

Test Report

No.: CANEC24021252903

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: Ceramic encapsulated 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

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 | A9 | CAN24-0212529-0001.C009 | Colorless transparent soft material w/chip |
| SN2 | A10 | CAN24-0212529-0001.C010 | White sheet w/ silvery surface & chip, multi-color dot |
| SN3 | A11 | CAN24-0212529-0001.C011 | Colorless transparent soft material |
| SN4 | A12 | CAN24-0212529-0001.C012 | Light grey sheet w/ copper-colored surface & chip, multi-color dot |

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 | A9 | A10 | A11 |
|------------------------------------|-------|---------|-----|----|-----|-----|
| Lead (Pb) | 1000 | mg/kg | 2 | ND | ND | 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 |
| Nonabrominated biphenyl (NonaBB) | - | mg/kg | 25 | ND | ND | ND |
| Decabrominated biphenyl (DecaBB) | - | mg/kg | 25 | ND | ND | ND |

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| Test Item(s) | Limit | Unit(s) | MDL | A9 | A10 | A11 |
|---|-------|---------|-----|----|-----|-----|
| 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 | A12 |
|--------------------------------|-------|---------|-----|-----|
| Lead (Pb) | 1000 | mg/kg | 2 | ND |
| Mercury (Hg) | 1000 | mg/kg | 2 | ND |
| Cadmium (Cd) | 100 | mg/kg | 2 | ND |
| Hexavalent Chromium (Cr(VI)) | 1000 | mg/kg | 8 | ND |
| Polybrominated biphenyls (PBB) | 1000 | mg/kg | - | ND |

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| Test Item(s) | Limit | Unit(s) | MDL | A12 |
|---|-------|---------|-----|-----|
| Decabrominated biphenyl (DecaBB) | - | mg/kg | 25 | ND |
| Polybrominated diphenyl ethers (PBDE) | 1000 | mg/kg | - | ND |
| Monobrominated diphenyl ether (MonoBDE) | - | mg/kg | 25 | ND |
| Dibrominated diphenyl ether (DiBDE) | - | mg/kg | 25 | ND |
| Tribrominated diphenyl ether (TriBDE) | - | mg/kg | 25 | ND |
| Tetrabrominated diphenyl ether (TetraBDE) | - | mg/kg | 25 | ND |
| Pentabrominated diphenyl ether (PentaBDE) | - | mg/kg | 25 | ND |
| Hexabrominated diphenyl ether (HexaBDE) | - | mg/kg | 25 | ND |
| Heptabrominated diphenyl ether (HeptaBDE) | - | mg/kg | 25 | ND |
| Octabrominated diphenyl ether (OctaBDE) | - | mg/kg | 25 | ND |
| Nonabrominated diphenyl ether (NonaBDE) | - | mg/kg | 25 | ND |
| Decabrominated diphenyl ether (DecaBDE) | - | mg/kg | 25 | ND |
| Di-2-Ethyl Hexyl Phthalate (DEHP) | 1000 | mg/kg | 50 | ND |
| Benzyl Butyl Phthalate (BBP) | 1000 | mg/kg | 50 | ND |
| Dibutyl Phthalate (DBP) | 1000 | mg/kg | 50 | ND |
| Diisobutyl Phthalate (DIBP) | 1000 | mg/kg | 50 | ND |

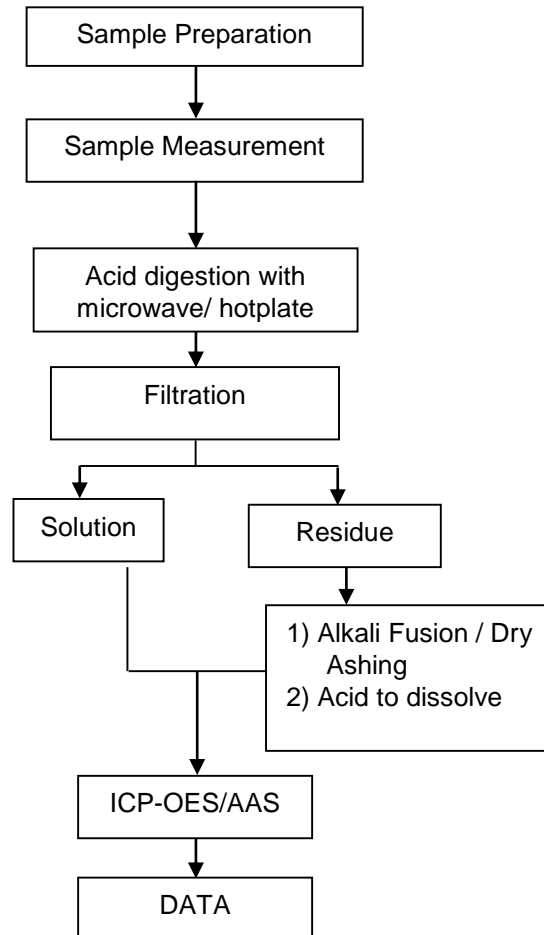
Notes:

- (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.

