

## Test Report

No. SHAEC1714491501

Date: 10 Jul 2017

Page 1 of 7

SHANGHAI LIAN RUI INDUSTRIAL CO.,LTD.

SHANGHAI CITY,PUDONG NEW AREA NEW TOWN NEW FENG ROAD NO.811

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

SGS Job No. : SP17-023963 - SH

Date of Sample Received : 06 Jul 2017

Testing Period : 06 Jul 2017 - 10 Jul 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).

Conclusion : Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) do not exceed the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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

Marry Ma

Marry Ma  
Approved Signatory



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Page 2 of 7

Test Results :

### Test Part Description :

| Specimen No. | SGS Sample ID    | Description |
|--------------|------------------|-------------|
| SN1          | SHA17-144915.001 | White solid |

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 ICP-OES.
  - (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.

| 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  |
| Sum of PBDEs                 | 1000  | mg/kg | -   | ND  |



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## Test Report

No. SHAEC1714491501

Date: 10 Jul 2017

Page 3 of 7

| Test Item(s)             | Limit | Unit  | MDL | 001 |
|--------------------------|-------|-------|-----|-----|
| 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  |

### 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](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

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



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## Test Report

No. SHAEC1714491501

Date: 10 Jul 2017

Page 4 of 7

| <u>Test Item(s)</u> | <u>Unit</u> | <u>MDL</u> | <u>001</u> |
|---------------------|-------------|------------|------------|
| Fluorine (F)        | mg/kg       | 50         | ND         |
| Chlorine (Cl)       | mg/kg       | 50         | 84         |
| Bromine (Br)        | mg/kg       | 50         | ND         |
| Iodine (I)          | mg/kg       | 50         | ND         |



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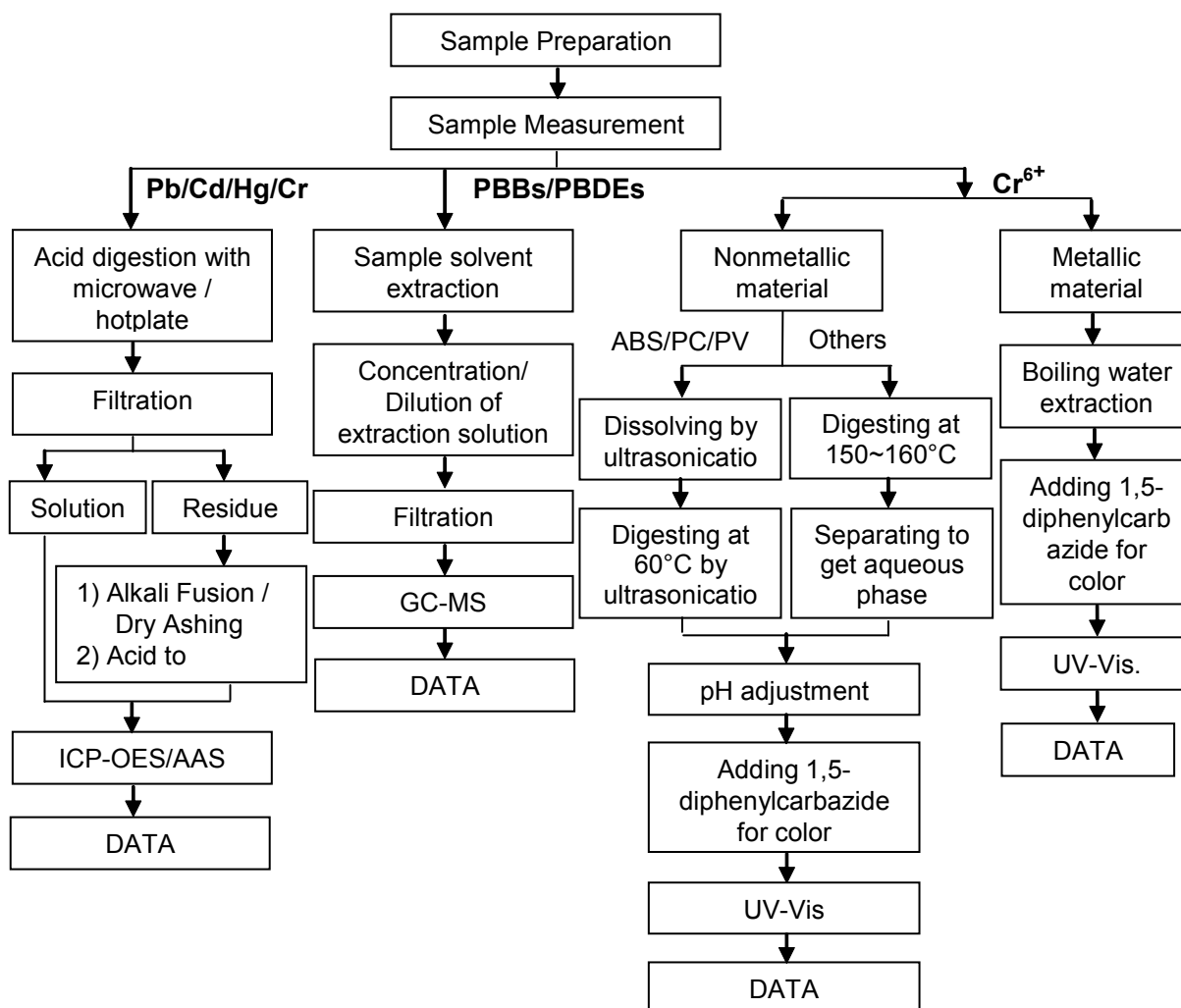
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### ATTACHMENTS

### Pb/Cd/Hg/Cr<sup>6+</sup>/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. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded)



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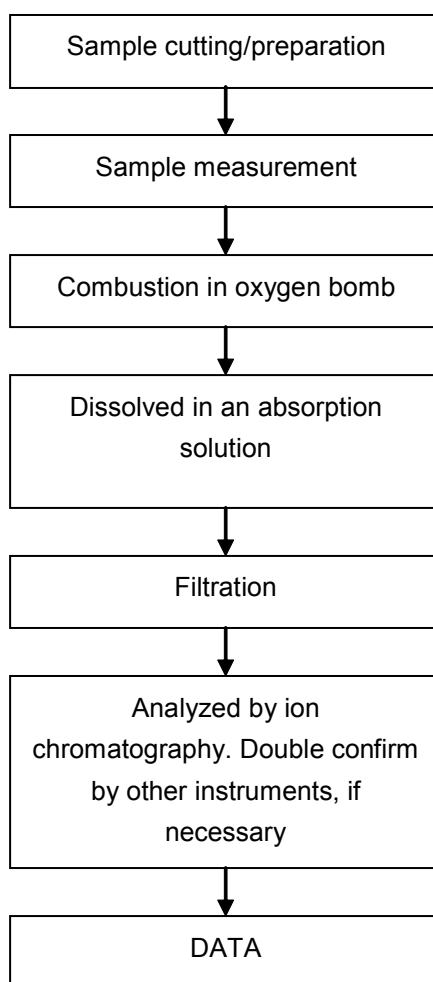
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## ATTACHMENTS

### 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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No. SHAEC1714491501

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Page 7 of 7

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