



## Test Report

Report No. A222008945810108

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Company Name DONG GUAN BRIGHT LED ELECTRONICS LTD

shown on Report

Address NO.8,GAO LONG EAST RD ,GAOBU TOWN,DONG GUAN CTY,GUANG DONG PROVINCE,CHINA 523283

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

Sample No.	Final Product Name	Sample Name(s)
001	光耦	Photo Coupler 支架
002		Photo Coupler 黑胶
003		Photo Coupler 白胶

Sample Received Date Mar. 11, 2022

Testing Period Mar. 11, 2022 to Mar. 31, 2022

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

Tested by

Jonas Guo

Reviewed by

Ting Yu

Approved by

Helen Liu

Date

Mar. 31, 2022

Helen Liu

Lab Authorized Signatory

No. R450146771



Centre Testing International Group Co.,Ltd.

Inspection &amp; Testing Services

CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

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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+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
	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

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## Test Result(s)

Tested Item(s)	Result			MDL
	001	002	003	
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	N.D.	N.D.	8 mg/kg
	N.D. ▽	--	--	0.10 $\mu\text{g}/\text{cm}^2$ (LOQ)

Tested Item(s)	Result		MDL
	002	003	
<b>Polybrominated Biphenyls (PBBs)</b>			
Monobromobiphenyl	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	5 mg/kg

Tested Item(s)	Result		MDL
	002	003	
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>			
Monobromodiphenyl ether	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	5 mg/kg

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Tested Item(s)	Result		MDL
	002	003	
<b>Phthalates (DBP, BBP, DEHP, DIBP)</b>			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	50 mg/kg

## Sample/Part Description

001 Mixed test, metal with silver-white plating<sup>#</sup>

002 Black plastic

003 Beige-gray plastic

**Remark: -The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**

**-<sup>#</sup> As specified by client, the test was conducted by mixing several samples 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 or LOQ)

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10  $\mu\text{g}/\text{cm}^2$

-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10  $\mu\text{g}/\text{cm}^2$ . The coating is considered a non-Cr(VI) based coating.

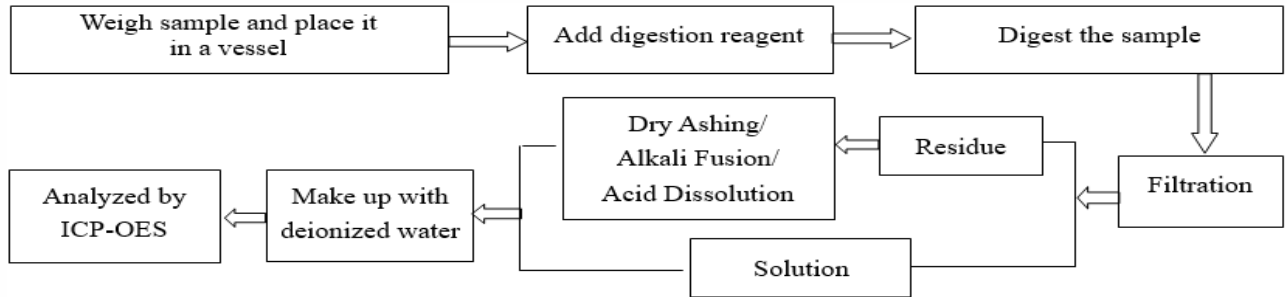
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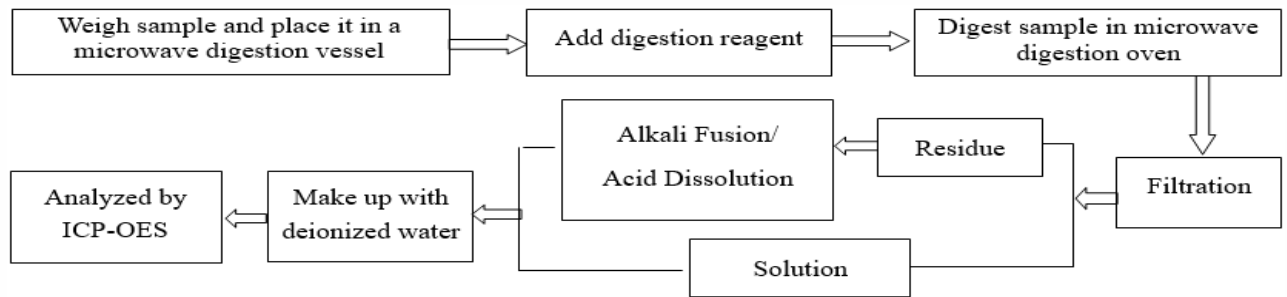
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## Test Process