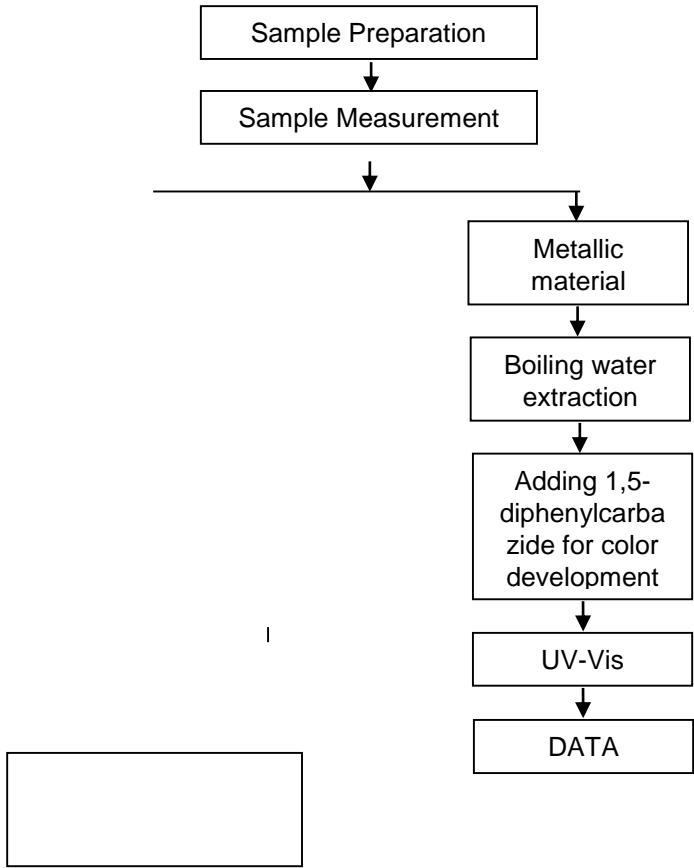
Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ($w=0$) stated in ILAC-G8:09/2019.

Elements Testing Flow Chart

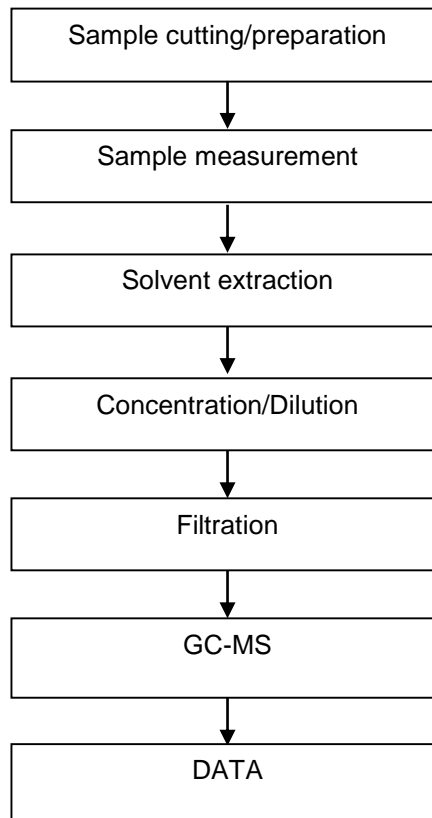
These samples were dissolved totally by pre-conditioning method according to below flow chart.



