

# Mag Layers Scientific-Technics., Co., Ltd

# **Material Description**

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Mag. Layers certify below statement for material description.

**Component type:** 

# Wire Wound SMD Type MSCDRI-L / R / 63~1210 / D Type SERIES

### **Description:**

- · Comply with Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).
- · Comply with the request for Halogen Free limit.

The limit as below:

CI: 900 ppm Br: 900 ppm

Total halogens contained: 1500 ppm

### Material:

Name of material	Pb	Cd	Hg	Cr+6	PBBs	PBDEs	Br	Cl	Report NO
CORE	N.D	N.D	N.D	N.D	-		-		CANEC1509810701
WIRE	N.D	N.D	N.D	Negative					CE/2015/44585
SOLDER	227ppm	N.D	N.D	Negative	N.D	N.D	N.D	N.D	CE/2014/B3058
ADHESIVE	N.D	N.D	N.D	N.D	N.D	N.D	N.D	641ppm	CE/2015/44556
BASE	12ppm	N.D	N.D	Negative	N.D	N.D	N.D	N.D	WUXH00030577
INK	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	SHAEC1501515501



**Test Report** No. CANEC1509810701 Date: 15 Jun 2015 Page 1 of 4

FENGYIN ELECTRONICS CORP.

NO.232,MIN SHENG RD. MIN SHENG INDUSTRIAL CITY LANHE TOWN NANSHA GUANGZHOU GUANGDONG CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as: F4D Material

SGS Job No.: CP15-032532 - GZ

Date of Sample Received: 10 Jun 2015

Testing Period: 10 Jun 2015 - 15 Jun 2015

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. Guangzhou Branch

中国·广州·经济技术开发区科学城科珠路198号

Almay Gao

**Approved Signatory** 



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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-735)83071443, or email: CN.Doccheck@ss.com

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邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com



### **Test Report** No. CANEC1509810701 Date: 15 Jun 2015 Page 2 of 4

Test Results:

### Test Part Description:

Specimen No. SGS Sample ID Description
SN1 CAN15-098107.001 Dk-grey core

#### Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

### **Elementary Analysis**

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 62321:2008, determination of Hexavalent Chromium by Colorimetric

Method using UV-Vis.

Test Item(s)	<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	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND

#### Notes:

(1) The maximum permissible limit is quoted from the directive 2011/65/EU, Annex II.



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\*\*Attention\*\*Technick the authenticity of testing inspection report & certificate, please contact us at telephone; 86-75518307 1443.

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No. CANEC1509810701

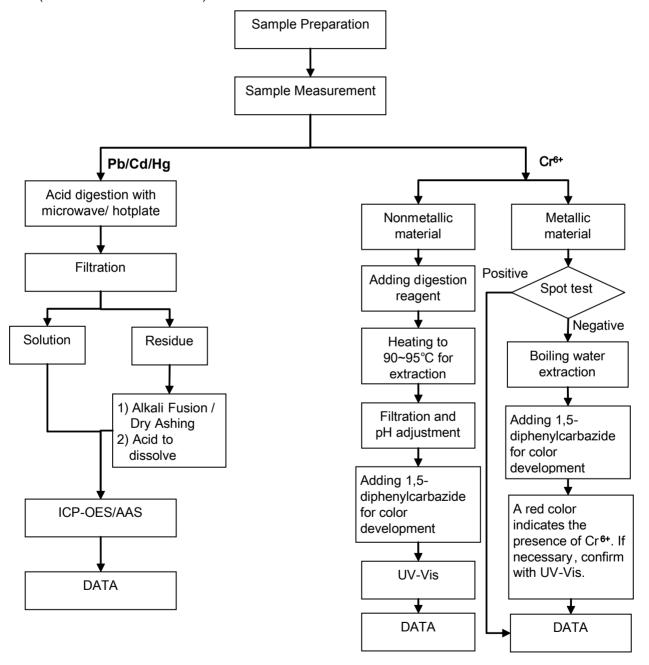
#### Page 3 of 4

Date: 15 Jun 2015

#### **ATTACHMENTS**

### **RoHS Testing Flow Chart**

- 1) Name of the person who made testing: Bruce Xiao
- 2) Name of the person in charge of testing: Bella Wang
- 3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr6+ test method excluded).





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Date: 15 Jun 2015

Sample photo:



SGS authenticate the photo on original report only

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





No.: CE/2015/44585 Date: 2015/04/27

Page: 1 of 5

ELEKTRISOLA (MALAYSIA) SDN. BHD.
JALAN DAMAI SATU, JANDA BAIK, 28750 BENTONG, PAHANG, MALAYSIA.

