

No. CTSSA/07496/14 Date: 21/04/2014

CTS Ref. CTSSA/14/1136/Golden

Page: 1 of 8

GOLDEN WAY TECHNOLOGY SDN BHD 30, JALAN INDUSTRI PBP8, TAMAN INDUSTRI PUSAT BANDAR PUCHONG

47100 PUCHONG, SELANGOR

The following merchandise was (were) submitted and identified by the client as:

Sample Description : Cast Iron Pulley + Bush (1SPZ 85/1210x24mm)

Sample Receiving Date : 15/04/2014

Testing Period : 15/04/2014 to 21/04/2014

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).

Analysts : Cho Kar Yen, Tan Li Wei, Isabelle Chan Suet Yee & Tay Siam Pine

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CHÓNG KIEN LEN B.Sc.(HONS) AMIC SENIOR LAB MANAGER



Test Report No. CTSSA/07496/14 Date : 21/04/2014 Page: 2 of 8

CTS Ref. CTSSA/14/1136/Golden

Test results:

Test Part Description:

Sample Description : Cast Iron Pulley + Bush (1SPZ 85/1210x24mm)

RoHS Directive 2011/65/EU Annex II

| Test Item(s): | Unit | Test Method | Results | MDL |
|----------------------------|-------|---|---------|-----|
| Cadmium(Cd) | mg/kg | With reference to EPA Method 3051A, and performed by ICP-OES | N.D. | 2 |
| Lead (Pb) | mg/kg | With reference to EPA Method 3051A, and performed by ICP-OES | N.D. | 2 |
| Mercury (Hg) | mg/kg | With reference to EPA Method 3051A, and performed by ICP-OES | N.D. | 2 |
| Hexavalent Chromium (CrVI) | mg/kg | With reference to JIS H 8625, and performed by UV-VIS Spectrophotometry | N.D. | 2 |
| Sum of PBBs | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | - |
| Monobromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Dibromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Tribromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Tetrabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Pentabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Hexabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Heptabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Octabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Nonabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Decabromobiphenyl | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |

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No. CTSSA/07496/14 Date: 21/04/2014 CTS Ref. CTSSA/14/1136/Golden

Page: 3 of 8

| Sum of PBDEs | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | - |
|--------------------------|-------|--|------|---|
| Monobromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Dibromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Tribromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Tetrabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Pentabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Hexabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Heptabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Octabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Nonabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |
| Decabromodiphenyl ether | mg/kg | With reference to EPA Method 3540C/3550C, and performed by GC-MS | N.D. | 5 |

Note: (a) mg/kg = ppm; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) - = Not regulated

(e) The above results are based on composite testing as requested by client

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No. CTSSA/07496/14

Date: 21/04/2014

Page: 4 of 8

CTS Ref. CTSSA/14/1136/Golden

Test result:

Test Part Description:

Sample Description Cast Iron Pulley + Bush (1SPZ 85/1210x24mm)

Optional: RoHS Directive 2011/65/EU, priority substances

| Test Item(s): | Unit | Test Method | Results | MDL | <u>Limit</u> |
|-------------------------------------|-------|--|---------|-----|--------------|
| Hexabromocyclododecane (HBCDD) | mg/kg | Based on IEC 62321:2008 (Determination of HBCDD by GC-MS) | N.D. | 10 | - |
| Bis (2-ethylhexyl) phthalate (DEHP) | mg/kg | Based on EN 14372:2004 (Determination of DEHP by GC-MS) | N.D. | 30 | - |
| Butyl benzyl phthalate (BBP) | mg/kg | Based on EN 14372:2004 (Determination of BBP by GC-MS) | N.D. | 30 | - |
| Dibutyl phthalate (DBP) | mg/kg | Based on EN 14372:2004 (Determination of DBP by GC-MS) | N.D. | 30 | - |

Note:

- (a) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC: Hexabromocyclododecane (HBCDD), Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.
- (b) = not regulated
- (c) The above results are based on composite testing as requested by client

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No. CTSSA/07496/14 Date: 21/04/2014

CTS Ref. CTSSA/14/1136/Golden

Page: 5 of 8

Test Part Description:

Sample Description : Cast Iron Pulley + Bush (1SPZ 85/1210x24mm)

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No. CTSSA/07496/14

Page: 6 of 8

CTS Ref. CTSSA/14/1136/Golden

1. <u>DETERMINATION OF HEXAVALENT CHROMIUM</u> BY JIS H 8625

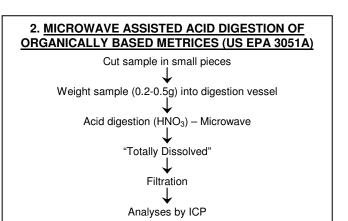
Sample Preparation

Hot water extraction

Add colour-developing reagent

Let stand for 5-10 min

Analyses by UV- Spectrophotometer (540 nm)



Date: 21/04/2014

3. DETERMINATION OF PBB/PBDE WITH GC-MS

Cut sample in small pieces

Weight sample (0.5-4g) into extraction thimble

Ultrasonic / Soxhlet Extraction with Toluene

Filter through 0.45 um membrane filter

Analyses by GC-MS (with appropriate dilution)

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No. CTSSA/07496/14

Date: 21/04/2014 CTS Ref. CTSSA/14/1136/Golden

Page: 7 of 8

DETERMINATION OF HBCDD CONTENT

Cut sample in small pieces

Weight sample (0.5-4.0g) into extraction thimble

Soxhlet Extraction with Toluene

Filter through 0.45 um membrane filter

Analyses by GC-MS (with appropriate dilution)

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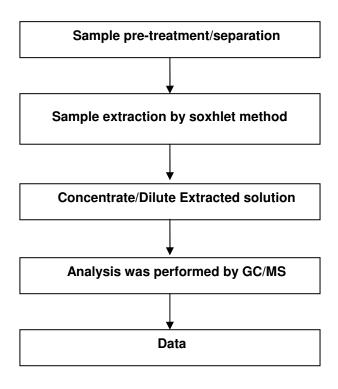
No. CTSSA/07496/14

Date: 21/04/2014

Page: 8 of 8

CTS Ref. CTSSA/14/1136/Golden

Analytical flow chart of Phthalates Content



**** End of Report ****

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