Hexavalent Chromium (Cr(VI)) Testing Flow Chart



PBB/PBDE/Phthalates Testing Flow Chart





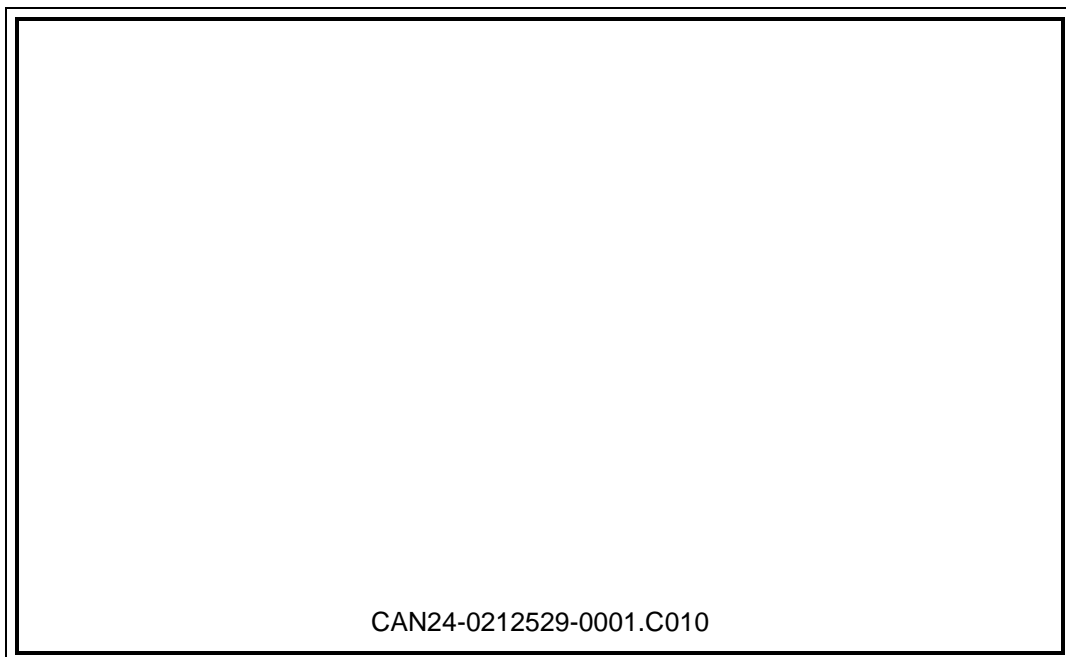
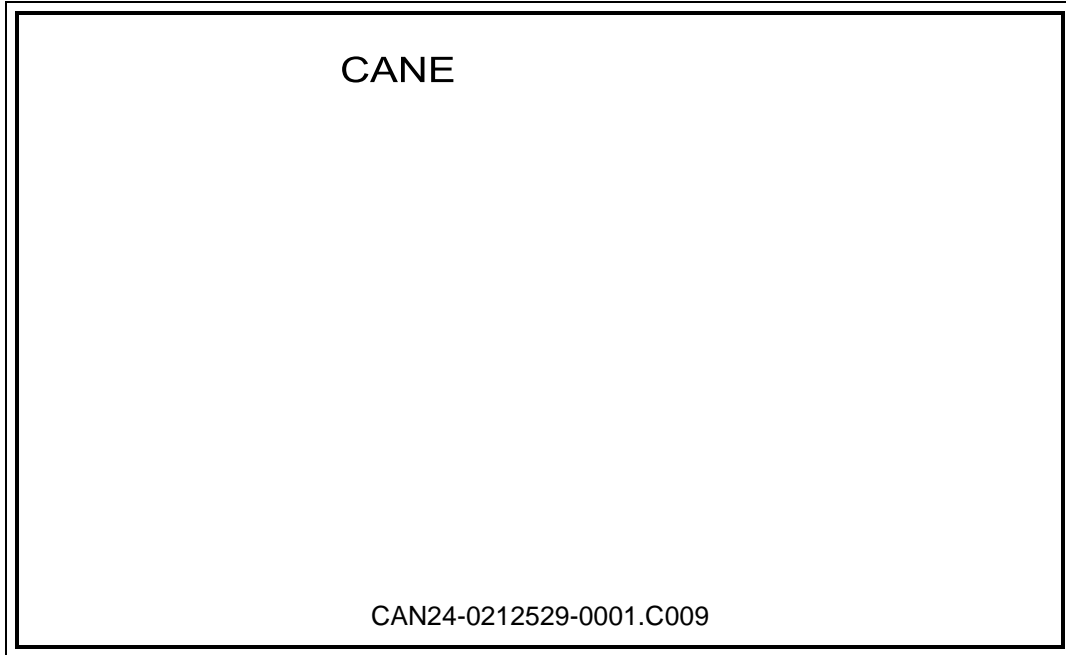
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Sample Photo:



