



# Test Report

Report No. A22200894581010101

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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	PLCC	PLCC series 塑膠
002		PLCC series 樹脂

**Sample Received Date**

Mar. 11, 2022

**Testing Period**

Mar. 11, 2022 to Mar. 31, 2022

**Test Requested**

1.As specified by client, to test Hexabromocyclododecane (HBCDD), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Dimethyl fumarate (DMF), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA), Phthalates, Tetrabromobisphenol A (TBBP-A), Polycyclic Aromatic Hydrocarbons (PAHs), Red phosphorus in the submitted sample(s).

2.As specified by client, to screen Antimony trioxide (Sb<sub>2</sub>O<sub>3</sub>) in the submitted sample(s).

**Test Method/Test Result(s)**

Please refer to the following page(s).

Tested by



Reviewed by



Approved by



Date

Mar. 31, 2022

Helen Liu

Lab Authorized Signatory

No. R450146771



CTI 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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**Conclusion**

<u>Tested Sample</u>	<u>According to standard/directive</u>	<u>Result</u>
Submitted Sample	Client's limit- Hexabromocyclododecane (HBCDD), Chlorine (Cl), Bromine (Br) , Dimethyl fumarate (DMF), Perfluorooctane Sulfonates(PFOS), Phthalates, Antimony trioxide ( Sb <sub>2</sub> O <sub>3</sub> ), Tetrabromobisphenol A (TBBP-A), Red phosphorus	PASS

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## Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996 & US EPA 8270E:2018	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
Dimethyl fumarate (DMF)	Refer to US EPA 3550C:2007 & US EPA 8270E:2018	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
Phthalates	Refer to EN 14372:2004(E)	GC-MS
Antimony trioxide ( Sb <sub>2</sub> O <sub>3</sub> )*#	Refer to US EPA 3052:1996 & US EPA 6010D:2018	ICP-OES
Red phosphorus#	Refer to GB/T 6040-2002, GB/T 9722-2006, GB/T 17359-2012, EPA 6010D:2014	ICP-OES, PY-GC-MS, FTIR, SM
Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2019:01 PAK	GC-MS
Tetrabromobisphenol A (TBBP-A)	Refer to US EPA 3550C:2007 & US EPA 8270E:2018	GC-MS

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## Test Result(s)

Tested Item(s)	Result		MDL	Client's limit
	001	002		
Hexabromocyclododecane (HBCDD)	N.D.	N.D.	5 mg/kg	N.D.

Tested Item(s)	Result		MDL	Client's limit
	001	002		
Fluorine (F)	N.D.	N.D.	10 mg/kg	---
Chlorine (Cl)	148 mg/kg	84 mg/kg	10 mg/kg	900 mg/kg
Bromine (Br)	N.D.	N.D.	10 mg/kg	900 mg/kg
Iodine (I)	N.D.	N.D.	10 mg/kg	---
Total (Cl+Br)	148 mg/kg	84 mg/kg	/	1500 mg/kg

Tested Item(s)	Result		MDL	Client's limit
	001	002		
Dimethyl fumarate (DMF)	N.D.	N.D.	0.1 mg/kg	Prohibited

Tested Item(s)	Result		MDL	Client's limit
	001	002		
Perfluorooctane Sulfonates (PFOS)	N.D.	N.D.	0.010 mg/kg	1000 mg/kg

Tested Item(s)	Result		MDL
	001	002	
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	0.010 mg/kg

Tested Item(s)	Result		MDL	Client's limit
	001	002		
<b>Phthalates</b>				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	30 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	30 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	30 mg/kg	1000 mg/kg

