# Test Report

**No.:** CKGEC24000015101 **Date:** Jan 31, 2024 

Client Name: UNISEM CHENGDU CO., LTD.

Client Address: NO,8-2 KEXIN ROAD ,WEST PARK OF CHENGDU HI-TECH ZONE,611731 SICHUAN, PR CHINA.

Sample Name: Flip Chip Package

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

---

SGS Job No.: CQP24-000866

Sample Receiving Date: Jan 26, 2024

Testing Period: Jan 26, 2024 ~ Jan 31, 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 |
| Halogen | See Results |

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Chongqing) Co., Ltd.

Mary Zou
Approved Signatory

scan to see the report

BC48E984

**Test Result(s):**

Test Part Description

| SN ID | Sample No. | SGS Sample ID | Description |
|---|---|---|---|
| SN1 | A1 | CKG24-0000151-0001.C001 | "Flip Chip Package" |

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-

| Test Item(s) | Limit | Unit(s) | MDL | A1 |
|---|---|---|---|---|
| Octabrominated diphenyl ether (OctaBDE) | - | mg/kg | 5 | ND |
| Nonabrominated diphenyl ether (NonaBDE) | - | mg/kg | 5 | ND |
| Decabrominated diphenyl ether (DecaBDE) | - | mg/kg | 5 | ND |
| Bis(2-ethylhexyl) phthalate (DEHP) | 1000 | mg/kg | 50 | ND |
| Butyl benzyl 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.

**Halogen**

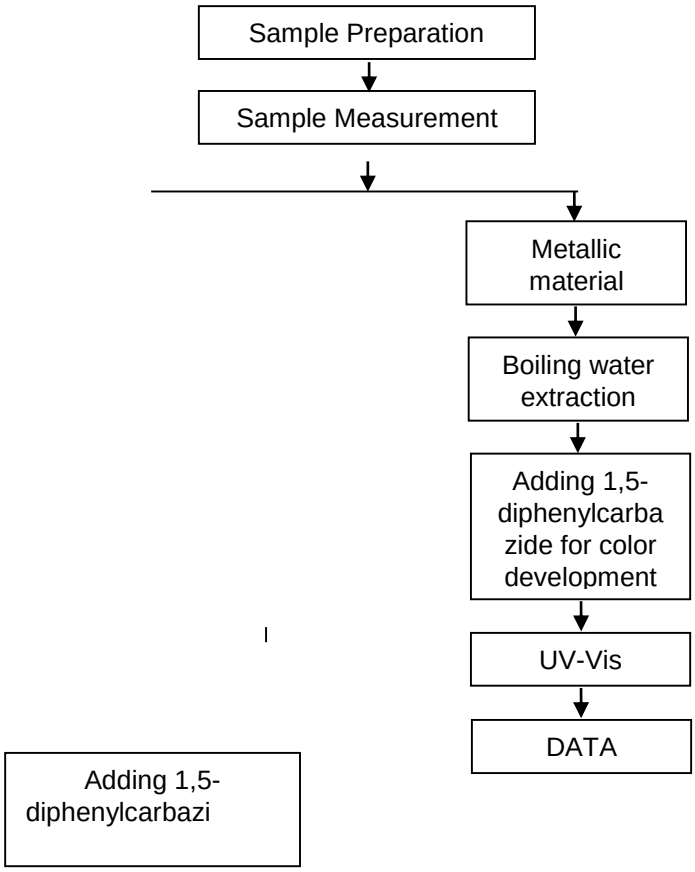
Test Method: With reference to EN 14582:2016, analysis was performed by IC.

| Test Item(s) | Unit(s) | MDL | A1 |
|---|---|---|---|
| Fluorine(F) | mg/kg | 20 | ND |
| Chlorine(Cl) | mg/kg | 50 | ND |

**Test Report** **No.:** CKGEC24000015101 **Date:**

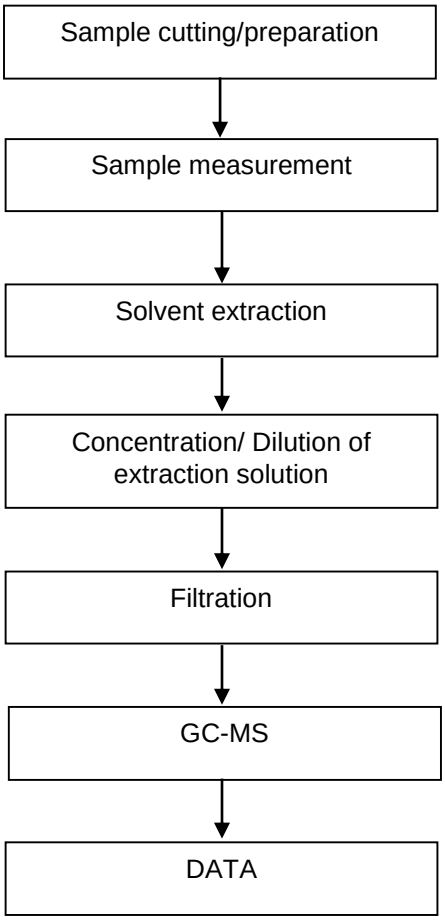
**ATTACHMENTS**

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



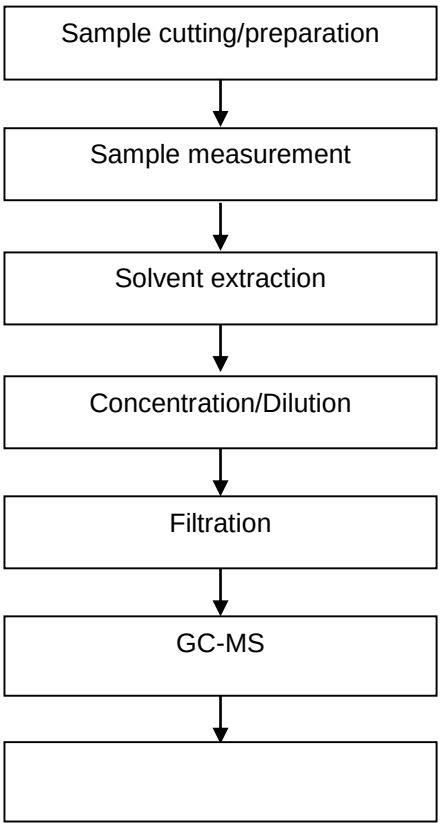
**ATTACHMENTS**

**PBB/PBDE Testing Flow Chart**



**ATTACHMENTS**

**Phthalates Testing Flow Chart**



**ATTACHMENTS**

**Halogen Testing Flow Chart**

# Test Report

**No.:** CKGEC24000015101 **Date:** Jan 31, 2024