

Test Report

No. SHAMLP1713041701

Date: 26 Jun 2017

Page 1 of 8

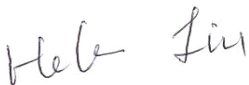
AEM Components (Suzhou)Co.,Ltd

461 Zhongnan Street, Suzhou Industrial Park, Jiangsu, P.R.C

The following sample(s) was/were submitted and identified on behalf of the clients as : Thin Film Fuses

SGS Job No. : SHIN1706035029PC - SH
Product Specification : FF,HI
Date of Sample Received : 21 Jun 2017
Testing Period : 21 Jun 2017 - 26 Jun 2017
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

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



Helen Liu
Approved Signatory



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Test Results :

Test Part Description :

| Specimen No. | SGS Sample ID | Description |
|--------------|------------------|---|
| SN1 | SHA17-130417.001 | Colorful solid piece+colorful solid piece |

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

- Test Method :
- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - (2) With reference to IEC 62321-5:2013, determination of Lead by AAS.
 - (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 - (4) With reference to IEC 62321-7-2:2017, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis and/or with reference to IEC 62321-5:2013, determination of Chromium by ICP-OES.
 - (5) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
 - (6) With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.

| Test Item(s) | Limit | Unit | MDL | 001 |
|------------------------------|-------|-------|-----|-----|
| Cadmium (Cd) | 100 | mg/kg | 2 | ND |
| Lead (Pb) | 1000 | mg/kg | 2 | ND |
| Mercury (Hg) | 1000 | mg/kg | 2 | ND |
| Hexavalent Chromium (Cr(VI)) | 1000 | mg/kg | 8 | ND |
| Sum of PBBs | 1000 | mg/kg | - | ND |
| Monobromobiphenyl | - | mg/kg | 5 | ND |
| Dibromobiphenyl | - | mg/kg | 5 | ND |
| Tribromobiphenyl | - | mg/kg | 5 | ND |
| Tetrabromobiphenyl | - | mg/kg | 5 | ND |
| Pentabromobiphenyl | - | mg/kg | 5 | ND |
| Hexabromobiphenyl | - | mg/kg | 5 | ND |
| Heptabromobiphenyl | - | mg/kg | 5 | ND |
| Octabromobiphenyl | - | mg/kg | 5 | ND |
| Nonabromobiphenyl | - | mg/kg | 5 | ND |
| Decabromobiphenyl | - | mg/kg | 5 | ND |



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| <u>Test Item(s)</u> | <u>Limit</u> | <u>Unit</u> | <u>MDL</u> | <u>001</u> |
|-----------------------------------|--------------|-------------|------------|------------|
| Sum of PBDEs | 1000 | mg/kg | - | ND |
| Monobromodiphenyl ether | - | mg/kg | 5 | ND |
| Dibromodiphenyl ether | - | mg/kg | 5 | ND |
| Tribromodiphenyl ether | - | mg/kg | 5 | ND |
| Tetrabromodiphenyl ether | - | mg/kg | 5 | ND |
| Pentabromodiphenyl ether | - | mg/kg | 5 | ND |
| Hexabromodiphenyl ether | - | mg/kg | 5 | ND |
| Heptabromodiphenyl ether | - | mg/kg | 5 | ND |
| Octabromodiphenyl ether | - | mg/kg | 5 | ND |
| Nonabromodiphenyl ether | - | mg/kg | 5 | ND |
| Decabromodiphenyl ether | - | mg/kg | 5 | ND |
| Di-butyl Phthalate (DBP) | 1000 | mg/kg | 50 | ND |
| Benzyl Butyl Phthalate (BBP) | 1000 | mg/kg | 50 | ND |
| Di-2-Ethyl Hexyl Phthalate (DEHP) | 1000 | mg/kg | 50 | ND |
| Diisobutyl Phthalates (DIBP) | 1000 | mg/kg | 50 | ND |

