

# Test Report

**Report No.** SCL01J046174004

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**Applicant** TAK CHEONG ELECTRONICS SHANWEI CO., LTD.

**Address** TAK CHEONG INDUSTRIAL ZONE, BUBIAN, SHANWEI, GUANGDONG, PRC

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

**Sample Name** TO220- FP package  
**Material** Epoxy molding compound Solder, Tin, Copper  
**Sample Received Date** Jul. 7, 2017  
**Testing Period** Jul. 7, 2017 to Jul. 11, 2017

**Test Requested** As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Phthalates(DBP, BBP, DEHP, DIBP) in the submitted sample(s).

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

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



Tested by Sky Tang

Approved by Hill Zheng

Hill Zheng  
Technical Manager

Reviewed by Cathy Huang

Date Jul. 11, 2017

No. R262621903

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## Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI))	IEC 62321-4:2013 Ed.1.0, IEC 62321-5:2013 Ed.1.0, IEC 62321-7-2:2017	ICP-OES, UV-Vis
Polybrominated Biphenyls(PBBs) , Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates(DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS

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**Test Result(s)**

Tested Item(s)	Result	MDL
Lead (Pb)	3871 mg/kg	2 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg
Mercury (Hg)	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8 mg/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
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
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

**Tested Sample/Part Description** Metal with silver-white plating and black solid(Mix all)

**Remark:**

- The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.
- As specified by client, the test was conducted by mixing all materials together.
- The result(s) shown on this report may be different from the content of any homogeneous material.
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL )
- mg/kg = ppm = parts per million

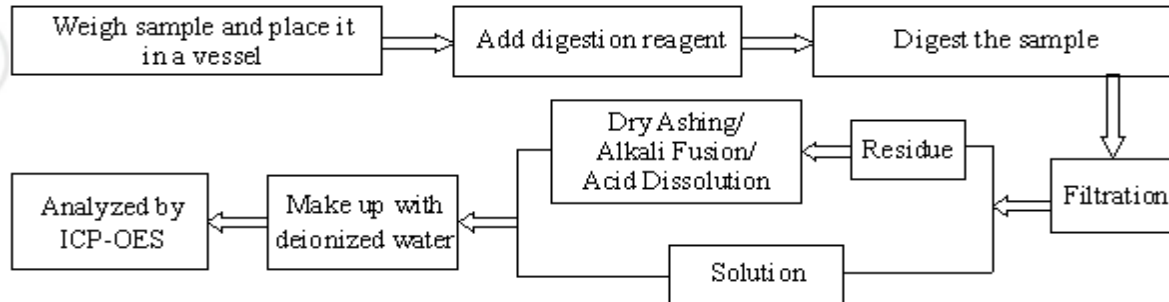
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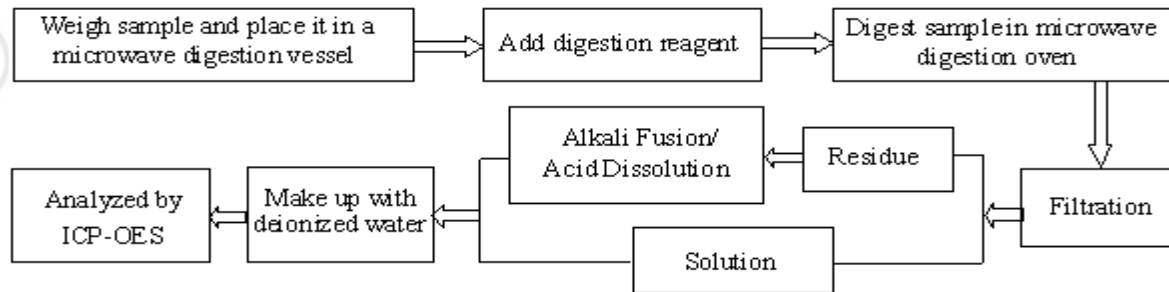
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## Test Process

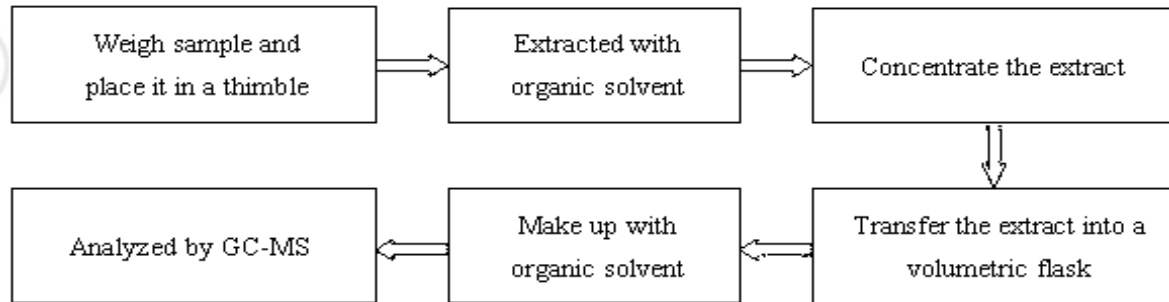
### 1. Lead (Pb), Cadmium (Cd), Chromium (Cr)