### The following samples was/were submitted and identified by/on behalf of the applicant as :

Sample Submitted By : ELEKTRISOLA (MALAYSIA) SDN. BHD. Sample Description : ELEKTRISOLA BARE COPPER WIRE

Sample Receiving Date : 2015/04/22

Testing Period : 2015/04/22 TO 2015/04/27

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#### Test Requested

(1) As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI) contents in the submitted sample.

(2) Please refer to next pages for the other item(s).

**Test Result(s)** : Please refer to next page(s).





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ELEKTRISOLA (MALAYSIA) SDN. BHD.
JALAN DAMAI SATU, JANDA BAIK, 28750 BENTONG, PAHANG, MALAYSIA.

#### Test Result(s)

PART NAME No.1 : COPPER COLORED METAL WIRE

Test Item(s)	Unit	Method	MDL	Result
rest item(s)	Oilit	Wiethou	WIDE	No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI)	**	With reference to IEC 62321: 2008 and performed by Boiling water extraction Method.#	#	Negative
Beryllium (Be)	mg/kg	With reference to US EPA Method 3050B. Analysis was performed by ICP-AES.	2	n.d.

#### Note:

- 1. mg/kg = ppm; 0.1wt% = 1000ppm
- 2. n.d. = Not Detected
- 3. MDL = Method Detection Limit
- 4. \*\* = Qualitative analysis (No Unit)
- 5. # = a. Positive means the presence of CrVI on the tested areas
  - b. Negative means the absence of CrVI on the tested areas

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas.



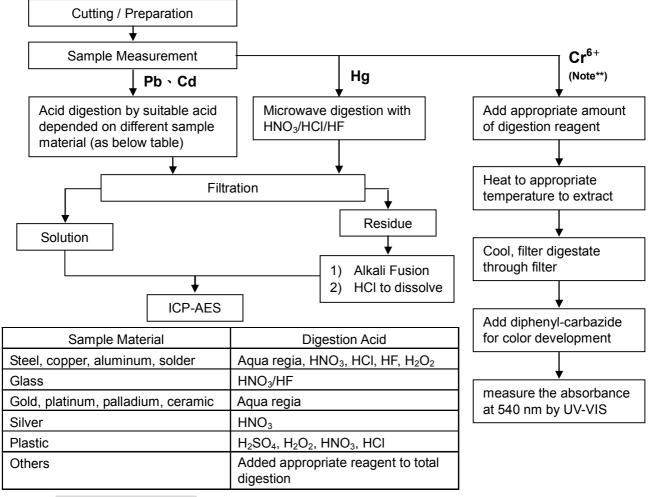
No.: CE/2015/44585 Date: 2015/04/27

ELEKTRISOLA (MALAYSIA) SDN. BHD.
JALAN DAMAI SATU, JANDA BAIK, 28750 BENTONG, PAHANG, MALAYSIA.



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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. ( Cr<sup>6+</sup> test method excluded )
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



### Note\*\* (For IEC 62321)

- (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95 ℃.
- (2) For metallic material, add pure water and heat to boiling.



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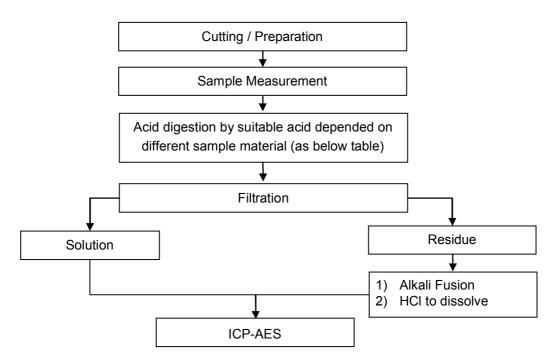
ELEKTRISOLA (MALAYSIA) SDN. BHD.
JALAN DAMAI SATU, JANDA BAIK, 28750 BENTONG, PAHANG, MALAYSIA.



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- These samples were dissolved totally by pre-conditioning method according to below flow chart
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang

### Flow Chart of digestion for the elements analysis performed by ICP-AES



Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCI, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO₃/HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Added appropriate reagent to total digestion



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ELEKTRISOLA (MALAYSIA) SDN. BHD.
JALAN DAMAI SATU, JANDA BAIK, 28750 BENTONG, PAHANG, MALAYSIA.

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\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

CE/2015/44585



\*\* End of Report \*\*



# **Test Report**

號碼(No.): CE/2014/B3058 日期(Date): 2014/11/24 頁數(Page): 1 of 12

昇貿科技股份有限公司

SHENMAO TECHNOLOGY INC.

桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as):

樣品名稱(Sample Description) : LEAD-FREE SOLDER

樣品型號(Style/Item No.) : PF604

收件日期(Sample Receiving Date) : 2014/11/19

測試期間(Testing Period) : 2014/11/19 TO 2014/11/24

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測試結果(Test Results) : 請見下一頁 (Please refer to next pages).



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**Test Report** 

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NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

### 測試結果(Test Results)

測試部位(PART NAME)No.1 : 銀色金屬 (SILVER COLORED METAL)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321-5: 2013方法,以感應耦合電 漿原子發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5: 2013方法,以感應耦合電 漿原子發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	227
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4: 2013方法,以感應耦合電 漿原子發射光譜儀檢測. / With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	**	參考IEC 62321: 2008 - Annex B方法,以沸水萃取法檢測. / With reference to IEC 62321: 2008 - Annex B and performed by Boiling water extraction Method.#	#	Negative
六溴環十二烷及所有主要被辨别出的 異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ - HBCDD, $\gamma$ - HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	参考IEC 62321: 2008方法,以氣相層析/質 譜儀檢測. / With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.



# **Test Report**

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NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	参考US EPA 3550C: 2007方法,以液相層析/質譜儀檢測./With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
全氟辛酸 / PFOA (CAS No.: 335-67- 1)	mg/kg	参考US EPA 3550C: 2007方法,以液相層析/ 質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85- 68-7)	%	参考EN 14372, 以氣相層析/質譜儀檢測./ With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測./ With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二異癸酯 / DIDP (Di- isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1)	%	参考EN 14372, 以氣相層析/質譜儀檢測./ With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二異壬酯 / DINP (Di- isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	%	参考EN 14372, 以氣相層析/質譜儀檢測./ With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	%	参考EN 14372, 以氣相層析/質譜儀檢測./ With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	参考EN 14372, 以氣相層析/質譜儀檢測./ With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.

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NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
(lest Items)	(Onit)	(Method)	(MDL)	No.1
多溴聯苯總和 / Sum of PBBs	mg/kg		-	n.d.
一溴聯苯 / Monobromobiphenyl	mg/kg		5	n.d.
二溴聯苯 / Dibromobiphenyl	mg/kg		5	n.d.
三溴聯苯 / Tribromobiphenyl	mg/kg		5	n.d.
四溴聯苯 / Tetrabromobiphenyl	mg/kg		5	n.d.
五溴聯苯 / Pentabromobiphenyl	mg/kg		5	n.d.
六溴聯苯 / Hexabromobiphenyl	mg/kg		5	n.d.
七溴聯苯 / Heptabromobiphenyl	mg/kg		5	n.d.
八溴聯苯 / Octabromobiphenyl	mg/kg		5	n.d.
九溴聯苯 / Nonabromobiphenyl	mg/kg		5	n.d.
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	IEC 62321: 2008 - Annex A and performed	-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg	by GC/MS.	5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg		5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg		5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg		5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg		5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether	mg/kg		5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether	mg/kg		5	n.d.
十溴聯苯醚 / Decabromodiphenyl ether	mg/kg		5	n.d.



# **Test Report**

號碼(No.): CE/2014/B3058 日期(Date): 2014/11/24 頁數(Page): 5 of 12

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SHENMAO TECHNOLOGY INC.

桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
(1000 100ms)	(0111)	(	(MDL)	No.1
鹵素 / Halogen				
鹵素(氟)/ Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg		50	n.d.
鹵素 (氣) / Halogen-Chlorine (C1) (CAS No.: 22537-15-1)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
鹵素(碘)/ Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.

#### 備註(Note):

- 1. mg/kg = ppm ; 0.1wt% = 1000ppm
- 2. n.d. = Not Detected (未檢出)
- 3. MDL = Method Detection Limit (方法偵測極限值)
- 4. "-" = Not Regulated (無規格值)
- 5. \*\*= Qualitative analysis (No Unit) 定性分析(無單位)
- 6. # = a. Positive means the presence of CrVI on the tested areas (Positive表示測試區域偵測到六價鉻)
  - b. Negative means the absence of CrVI on the tested areas (Negative表示測試區域未偵測到六價鉻)

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas. / 該溶液濃度≥0.02 mg/kg with 50 cm² (tested areas)

### PFOS参考資訊(Reference Information): 持久性有機污染物 POPs - (EU) 757/2010

PFOS濃度在物質或製備中不得超過0.001%(10ppm),在半成品、成品或零部件中不得超過0.1%(1000ppm),在紡織品或 塗層材料中不得超過1µg/m²。

(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above  $1\mu g/m^2$ .)



