

## Test Report

No. SZXEC1800422001

Date: 03 Apr 2018

Page 1 of 5

SHENZHEN JUFENG SOLDER CO., LTD

1/F,BLDG.12, JINPENG INDUSTRIAL ZONE,JIHUA ROAD,BANTIAN STREET, LONGGANG DISTRICT, SHENZHEN

The following sample(s) was/were submitted and identified on behalf of the clients as : LEAD-FREE SOLDER BAR

SGS Job No. : RP18-003980 - SZ

Date of Sample Received : 29 Mar 2018

Testing Period : 29 Mar 2018 - 03 Apr 2018

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 Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) comply with 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 Co., Ltd. Shenzhen Branch

Tina

Tina Fan  
Approved Signatory



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Testing Center Chemical Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS Bldg, No.3, Jiangheo Industrial Park, No.430, Jinhua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgs.com  
中国·深圳·龙岗区坂田吉华路430号江灏工业园3栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com

Test Results :

Test Part Description :

| Specimen No. | SGS Sample ID    | Description   |
|--------------|------------------|---------------|
| SN1          | SZX18-004220.001 | Silvery metal |

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, IEC 62321-7-1:2015, IEC 62321-6:2015, analyzed by ICP-OES, UV-Vis and GC-MS.

| <u>Test Item(s)</u>           | <u>Limit</u> | <u>Unit</u>        | <u>MDL</u> | <u>001</u> |
|-------------------------------|--------------|--------------------|------------|------------|
| Cadmium (Cd)                  | 100          | mg/kg              | 2          | ND         |
| Lead (Pb)                     | 1,000        | mg/kg              | 2          | 31         |
| Mercury (Hg)                  | 1,000        | mg/kg              | 2          | ND         |
| Hexavalent Chromium (Cr(VI))▼ | -            | µg/cm <sup>2</sup> | 0.10       | 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         |



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

# Test Report

No. SZXEC1800422001

Date: 03 Apr 2018

Page 3 of 5

| <u>Test Item(s)</u>      | <u>Limit</u> | <u>Unit</u> | <u>MDL</u> | <u>001</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         |

**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) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI
- b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating
- c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.



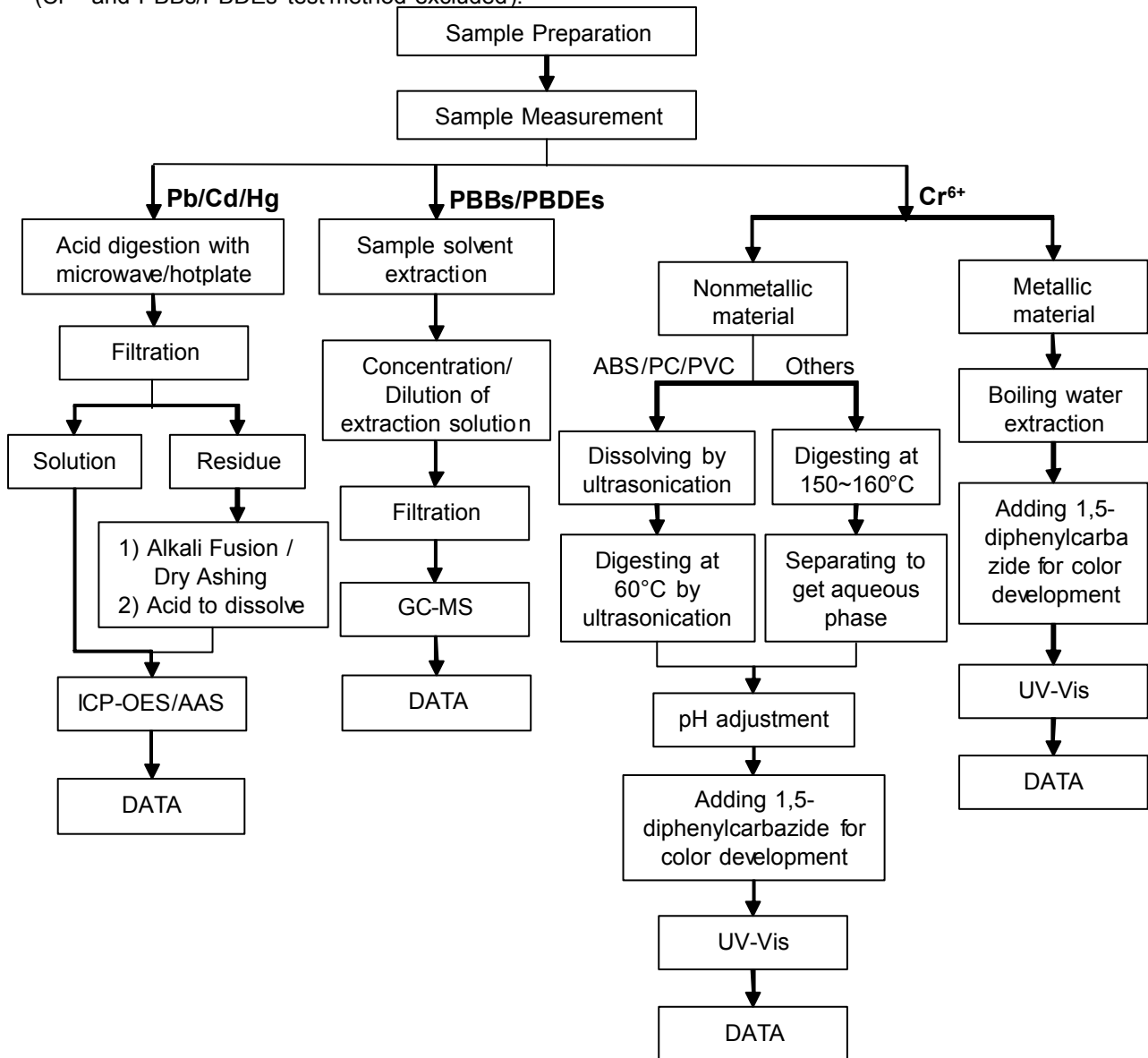
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

ATTACHMENTS

**Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart**

- 1) Name of the person who made testing: Winsen Deng / David Mai / Truly Ren
- 2) Name of the person in charge of testing: Zoe Luo / Roje Zhou / Muky Tong
- 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).



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Sample photo:



SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com