

Test Report

No. CANEC1300498707

Date: 16 Jan 2013

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SHENZHEN KAWADA METAL TECHNOLOGY CO.,LTD

LONGHUA TOWN, SHENZHEN CITY, GUANGDONG PROVINCE SCIENCE AND TECHNOLOGY ROAD
HEPING INDUSTRIAL PARK, BUILDING A, 3RD FLOOR

The following sample(s) was/were submitted and identified on behalf of the clients as : Environmentally friendly lead-free solder paste

SGS Job No. : CP13-001332 - SZ
Tested Sample Info. : KWD-LF9090-4A
Client Ref. Info. : KWD-LF9090-3A&3AX&3B&3BX&3M&3MX&3R&3RX&3H-T
4A&4AX&4BX&4M&4M&4MX&4R&4RX&4H-T
5A&5AX&5B&5BX&5M&5MX&5R&5RX&5H-T

Main Substance : Sn/Ag/Cu-X

Date of Sample Received : 10 Jan 2013

Testing Period : 10 Jan 2013 - 16 Jan 2013

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 samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.



Marco liang
Approved Signatory

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Test Results :

Test Part Description :

| Specimen No. | SGS Sample ID | Description |
|--------------|------------------|-------------|
| 1 | CAN13-004987.007 | Grey paste |

Remarks :

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

RoHS Directive 2011/65/EU

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs content by GC-MS.

| Test Item(s) | Limit | Unit | MDL | 007 |
|----------------------------|-------|-------|-----|-----|
| Cadmium (Cd) | 100 | mg/kg | 2 | ND |
| Lead (Pb) | 1,000 | mg/kg | 2 | 25 |
| Mercury (Hg) | 1,000 | mg/kg | 2 | ND |
| Hexavalent Chromium (CrVI) | 1,000 | mg/kg | 2 | 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 |

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| <u>Test Item(s)</u> | <u>Limit</u> | <u>Unit</u> | <u>MDL</u> | <u>007</u> |
|--------------------------|--------------|-------------|------------|------------|
| 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 directive 2011/65/EU, Annex II

Hexabromocyclododecane(HBCDD)

Test Method : Determination of HBCDD by GC-MS based on IEC 62321:2008.

| <u>Test Item(s)</u> | <u>Unit</u> | <u>MDL</u> | <u>007</u> |
|--------------------------------|-------------|------------|------------|
| Hexabromocyclododecane (HBCDD) | mg/kg | 10 | ND |

Notes :

- (1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Hexabromocyclododecane (HBCDD) is considered as a priority for risk evaluation and substance restriction.

Phthalata

Test Method : Determination of phthalates by GC-MS based on EN 14372:2004.

| <u>Test Item(s)</u> | <u>Unit</u> | <u>MDL</u> | <u>007</u> |
|-------------------------------------|-------------|------------|------------|
| Dibutyl Phthalate (DBP) | % (w/w) | 0.003 | ND |
| Benzylbutyl Phthalate (BBP) | % (w/w) | 0.003 | ND |
| Bis-(2-ethylhexyl) Phthalate (DEHP) | % (w/w) | 0.003 | ND |

Notes :

- (1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.