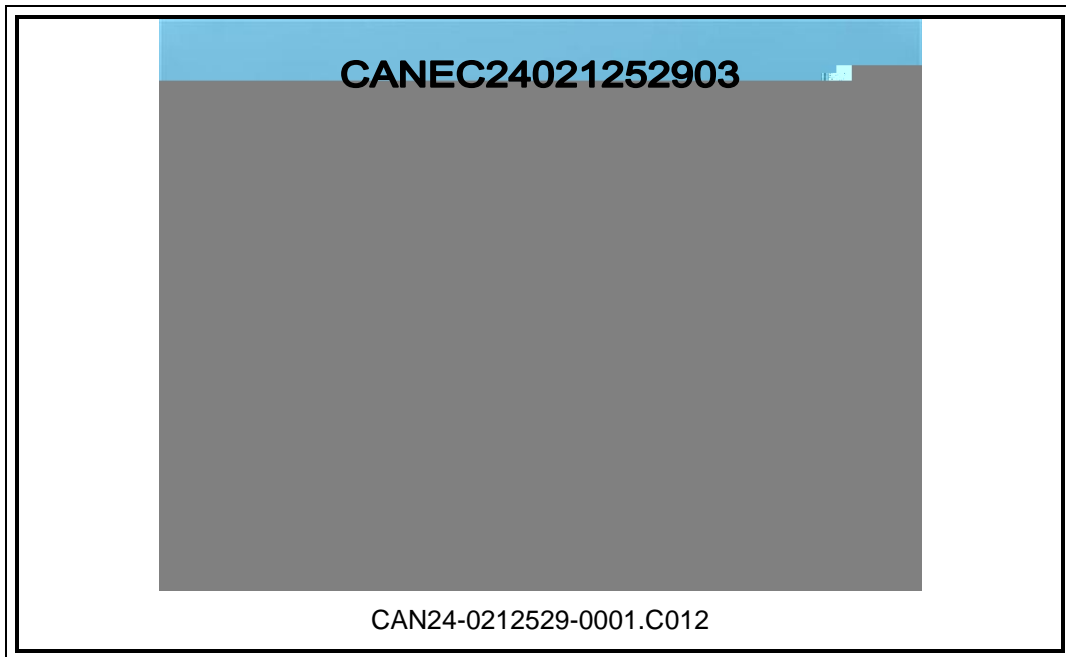
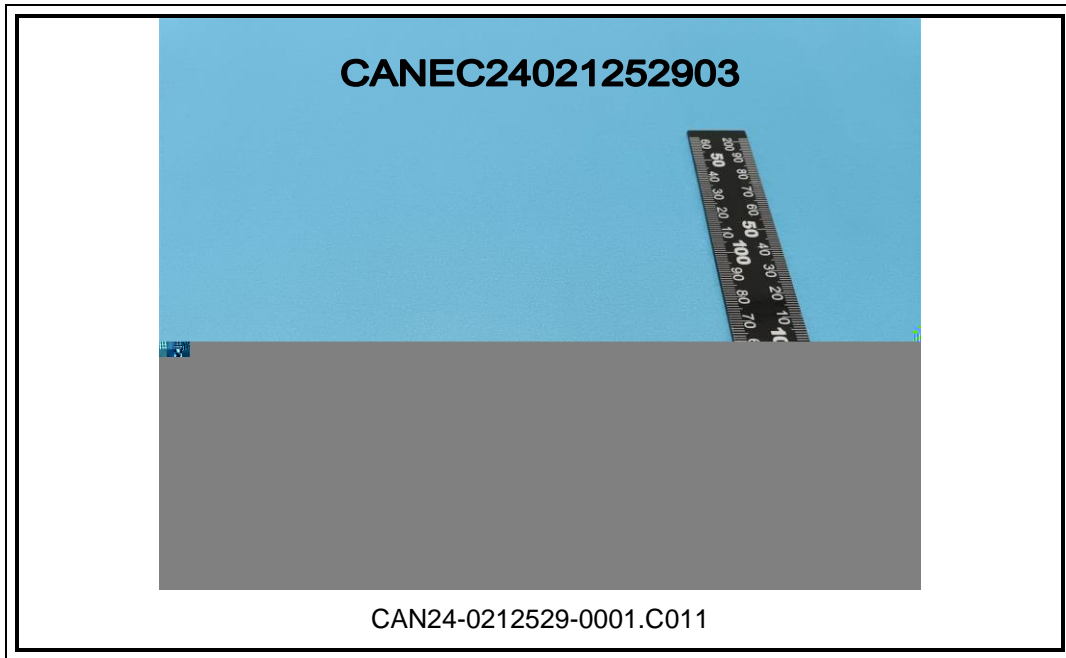
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*** End of Report ***