號碼(No.): CE/2014/B3058

日期(Date): 2014/11/24

頁數(Page): 6 of 12

**Test Report** 

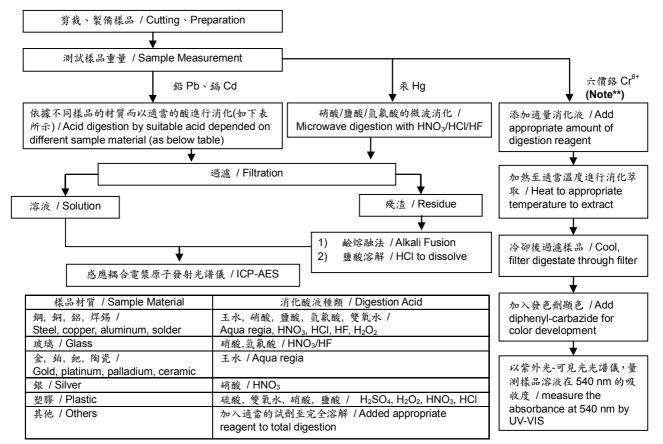
昇貿科技股份有限公司

SHENMAO TECHNOLOGY INC.

桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

- 1) 根據以下的流程圖之條件,樣品已完全溶解。( 六價鉻測試方法除外 ) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (  $Cr^{6+}$  test method excluded )
- 2) 測試人員:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人: 張啓興 / Name of the person in charge of measurement: Troy Chang



#### Note\*\* (For IEC 62321)

- (1) 針對非金屬材料加入鹼性消化液,加熱至 90~95℃ 萃取. / For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.
- (2) 針對金屬材料加入純水,加熱至沸騰萃取. / For metallic material, add pure water and heat to boiling.



# **Test Report**

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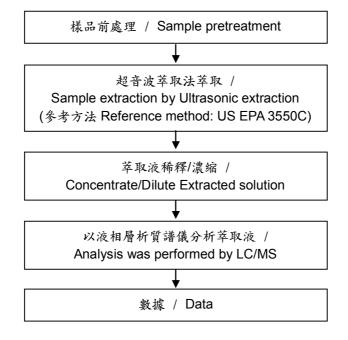
昇質科技股份有限公司 SHENMAO TECHNOLOGY INC.

桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

### 全氟辛酸/全氟辛烷磺酸分析流程圖 / PFOA/PFOS analytical flow chart

- 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





# **Test Report**

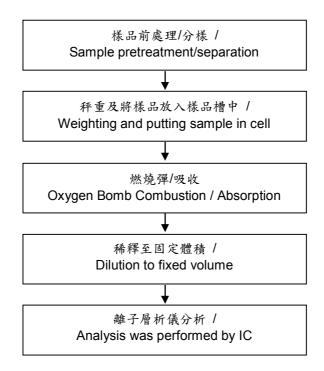
號碼(No.): CE/2014/B3058 日期(Date): 2014/11/24 頁數(Page): 8 of 12

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NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

### 鹵素分析流程圖 / Analytical flow chart of halogen content

- 測試人員:陳恩臻 / Name of the person who made measurement: Rita Chen
- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





**Test Report** 

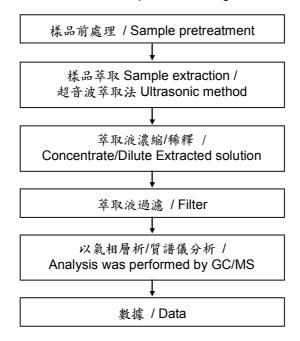
號碼(No.): CE/2014/B3058 日期(Date): 2014/11/24 頁數(Page): 9 of 12

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NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

### 六溴環十二烷分析流程圖 / HBCDD analytical flow chart

- 測試人員:翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





**Test Report** 

號碼(No.): CE/2014/B3058 日期(Date): 2014/11/24 頁數(Page): 10 of 12

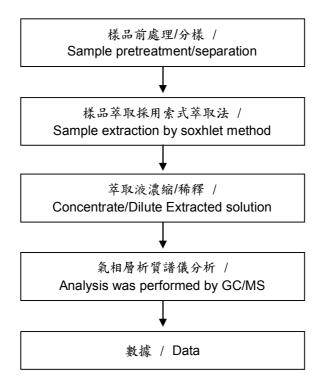
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NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

# 可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 測試人員:翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang



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# **Test Report**

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昇貿科技股份有限公司 SHENMAO TECHNOLOGY INC.

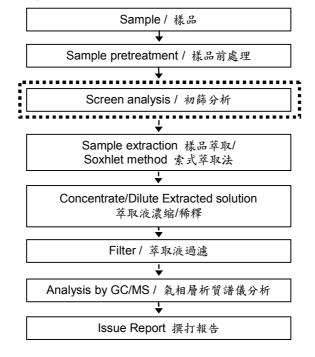
桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

#### 多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang

確認程序 / Confirmation process - · - · ▶





**Test Report** 

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昇貿科技股份有限公司 SHENMAO TECHNOLOGY INC.

桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

\* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. \* (The tested sample / part is marked by an arrow if it's shown on the photo.)

CE/2014/B3058



\*\* 報告結尾 (End of Report) \*\*



No. : CE/2015/44556 Date : 2015/04/29

SHAW HUOW ENTERPRISE CO., LTD.

NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN

Page: 1 of 7

### The following sample(s) was/were submitted and identified by/on behalf of the applicant as :

Sample Submitted By : SHAW HUOW ENTERPRISE CO., LTD.

Sample Description : EPOXY RESIN ADHESIVE

Style/Item No. : S-7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, @1~10, AB, AG, FHL,

F, L, LA, LB, H, S, W, G, HF, FL

Sample Receiving Date : 2015/04/22

Testing Period : 2015/04/22 TO 2015/04/29

\_\_\_\_\_\_

Test Requested : (1) As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to

determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs contents in the submitted

sample.

(2) As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine contents in

the submitted sample.

**Test Method** : Please refer to next page(s).

**Test Result(s)** : Please refer to next page(s).

**Conclusion** : (1) Based on the performed tests on submitted samples, the test results of Cadmium,

Lead, Mercury, Cr(VI), PBBs, PBDEs comply with the limits as set by RoHS Directive

2011/65/EU Annex II; recasting 2002/95/EC.



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No.: CE/2015/44556 Date: 2015/04/29 Page: 2 of 7

SHAW HUOW ENTERPRISE CO., LTD.

NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN



### Test Result(s)

PART NAME No.1 : GRAY PASTE

Test Item(s)	Unit	Method	MDL	Result	Limit
, ,				No.1	
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.	1000
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	1000
Sum of PBBs			-	n.d.	1000
Monobromobiphenyl			5	n.d.	-
Dibromobiphenyl	1		5	n.d.	-
Tribromobiphenyl	1		5	n.d.	-
Tetrabromobiphenyl	1		5	n.d.	-
Pentabromobiphenyl	1		5	n.d.	-
Hexabromobiphenyl			5	n.d.	-
Heptabromobiphenyl			5	n.d.	-
Octabromobiphenyl			5	n.d.	-
Nonabromobiphenyl			5	n.d.	-
Decabromobiphenyl	m a/l a	With reference to IEC 62321: 2008 and	5	n.d.	-
Sum of PBDEs	mg/kg	performed by GC/MS.	=	n.d.	1000
Monobromodiphenyl ether			5	n.d.	-
Dibromodiphenyl ether	1		5	n.d.	-
Tribromodiphenyl ether	1		5	n.d.	-
Tetrabromodiphenyl ether	1		5	n.d.	-
Pentabromodiphenyl ether			5	n.d.	-
Hexabromodiphenyl ether			5	n.d.	-
Heptabromodiphenyl ether			5	n.d.	-
Octabromodiphenyl ether			5	n.d.	-
Nonabromodiphenyl ether			5	n.d.	=
Decabromodiphenyl ether			5	n.d.	-

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No. : CE/2015/44556 Date : 2015/04/29 Page: 3 of 7

SHAW HUOW ENTERPRISE CO., LTD.

NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN

Test Item(s)	Unit	Method	MDL	Result	Limit
rest item(s)	Onit	Wethou	WIDL	No.1	Lillit
Halogen					
Halogen-Fluorine (F) (CAS No.: 14762-94-8)			50	n.d.	-
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)	ma/ka	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	641	-
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.	-
Halogen-lodine (I) (CAS No.: 14362-44-8)			50	n.d.	-

#### Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. " - " = Not Regulated

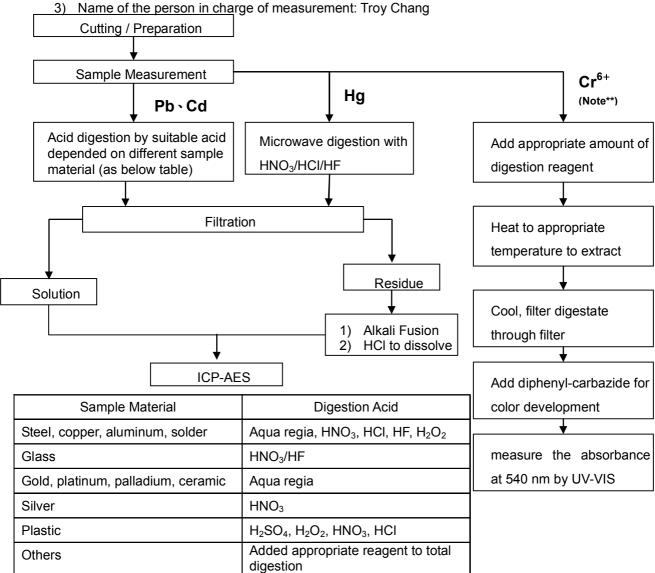


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SHAW HUOW ENTERPRISE CO., LTD.
NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. ( Cr<sup>6+</sup> test method excluded )
- 2) Name of the person who made measurement: Climbgreat Yang



**Note\*\***: (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.

(2) For metallic material, add pure water and heat to boiling.



