

Test Report

No. SZXEC1900717816 A01

Date: 08 May 2019

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SHENZHENSHI HOPE MICROELECTRONICS CO.,LTD.

2/F,BUILDING3,PINGSHAN PRIVATE ENTERPRISE SCIENCE AND TECHNOLOGY PARK,XILI TOWN,NANSHAN DISTRICT,SHENZHEN CHINA

This report is to supersede test report SZXEC1900717807

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

SGS Job No. : RP19-007064 - SZ
Model No. : SOT23
Client Ref. Info. : SOT23、SOT232、SOT223、SOT89、TO92、SOT143、SOT523
TO220、TO220F、TO-251、TO252、TO-92L、SOT23-6
SOT89-5、SOP-8、SOT23-5
Date of Sample Received : 11 Apr 2019
Testing Period : 11 Apr 2019 - 18 Apr 2019
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 Co., Ltd. Shenzhen Branch



Sunny Nie
Approved Signatory



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Test Results :

Test Part Description :

| Specimen No. | SGS Sample ID | Description |
|--------------|------------------|---------------|
| SN1 | SZX19-007178.007 | "Transistor " |

Remarks :

- (1) 1 mg/kg = 1 ppm = 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 : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

| Test Item(s) | Limit | Unit | MDL | 007 |
|------------------------------|-------|-------|-----|-----|
| Cadmium (Cd) | 100 | mg/kg | 2 | ND |
| Lead (Pb) | 1,000 | mg/kg | 2 | ND |
| Mercury (Hg) | 1,000 | mg/kg | 2 | ND |
| Hexavalent Chromium (Cr(VI)) | 1,000 | mg/kg | 8 | ND |
| Sum of PBBs | 1,000 | 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 |
| Sum of PBDEs | 1,000 | 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 |



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| <u>Test Item(s)</u> | <u>Limit</u> | <u>Unit</u> | <u>MDL</u> | <u>007</u> |
|------------------------------------|--------------|-------------|------------|------------|
| 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 |
| Dibutyl Phthalate (DBP) | 1000 | mg/kg | 50 | ND |
| Butyl benzyl Phthalate (BBP) | 1000 | mg/kg | 50 | ND |
| Bis(2-ethylhexyl) Phthalate (DEHP) | 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.

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



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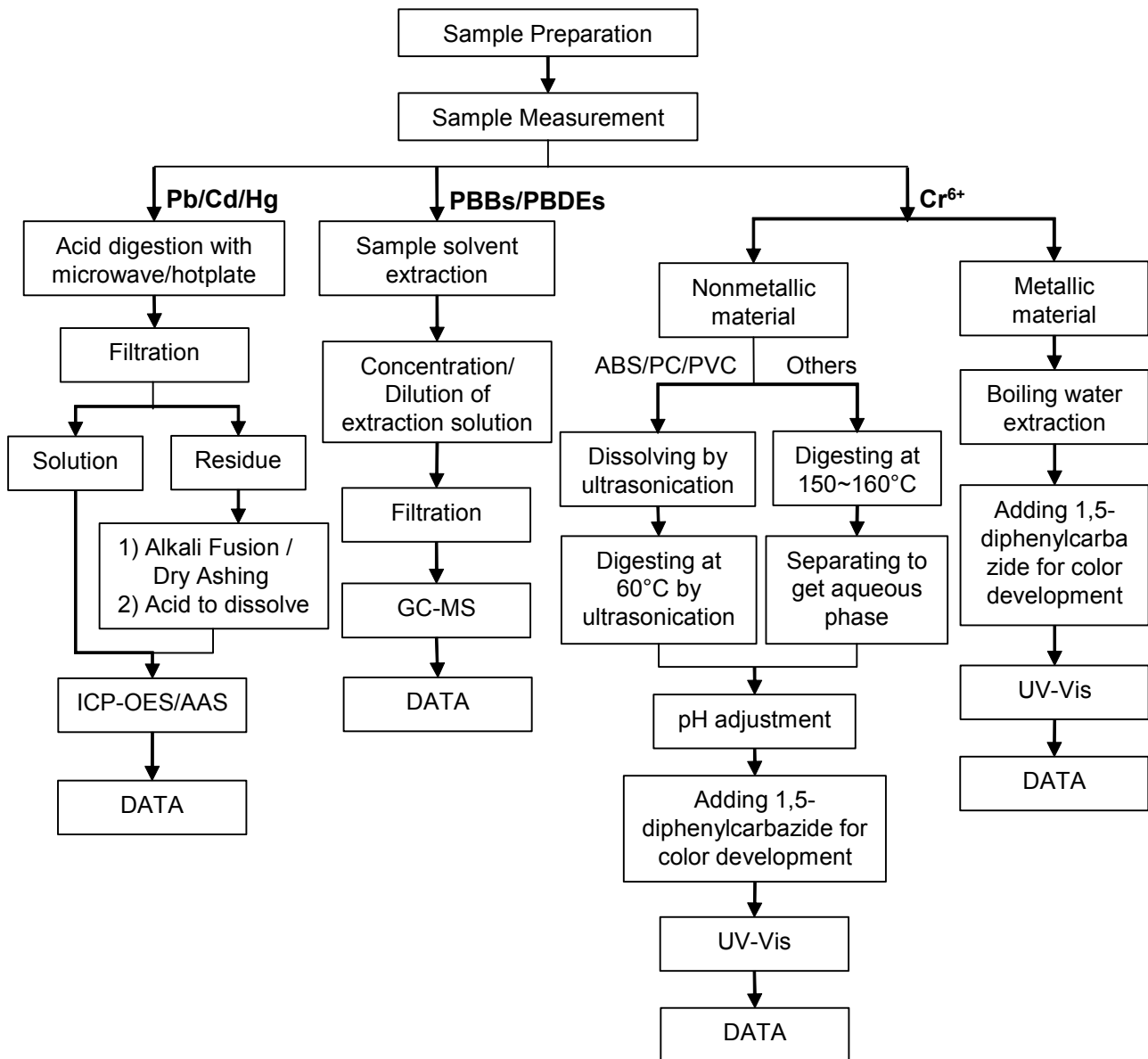
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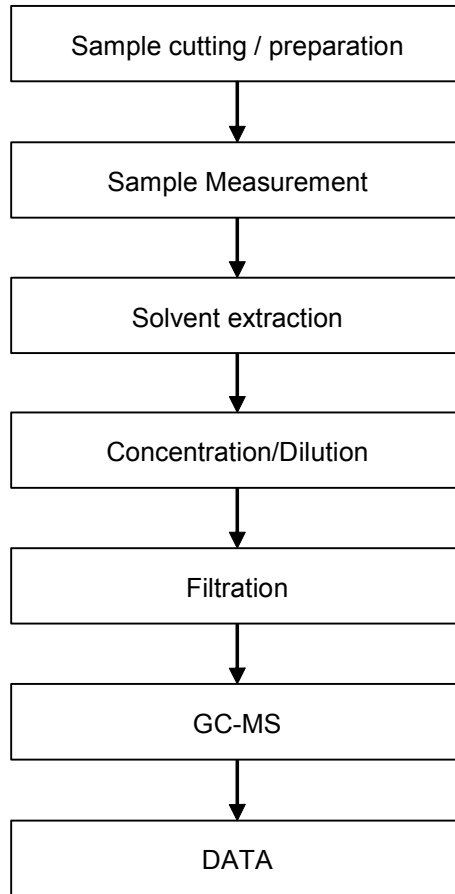
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) 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



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