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Tested Item(s)	Result		MDL	Client's limit
	001	002		
<b>Phthalates</b>				
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	N.D.	30 mg/kg	1000 mg/kg
Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	N.D.	50 mg/kg	1000 mg/kg
Dimethyl phthalate (DMP) CAS#:131-11-3 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Diethyl phthalate (DEP) CAS#:84-66-2 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Dipropyl phthalate (DPrP) CAS#:131-16-8 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Dipentyl phthalate (DPP) CAS#:131-18-0 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Diheptyl phthalate (DHP) CAS#:3648-21-3 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Dicyclohexyl phthalate (DCHP) CAS#:84-61-7 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Diisooctyl phthalate (DIOP) CAS#:27554-26-3 <sup>#</sup>	N.D.	N.D.	50 mg/kg	1000 mg/kg
Dinonyl phthalate (DNP) CAS#:84-76-4 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Diisononyl adipate (DINA) CAS#:33703-08-1 <sup>#</sup>	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-n-hexyl phthalate (DNHP) CAS#:84-75-3 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
Bis(2-methoxyethyl) phthalate (DMEP) CAS#:117-82-8	N.D.	N.D.	30 mg/kg	1000 mg/kg
Diisopentylphthalate (DIPP) CAS#:605-50-5 <sup>#</sup>	N.D.	N.D.	30 mg/kg	1000 mg/kg
<sup>①</sup> 1,2-Benzenedicarboxylic acid, di-(C7-11)-branched and linear alkyl esters (DHNUP) CAS#:68515-42-4	N.D.	N.D.	50 mg/kg	1000 mg/kg

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Tested Item(s)	Result		MDL	Client's limit
	001	002		
<b>Phthalates</b>				
① 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) CAS#:71888-89-6	N.D.	N.D.	50 mg/kg	1000 mg/kg

Tested Item(s)	Result		MDL	Client's limit
	001	002		
Antimony trioxide (Sb <sub>2</sub> O <sub>3</sub> )*/#	N.D.	N.D.	6 mg/kg	N.D.

Tested Item(s)	Result		MDL
	001	002	
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>			
Naphthalene	N.D.	23.2 mg/kg	0.2 mg/kg
Phenanthrene	N.D.	1.6 mg/kg	0.2 mg/kg
Anthracene	N.D.	N.D.	0.2 mg/kg
Fluoranthene	N.D.	N.D.	0.2 mg/kg
Pyrene	N.D.	N.D.	0.2 mg/kg
Chrysene	N.D.	N.D.	0.2 mg/kg
Benzo(a)anthracene	N.D.	N.D.	0.2 mg/kg
Benzo(b)fluoranthene	N.D.	N.D.	0.2 mg/kg
Benzo(k)fluoranthene	N.D.	N.D.	0.2 mg/kg
Benzo(j)fluoranthene	N.D.	N.D.	0.2 mg/kg
Benzo(a)pyrene	N.D.	N.D.	0.2 mg/kg
Benzo(e)pyrene	N.D.	N.D.	0.2 mg/kg
Dibenzo(a,h)anthracene	N.D.	N.D.	0.2 mg/kg
Benzo(g,h,i)perylene	N.D.	N.D.	0.2 mg/kg
Indenol(1,2,3-cd)pyrene	N.D.	N.D.	0.2 mg/kg
Acenaphthene <sup>#</sup>	N.D.	N.D.	0.2 mg/kg
Fluorene <sup>#</sup>	N.D.	N.D.	0.2 mg/kg
Acenaphthylene <sup>#</sup>	N.D.	N.D.	0.2 mg/kg

Tested Item(s)	Result		MDL	Client's limit
	001	002		
Tetrabromobisphenol A (TBBP-A)	N.D.	N.D.	5 mg/kg	1000 mg/kg

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Tested Item(s)	Result		MDL	Client's limit
	001	002		
Red phosphorus <sup>#</sup>	N.D.	N.D.	500 mg/kg	N.D.

**Sample/Part Description**

001 White plastic

002 Translucent solid

**Remark:** -MDL = Method Detection Limit

-N.D. = Not Detected (&lt;MDL)

-mg/kg = ppm = parts per million

-<sup>①</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.

-\* = The test result of the item is converted from the test result of certain element.