No. : CE/2015/44556 Date : 2015/04/29

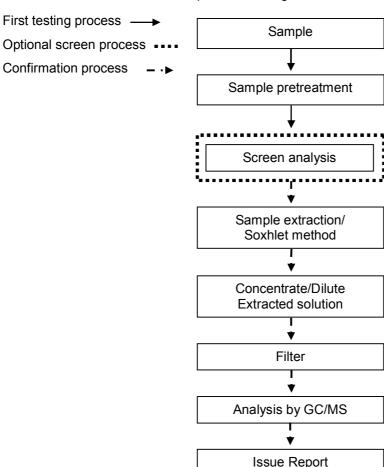
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NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN



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#### **PBB/PBDE** analytical FLOW CHART

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang





No. : CE/2015/44556 Date : 2015/04/29

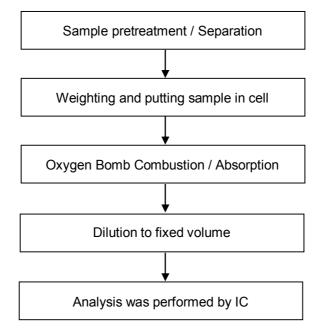
Date: 2015/04/29 Page: 6 of 7

SHAW HUOW ENTERPRISE CO., LTD.

NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN

### Analytical flow chart of halogen content

- Name of the person who made measurement: Rita Chen
- Name of the person in charge of measurement: Troy Chang





No.: CE/2015/44556 Date: 2015

Date: 2015/04/29 Page: 7 of 7

SHAW HUOW ENTERPRISE CO., LTD. NO. 39-1, WUSYUN ST., ANLE DISTRICT, KEELUNG CITY, TAIWAN

\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

CE/2015/44556



\*\* End of Report \*\*



Number: WUXH00030577

Apr 27, 2015

Date:

Applicant: KUN SHAN GANG YU ELECTRONICS CO.,LTD

NO.01, JINHUA VILLAGE, ZHANGPU TOWN, KUNSHAN CITY, JIANGSU, CHINA

Attn: LI TANGYUN

Sample Description As Declared:

Four(4) Pieces Of Submitted Sample Said To Be: Metal With White Plating.

Item Name: Base & Clip Series.Material: C1100, Ni, Sn.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Conclusion:

Tested SampleStandardResultSubmitted SampleRestriction Of The Use Of Certain Hazardous Substance InPass

Electrical And Electronic Equipment (RoHS Directive 2011/65/EU)

Prepared And Checked By: For Intertek Testing Services Wuxi Ltd.

Jessica Lu General Manager Services (An Alberta Services of An Alberta



Number: WUXH00030577

Tests Conducted (As Requested By The Applicant)

**RoHS Directives Test** 

(A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	ND ND
Mercury (Hg) Content (mg/kg)	ND ND
Chromium (VI)(Cr <sup>6+</sup> ) Result (By Boiling Water Extraction On	ND
Metal) (mg/kg With 50cm <sup>2</sup> )	N
Polybrominated Biphenyls (PBBs)(mg/kg)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Sum Of PBBs	ND
Polybrominated Diphenyl Ethers (PBDEs)(mg/kg)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND
Sum Of PBDEs	ND

#### Remark:

mg/kg = Milligram Per Kilogram = ppm mg/kg With 50cm<sup>2</sup> = Milligram Per Kilogram With 50 Square Centimeter ND = Not Detected N=Negative



Number: WUXH00030577

### Tests Conducted (As Requested By The Applicant)

(B)RoHS Requirement:

(B)Koris Requirement:	
Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From RoHS Directive 2011/65/EU For Homogeneous Material.

