

## Test Report

No.: CANEC24021252901

Date: Oct 09, 2024

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Client Name: GUANGZHOU TIANXIN PHOTOELECTRIC CO.,LTD

Client Address: #15-1 JINGU ROAD SOUTH,XIUTANG,HUADONG TOWN,HUADU DISTRICT,GUANGZHOU

Sample Name: Multi-color SMD LED

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

SGS Job No.: GZP24-031628

Sample Receiving Date: Sep 24, 2024

Testing Period: Sep 24, 2024 ~ Sep 29, 2024

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 (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass

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

Jany Zhong

Jany Zhong  
Approved Signatory

scan to see the report



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**Test Result(s):**

Test Part Description

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN24-0212529-0001.C001	Colorless transparent glass
SN2	A2	CAN24-0212529-0001.C002	Light grey sheet w/ copper-colored surface & chip, multi-color dot
SN3	A3	CAN24-0212529-0001.C003	Colorless transparent glass
SN4	A4	CAN24-0212529-0001.C004	Light grey sheet w/ copper-colored surface & chip, multi-color dot
SN5	A5	CAN24-0212529-0001.C005	Colorless transparent glass
SN6	A6	CAN24-0212529-0001.C006	Light grey sheet w/ copper-colored surface & chip, multi-color dot
SN7	A7	CAN24-0212529-0001.C007	White/yellow material w/chip
SN8	A8	CAN24-0212529-0001.C008	Copper colored 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 (PBB), Polybrominated diphenyl ethers (PBDE), 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 and IEC 62321-12:2023, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1	A2	A3
Lead (Pb)	1000	mg/kg	2	ND	10	ND
Mercury (Hg)	1000	mg/kg	2	ND	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND	ND	ND
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	25	ND	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	25	ND	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	25	ND	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	25	ND	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	25	ND	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	25	ND	ND	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	25	ND	ND	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	25	ND	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A1	A2	A3
Nonabrominated biphenyl (NonaBB)	-	mg/kg	25	ND	ND	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	25	ND	ND	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND	ND	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	25	ND	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	25	ND	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	25	ND	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	25	ND	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	25	ND	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	25	ND	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	25	ND	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND	ND	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	ND	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND	ND	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND	ND	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	ND	ND	ND

Test Item(s)	Limit	Unit(s)	MDL	A4	A5	A6
Lead (Pb)	1000	mg/kg	2	4	ND	4
Mercury (Hg)	1000	mg/kg	2	ND	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND	ND	ND
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	25	ND	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	25	ND	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	25	ND	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	25	ND	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	25	ND	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	25	ND	ND	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	25	ND	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A4	A5	A6
Octabrominated biphenyl (OctaBB)	-	mg/kg	25	ND	ND	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	25	ND	ND	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	25	ND	ND	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND	ND	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	25	ND	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	25	ND	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	25	ND	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	25	ND	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	25	ND	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	25	ND	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	25	ND	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND	ND	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	ND	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND	ND	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND	ND	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	ND	ND	ND

Test Item(s)	Limit	Unit(s)	MDL	A7	A8
Lead (Pb)	1000	mg/kg	2	ND	ND
Mercury (Hg)	1000	mg/kg	2	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND	ND
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	25	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	25	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	25	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	25	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	25	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	25	ND	ND

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Test Item(s)	Limit	Unit(s)	MDL	A7	A8
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	25	ND	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	25	ND	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	25	ND	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	25	ND	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	25	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	25	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	25	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	25	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	25	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	25	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	25	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	ND	ND

**Notes:**

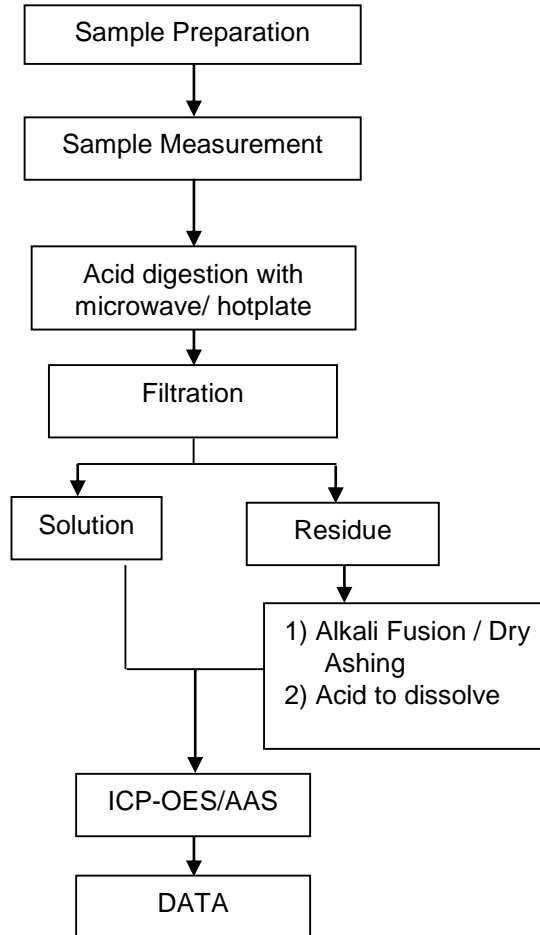
- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

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.