**Note:** -<sup>#</sup>indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.

**-The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**

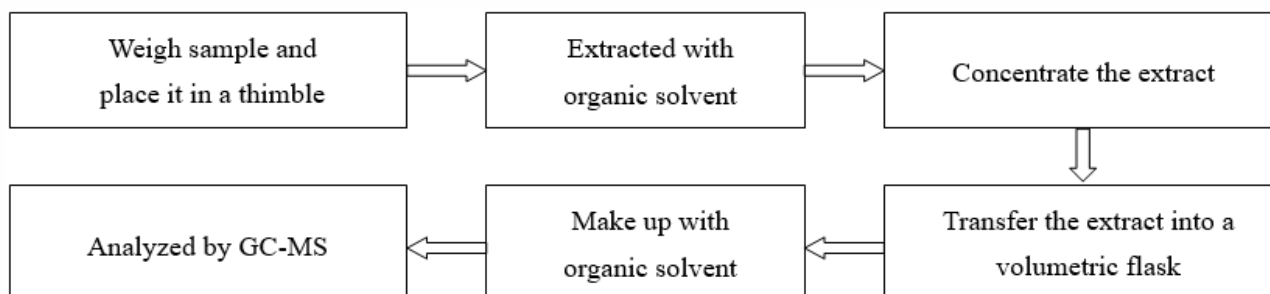
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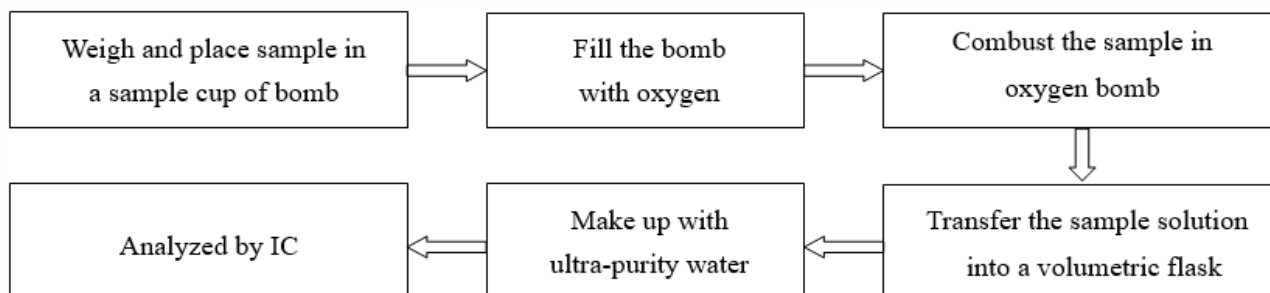
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## Test Process

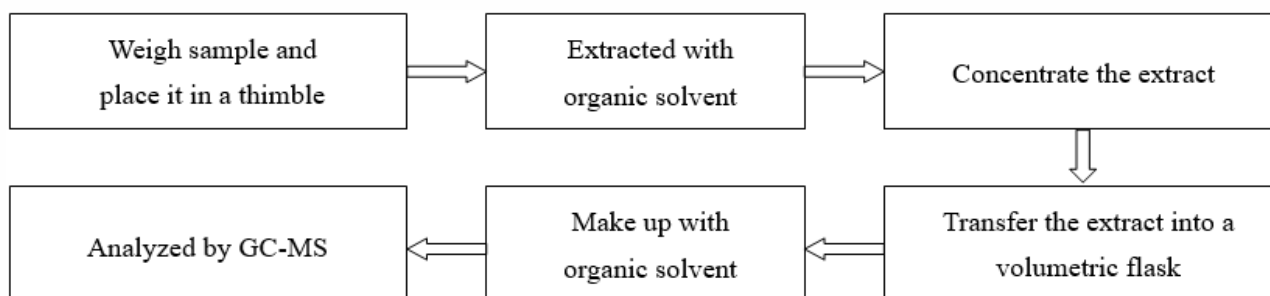
### 1. Hexabromocyclododecane (HBCDD)