#### (C) Test Method:

Testing Item	<u>Testing Method</u>	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2013, By Acid Digestion Until The Tested Sample Was Totally Dissolved, And Determined By ICP-OES.	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2013, By Acid Digestion Until The Tested Sample Was Totally Dissolved, And Determined By ICP-OES.	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2013, By Acid Digestion Until The Tested Sample Was Totally Dissolved, And Determined By ICP-OES.	2 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content (For Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Boiling Water Extraction And Determined By UV-VIS Spectrophotometer.	Positive/Negative (Threshold Of 0.02mg/Kg With 50cm <sup>2</sup> )
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs)	With Reference To IEC 62321 Edition 1.0: 2008, By Solvent Extraction And Determined By GC/MS And Further HPLC Confirmation When Necessary.	5 mg/kg

Date Sample Received: Apr 22, 2015

Testing Period: Apr 22, 2015 To Apr 27, 2015

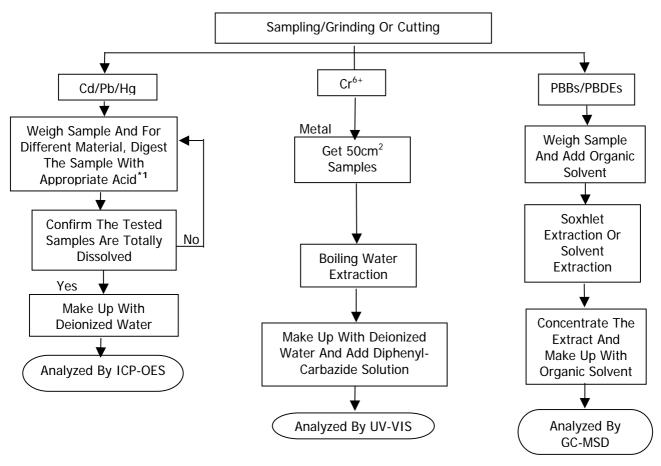


Number: WUXH00030577

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008 & 2013



#### Remarks:

\*1: List Of Appropriate Acid:

<u>Material</u>	Acid Added For Digestion
Polymers	HNO <sub>3</sub> ,HCL,HF,H <sub>2</sub> O <sub>2</sub> ,H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> ,HCL,HF
Electronics	HNO <sub>3,</sub> HCL,H <sub>2</sub> O <sub>2,</sub> HBF <sub>4</sub>



Number: WUXH00030577

Tests Conducted (As Requested By The Applicant)

Halogen Test

(I) Test Result Summary:

Halogen Content:

naiogen contenti	
<u>Testing Item</u>	<u>Result (ppm)</u>
Fluorine (F) Content	ND
Chlorine (CI)Content	ND
Bromine (Br) Content	ND
Iodine (I) Content	ND

Remarks : ppm = Parts Per Million = mg/kg

ND = Not Detected

Date Sample Received: Apr 22, 2015

Testing Period: Apr 22, 2015 To Apr 27, 2015

(II) Test Method:

Testing Item	Testing Method	Reporting Limit
Halogen (F,Cl, Br,I) Content	With Reference To EN 14582:2007 By Combustion In A Calorimetric Bomb And Determined By Ion Chromatography	50 ppm

Remarks: Reporting Limit = Quantitation Limit Of Analyte In Sample



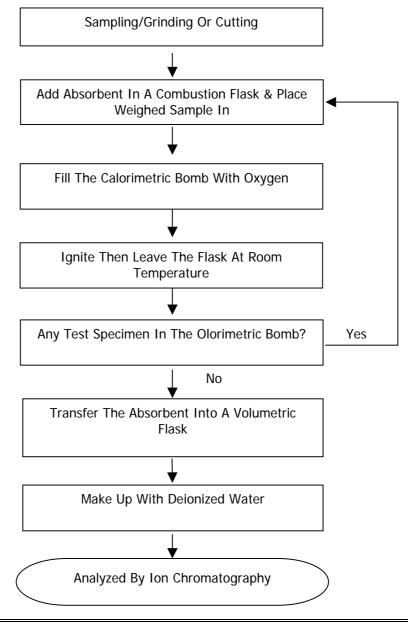
Number: WUXH00030577

Tests Conducted (As Requested By The Applicant)

(III) Measurement Flowchart:

Chemist: Eve Deng

Test For Halogen Content Reference Method: EN 14582:2007

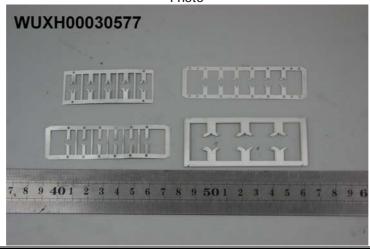




Number: WUXH00030577

Tests Conducted (As Requested By The Applicant)





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**Test Report** No. SHAEC1501515501 Date: 29 Jan 2015 Page 1 of 9

BON MARK CO.,LTD

Risona Nakameguro Building 4F,3-2,3-Chome,Kamimeguro,Meguroku,Tokyo,153-0051,Japan