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- (2) The result of Hexavalent Chromium (Cr(VI)) is deemed to be "ND" since the result of total chromium content is "ND", so testing of Hexavalent Chromium (Cr(VI)) is not required.
- (3) If the Chromium (Cr) content is greater than the MDL of Hexavalent Chromium (Cr(VI)), confirmation test of Hexavalent Chromium (Cr(VI)) is required.
- (4) On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the Rohs Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.
- (5) 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.
- (6) The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.
- (7) The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

Halogen



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Test Method : With reference to EN 14582: 2007, analysis was performed by Ion Chromatograph (IC).

| <u>Test Item(s)</u> | <u>Unit</u> | <u>MDL</u> | <u>001</u> |
|---------------------|-------------|------------|------------|
| Fluorine (F) | mg/kg | 50 | 736 |
| Chlorine (Cl) | mg/kg | 50 | ND |
| Bromine (Br) | mg/kg | 50 | ND |
| Iodine (I) | mg/kg | 50 | ND |



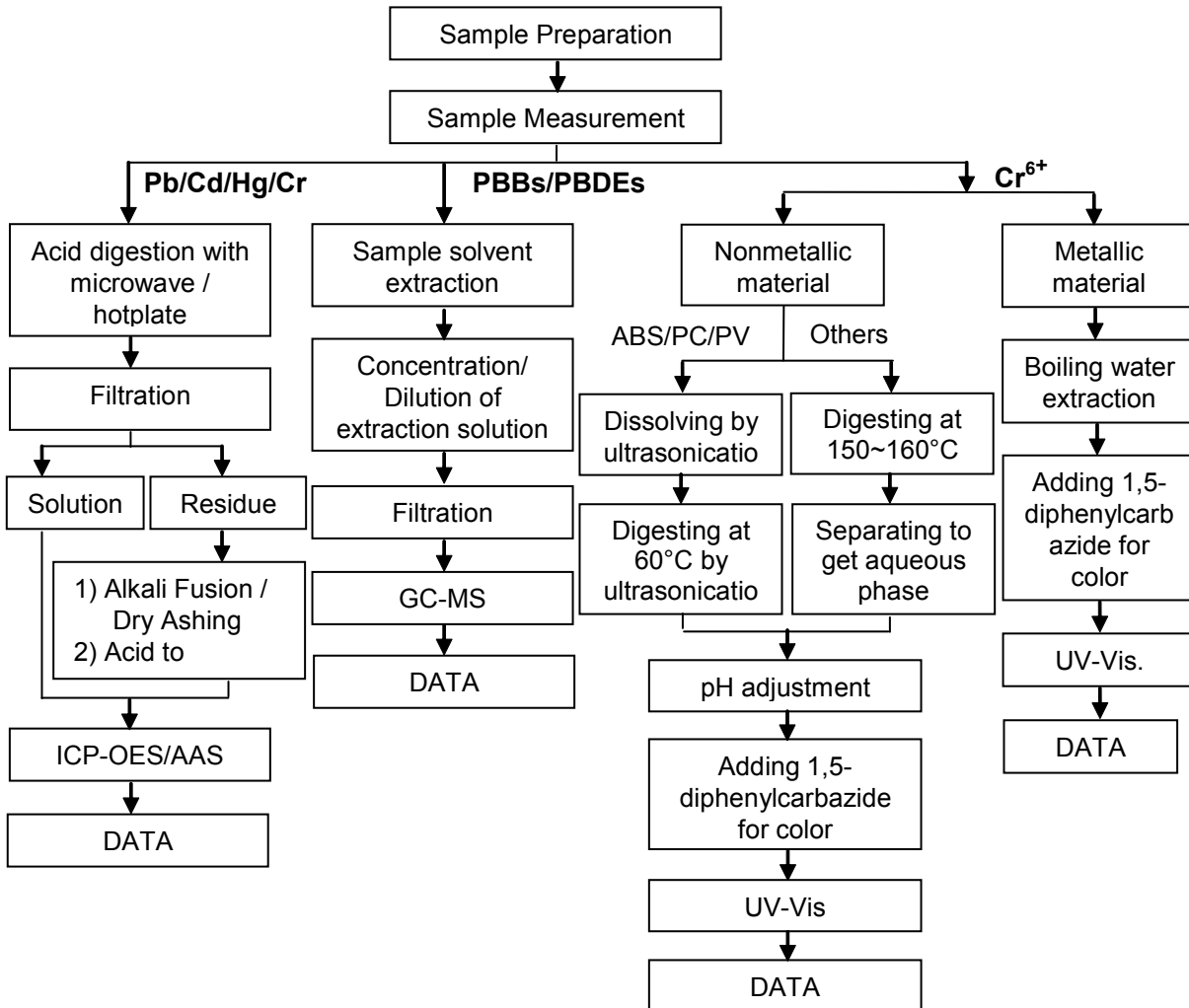
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Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