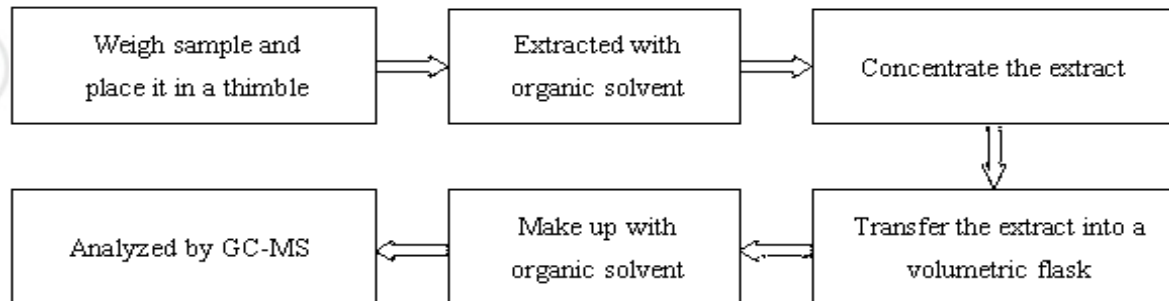
### 2. Mercury (Hg)



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



### 4. Phthalates(DBP, BBP, DEHP, DIBP)

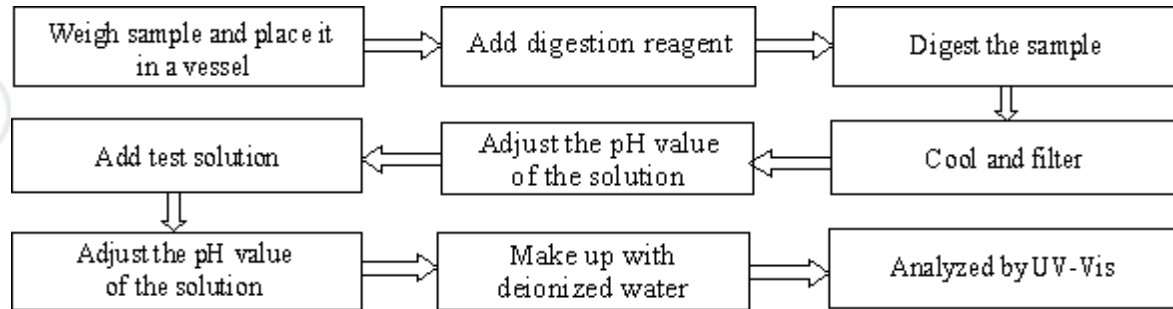


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## 5. Hexavalent Chromium(Cr(VI))

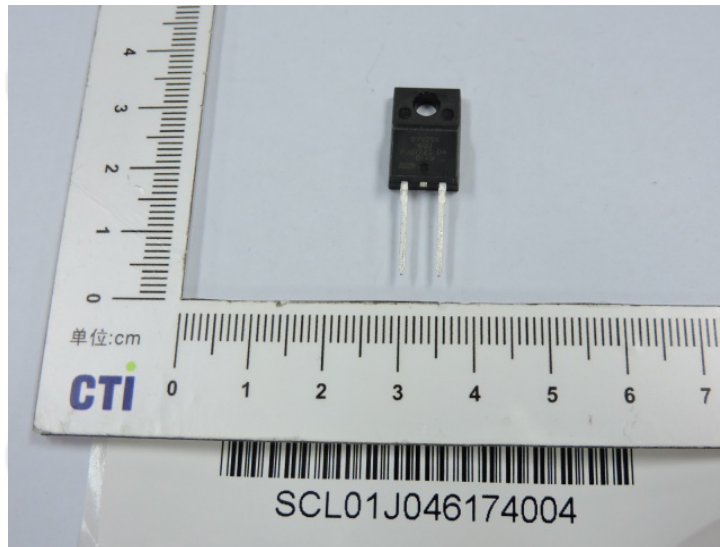


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Photo(s) of the sample(s)



\*\*\* End of report \*\*\*

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