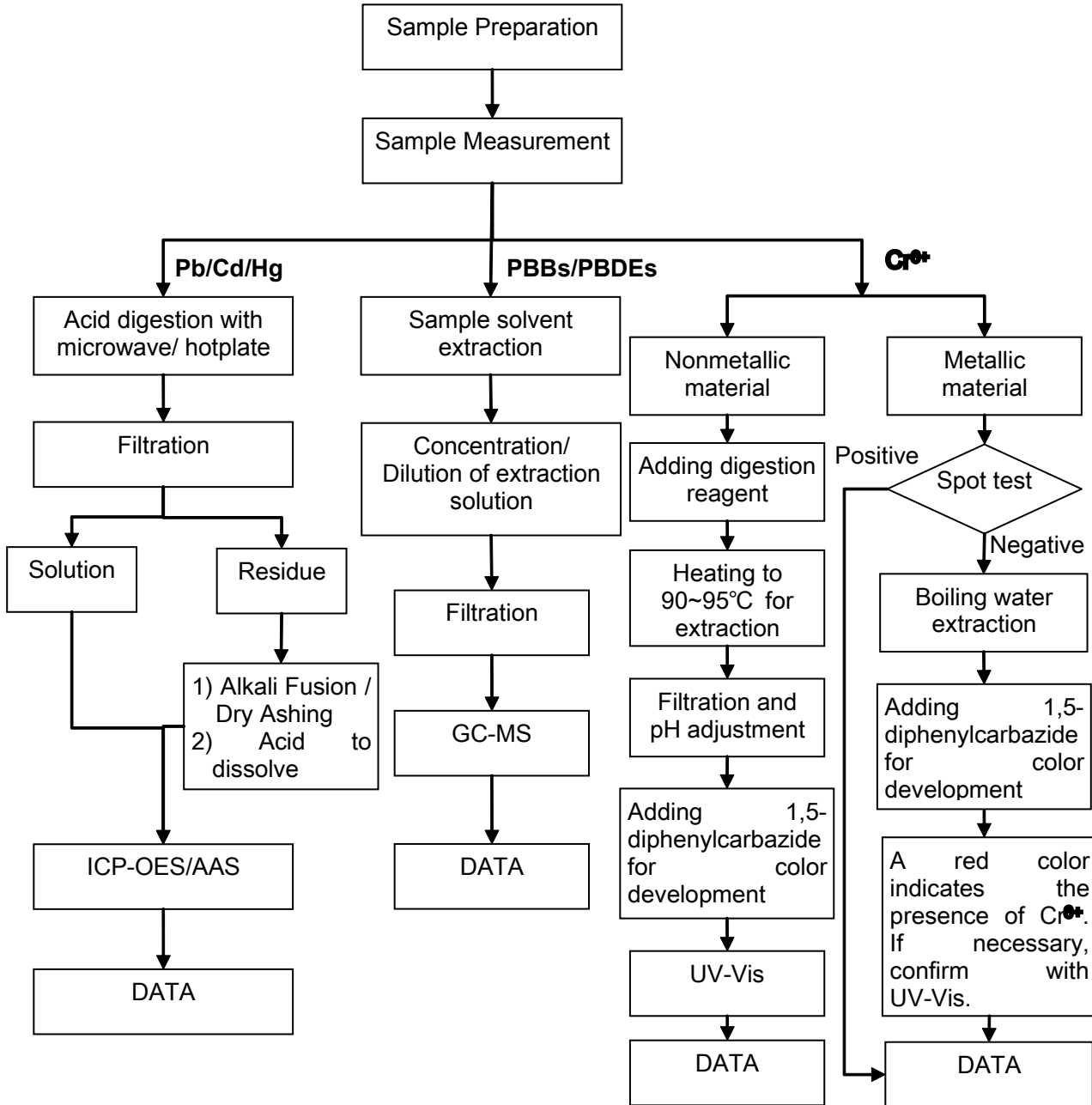
Remark: The result(s) shown is/are of the total weight of wet sample.

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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Michael Tso / Cutey Yu
- 2) Name of the person in charge of testing: Adams Yu / Yolanda Wei
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr⁶⁺ and PBBs/PBDEs test method excluded).

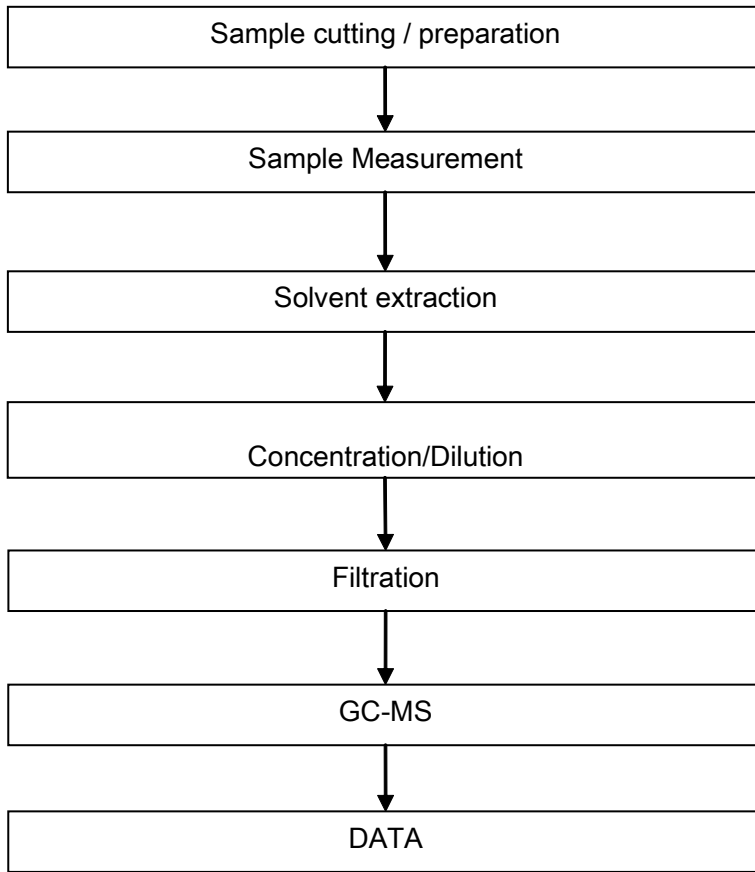


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ATTACHMENTS

Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Liu Qiong
- 2) Name of the person in charge of testing: Yolanda Wei



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