- 1) Name of the person who made testing: Meria Jin/Gary Xu/Sean Li/Sielina Song
- 2) Name of the person in charge of testing: Jan Shi/Jessy Huang/Luna Xu/Shara Wang
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



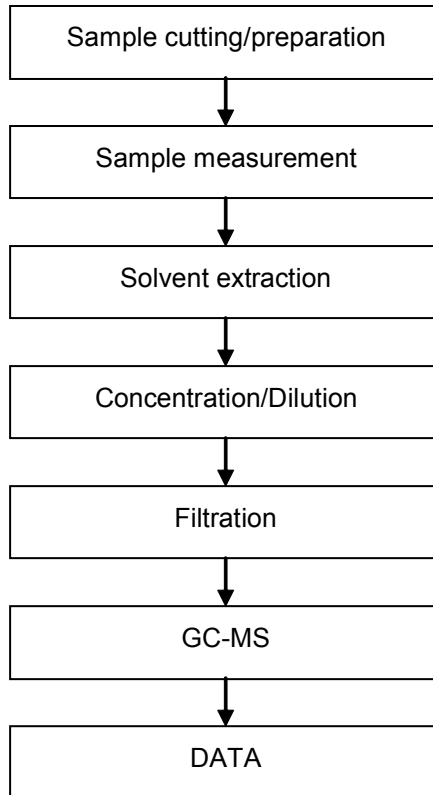
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Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Sherlock Gao
- 2) Name of the person in charge of testing: Jessy Huang



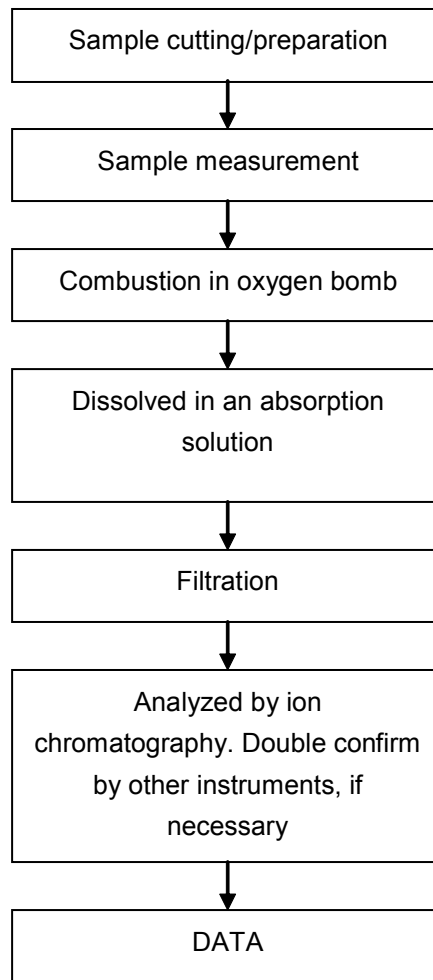
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Halogen Testing (oxygen bomb) Flow Chart

- 1) Name of the person who made testing: Kevin Xu
- 2) Name of the person in charge of testing: Sisily Yin



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