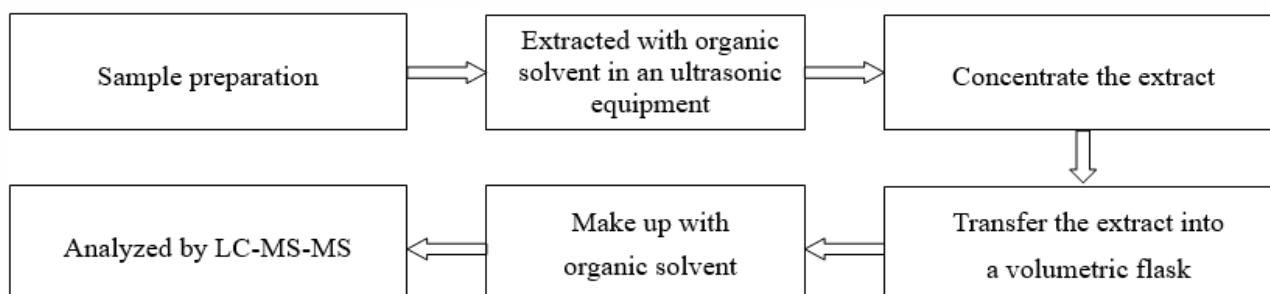
### 2. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