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

SGS Job No. : SP15-002541 - SUZ

Supplier: T&K TOKA BON MARK

Model No.: A Type

Date of Sample Received: 26 Jan 2015

Testing Period: 26 Jan 2015 - 29 Jan 2015

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 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Marry Ma

Approved Signatory



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#### **Test Report** Date: 29 Jan 2015 No. SHAEC1501515501 Page 2 of 9

Test Results:

### **Test Part Description:**

Specimen No. SGS Sample ID Description White Mud SN<sub>1</sub> SHA15-015155.001

#### Remarks:

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

### RoHS 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 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

(5) With reference to IEC 62321:2008, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
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	2	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
Monobromodiphenyl ether	-	mg/kg	5	ND



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Test Item(s)	<u>Limit</u>	<u>Unit</u>	MDL	<u>001</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 the directive 2011/65/EU, Annex II

### <u>Halogen</u>

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

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (CI)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
lodine (I)	mg/kg	50	ND

### Hexabromocyclododecane (HBCDD)

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

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



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### **Phthalates**

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

Test Item(s)	CAS NO.	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibutyl Phthalate (DBP)	84-74-2	%	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%	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: Result shown is of the total weight of wet sample.



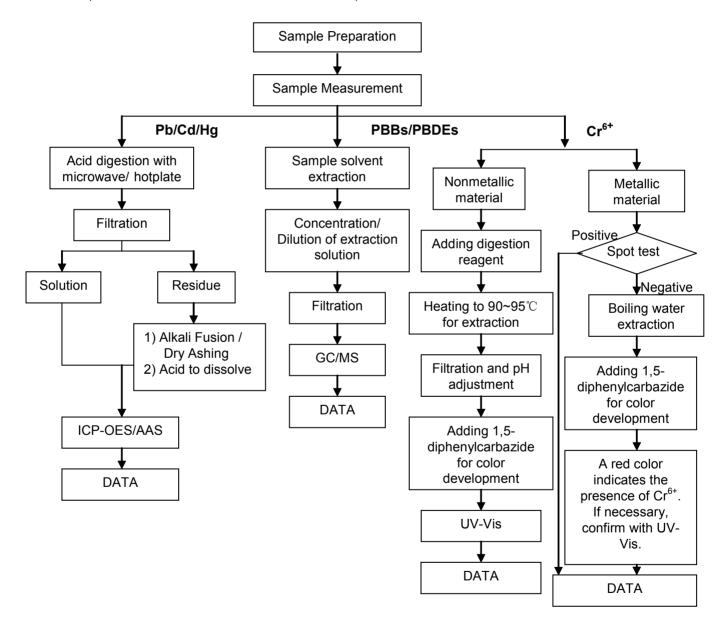


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#### **ATTACHMENTS**

### **RoHS Testing Flow Chart**

- 1) Name of the person who made testing: Bob Zhang/Gary Xu/Stone Chen/Sunny Qin
- 2) Name of the person in charge of testing: Jan Shi/Summer Jin/Jessy Huang
- 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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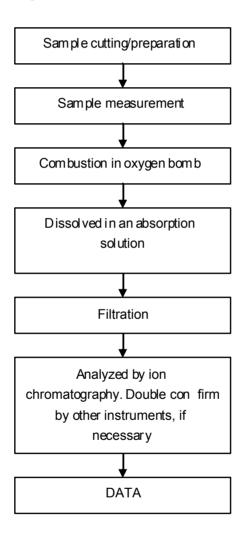
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#### **ATTACHMENTS**

### Halogen Testing (oxygen bomb) Flow Chart

Name of the person who made testing: Sisily Yin
 Name of the person in charge of testing: Linda Li





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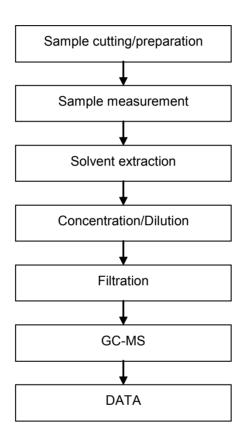
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#### **ATTACHMENTS**

### **HBCDD Testing Flow Chart**

- 1) Name of the person who made testing: Gary Xu
- 2) Name of the person in charge of testing: Jessy Huang





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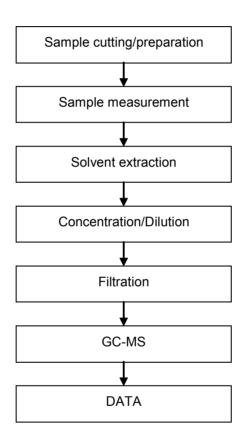
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### **ATTACHMENTS**

### **Phthalates Testing Flow Chart**

- 1) Name of the person who made testing: Sherlock Gao
- 2) Name of the person in charge of testing: Myra Ma





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