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

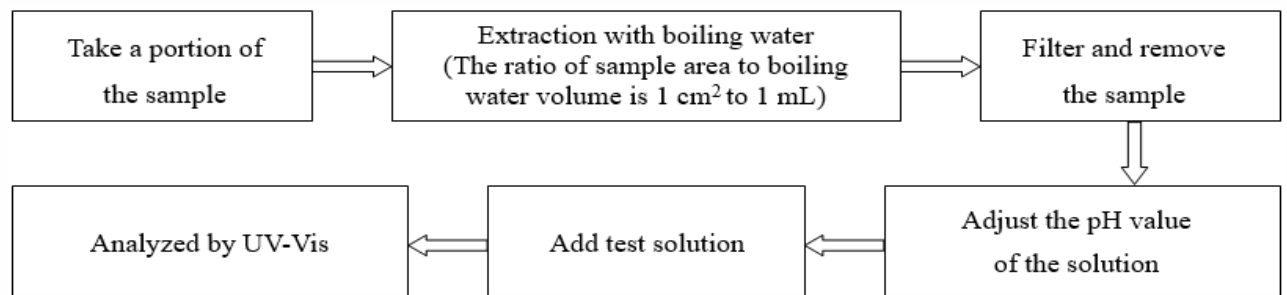


### 2. Mercury (Hg)

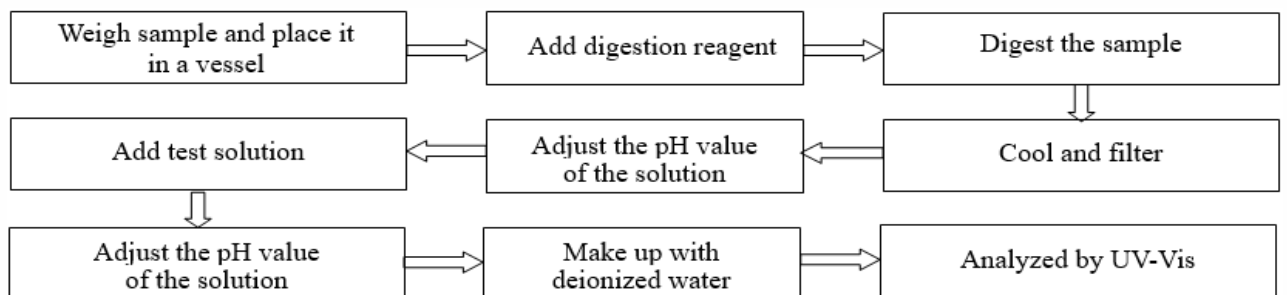


### 3. Hexavalent Chromium (Cr(VI))

#### (1) IEC 62321-7-1:2015



#### (2) IEC 62321-7-2:2017



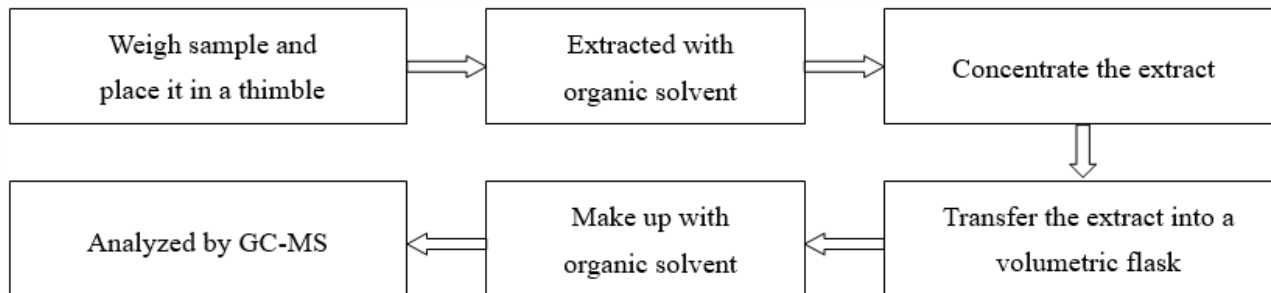
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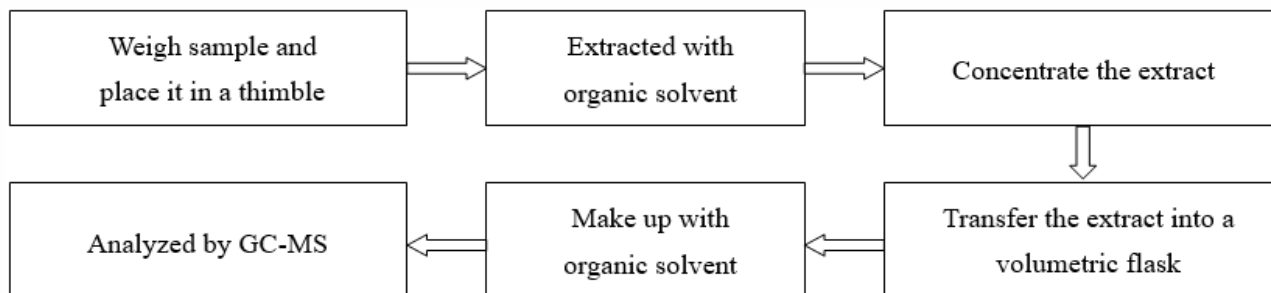
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## 4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