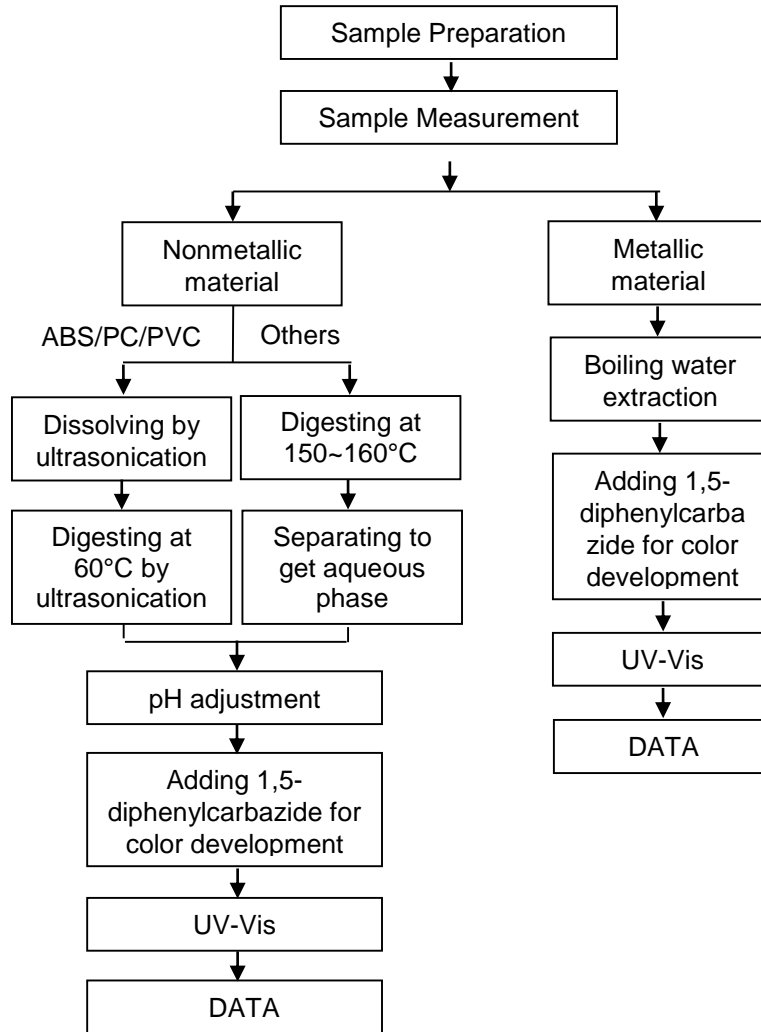


**Elements Testing Flow Chart**

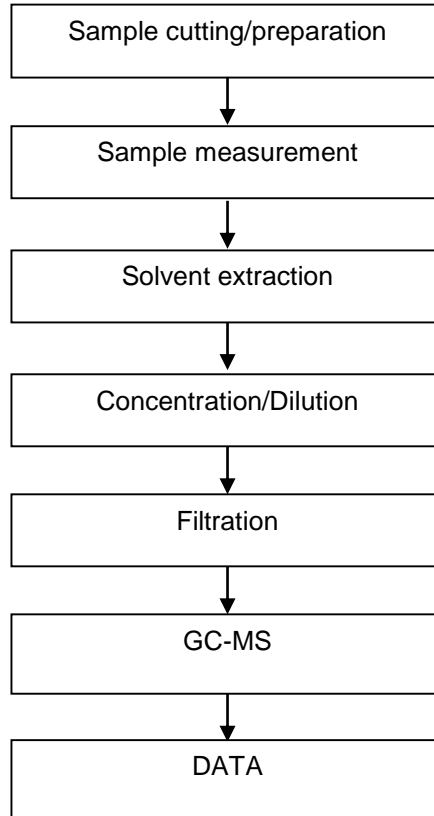
These samples were dissolved totally by pre-conditioning method according to below flow chart.



**Hexavalent Chromium (Cr(VI)) Testing Flow Chart**



### PBB/PBDE/Phthalates Testing Flow Chart





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Sample Photo:

