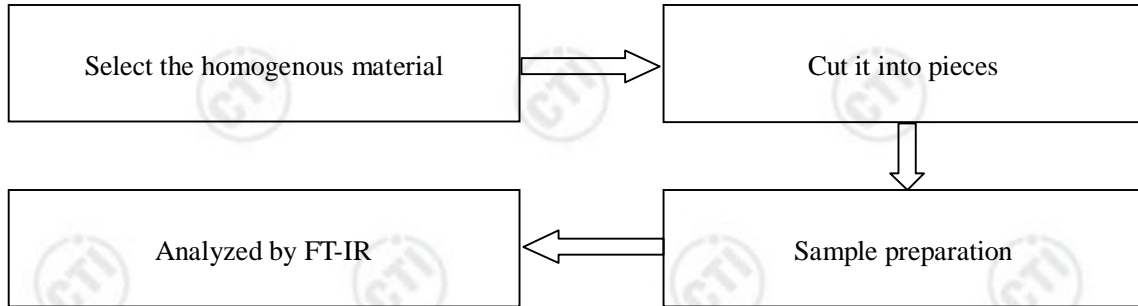


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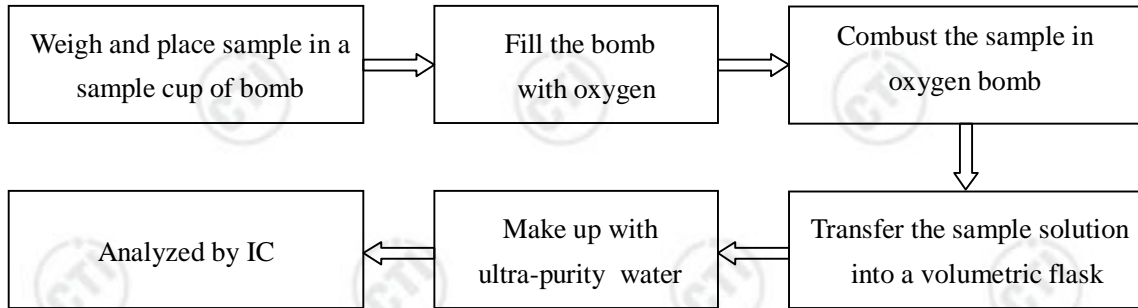
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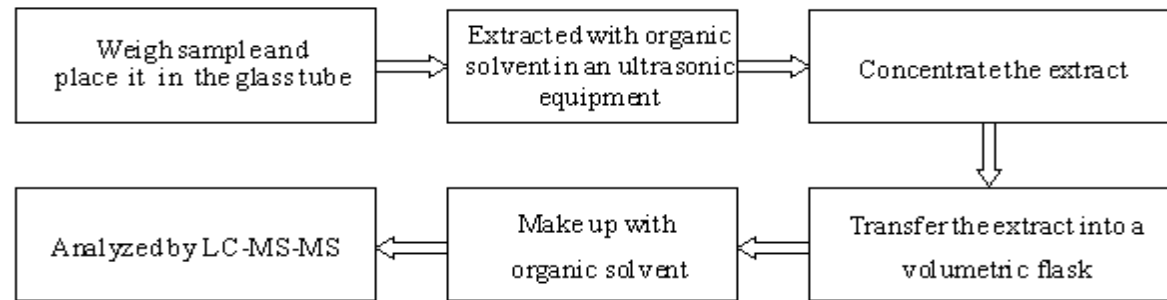
## 9. Polyvinyl Chloride (PVC)



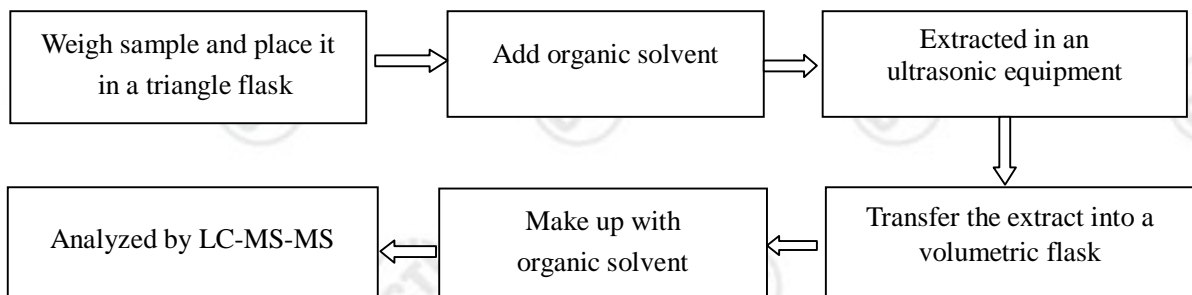
## 10. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



## 11. Tetrabromobisphenol-A(TBBP-A)



## 12. Bisphenol-A (BP-A)



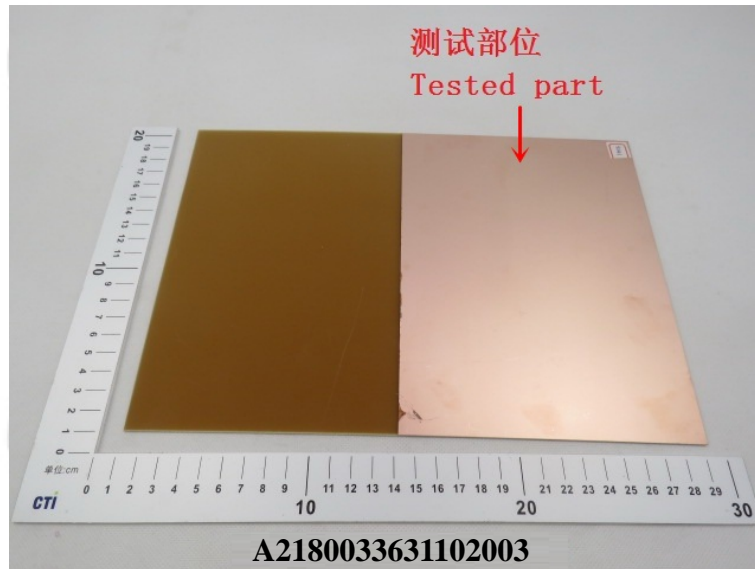


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## Photo(s) of the sample(s)



\*\*\* End of Report \*\*\*

### Statement:

1. This report is considered invalidated without approval signature, special seal and the seal on the perforation;
2. The sample(s) and sample Information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.