### 3. Dimethyl fumarate (DMF)



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



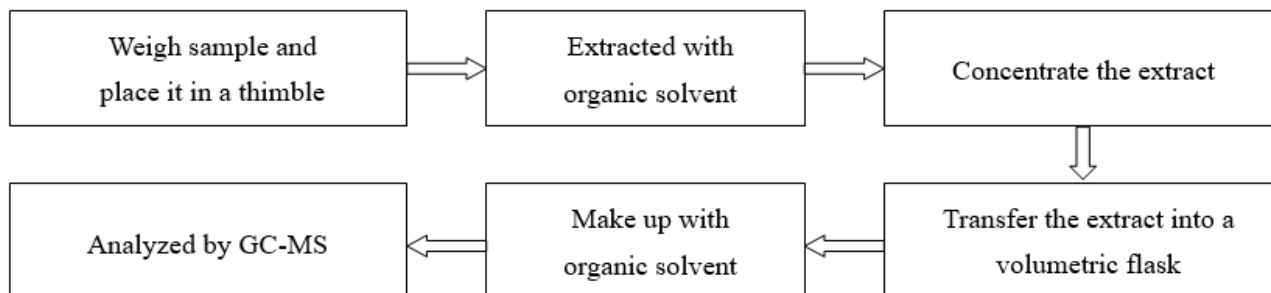


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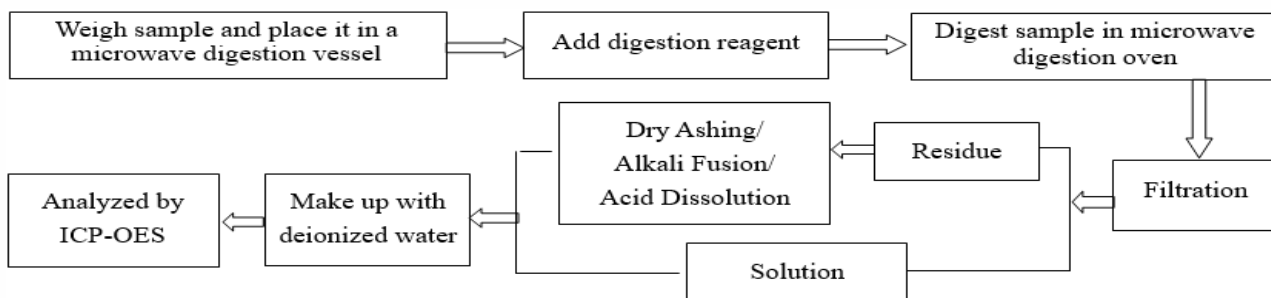
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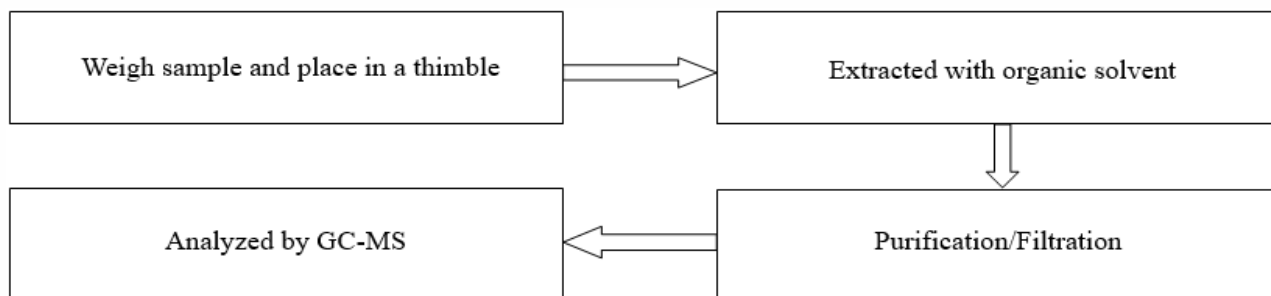
## 5. Phthalates



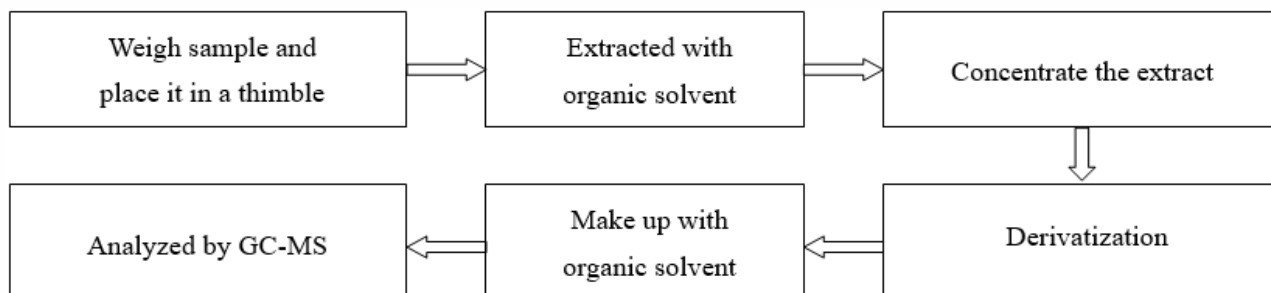
## 6. Antimony trioxide (Sb<sub>2</sub>O<sub>3</sub>)