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



华测检测

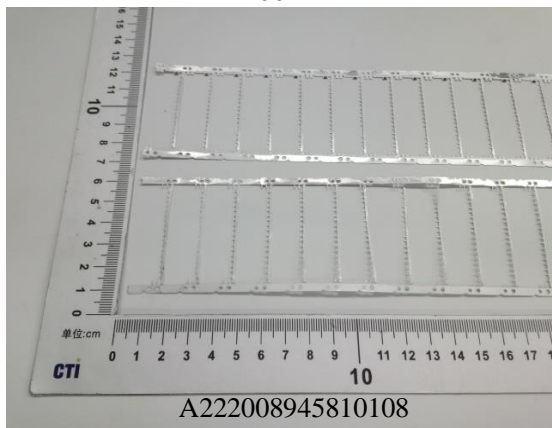
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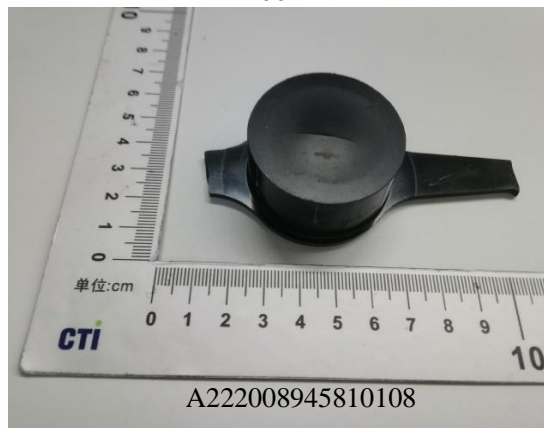
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## Photo(s) of the sample(s)

001



002



003



### Statement:

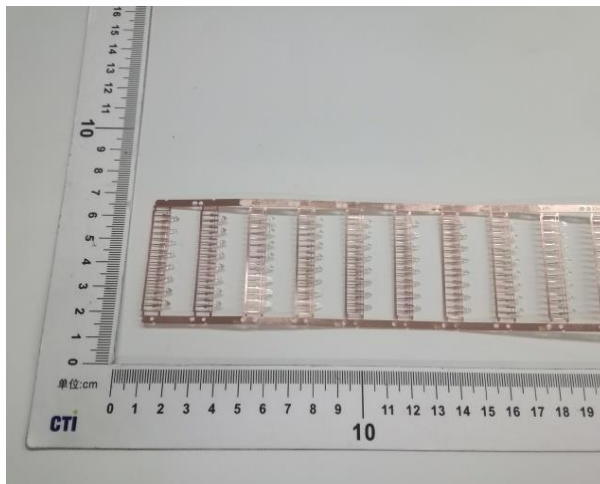
1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
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.

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

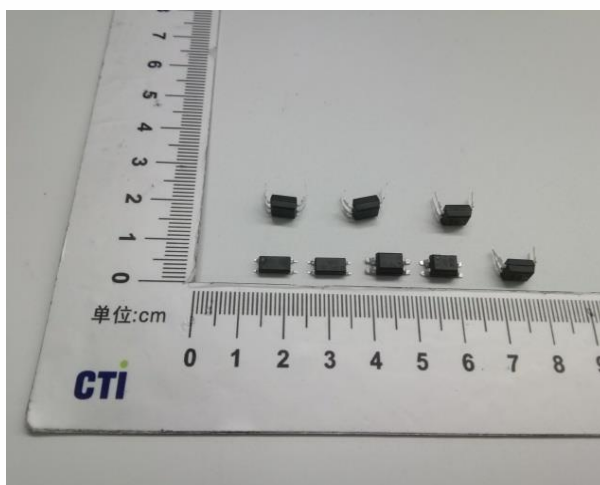
## Appendix

### Client Reference Photo (Non-tested sample)

001



Final Product



### Statement:

1. The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. The Appendix Information is/are the supplement(s) for the Report A222008945810108.