## 7. Polycyclic Aromatic Hydrocarbons (PAHs)



## 8. Tetrabromobisphenol A (TBBP-A)

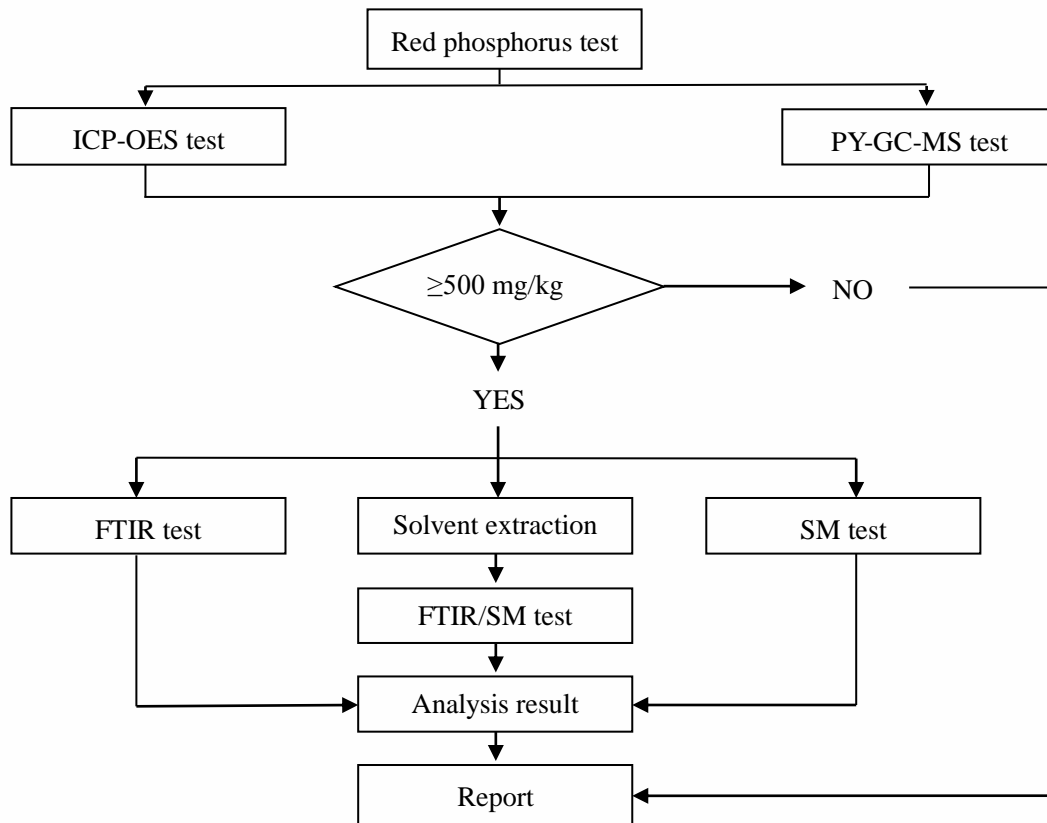


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## 9. Red phosphorus



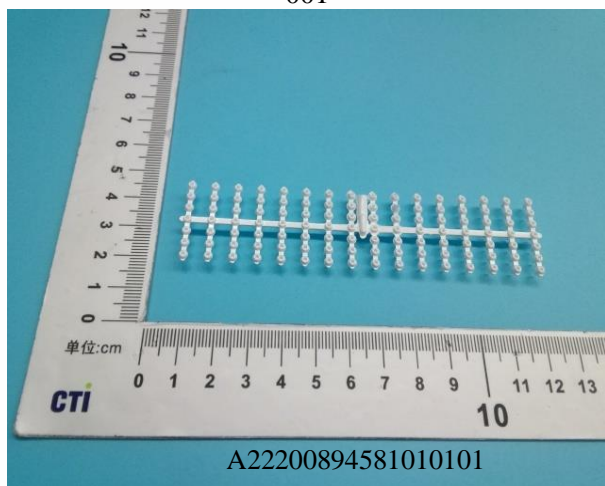
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## Photo(s) of the sample(s)

001



002



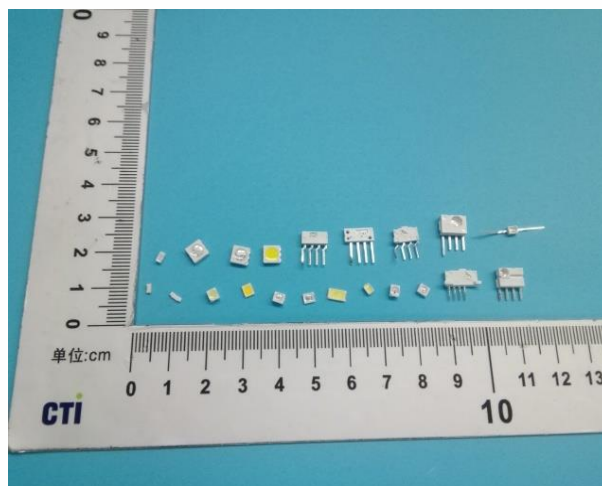
### Statement:

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)



#### 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 A22200894581010101.