寶　　號
CUSTOMER

IVENT

HF
ROHS
COMPLIANT

承　認　書

SPECIFICATION FOR APPROVAL

品名
PRODUCT NAME　BSF1004RHGS470MT

客戶料號
CUSTOMER PART NO.

批號
SAMPLE NO.

日期
DATE.　2015/8/25

Customer Approved Status 客戶承認範圍

FULLY APPROVED (全部承認)	PARTILLY APPROVED (部份承認)	REVISE APPROVED (修訂承認)
Drawn by	Checked by	Approved by
陳雯欣	吳明珠	吳炳勳

KING CORE ELECTRONICS INC.
NO 269,Nanfong Rd.,Pingjhen City,Taoyuan County Taiwan
Tel: 886-3-4698855 Fax: 886-4691395
Website:http:// www.kingcore.com.tw
E-mail: kc@mail.kingcore.com.tw

承認書內容 CONTENTS

製作 DRAWN BY:	確認 CHECKED BY:	承認 APPROVED BY:
陳雯欣	吳明珠	吳炳勳

修訂履歷 REVISION RESUME

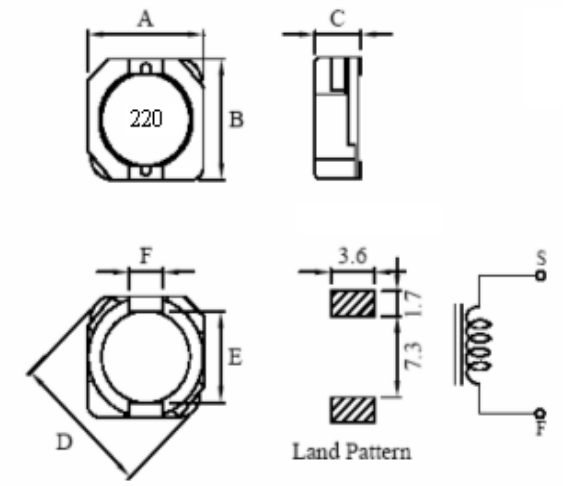
日期 DATE	版次 VERSION	修訂目的 PURPOSE	修訂內容概述 REVISION DESCRIPTION	備註 REMARK
2015/8/25	A	首次送樣 INITIAL RELEASE		

製作 DRAWN BY:	確認 CHECKED BY:	承認 APPROVED BY:
陳雯欣	吳明球	吳炳勳

SPECIFICATION FOR APPROVAL

CUSTOMER:	IVENT	CUST.P/N:
ORDERING CODE:	BSF1004RHGS470MT	K.C.P/N:PM10N0AT

(1) SHAPE :



A	10.3 max.	mm
B	10.4 max.	mm
C	4.0 max.	mm
D	13.5 max.	mm
E	7.7±0.3	mm
F	3.0±0.3	mm

(2)ELECTRICAL REQUIREMENTS:

L:47±20%uH(100KHz/1v)

RDC:0.128Ω(max)

Isat:2.1A(max)

Irms:1.9A(max)

Inductance drop= 35% typ at Isat

△T=40℃ rise at Irms

(3) TEST CONDITIONS:

1 L: HP4284A

2. RDC:HIOKU 3540

3. IDC:HP4285A+HP42841A

4.WIRE:0.28 2UEWx21.5Ts(ref)

(4)PACKING

☐ IN BULK ☐ VACUUM ☐ INSERTION

PCS/BAGS* BAG/INNER BOX* BOXES/CARTON = PCS

PCS/PLATE* PLATES/CARTON= PCS

PCS/TRAY* TRAYS/CARTON= PCS

1000 PCS/REEL *REELS/CARTON=PCS

(5) APPEARANCE

(6)REMARK:

Approved by	吳炳勳
Checked by	吳明祥
Drawn by	陳雯欣 2015/8/25
DWG.NO.	20158001A

TEST DATA FOR PREPRODUCTION SAMPLES

CUSTOMER	IVENT			CUST. P/N	
ORDERING CODE	***BSF1004RHGS470MT***			K.C. P/N	***PM10N0AT***
TEMP.	***24*** ^{O}C	RH	***69*** %	DWG.NO.	***20158001A***
WIRE		WINDING		Q'TY	***5PCS***
Test Instruments					

Meas. Item.	***L (uH)***	***RDC (Ω)***				
Specification	**47±20%**	**0.128 max**				
Test Freq.	**100KHz/1v**					
sample#1	**43.88**	**0.114**				
sample#2	**44.58**	**0.115**				
sample#3	**44.47**	**0.115**				
sample#4	**44.86**	**0.115**				
sample#5	**45.30**	**0.115**				
sample#6						
sample#7						
sample#8						
sample#9						
sample#10						
$\overline{X}$	**44.62**	**0.115**				
R	**1.42**	**0.001**				

REMARK:

Approved by: 吳炳熙

Checked by: 吳明球

Drawn by: 陳雯欣

KING CORE ELECTRONICS INC.

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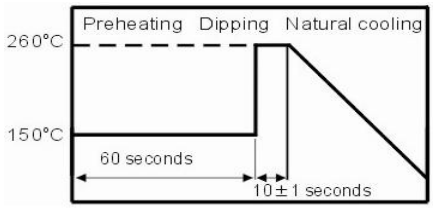
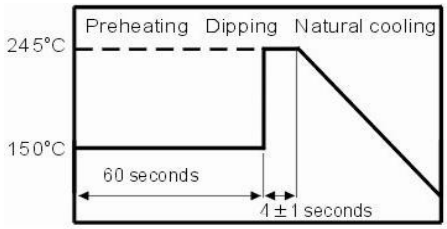
RELIABILITY TEST – BS / BSF SERIES

1-1 Mechanical Performance

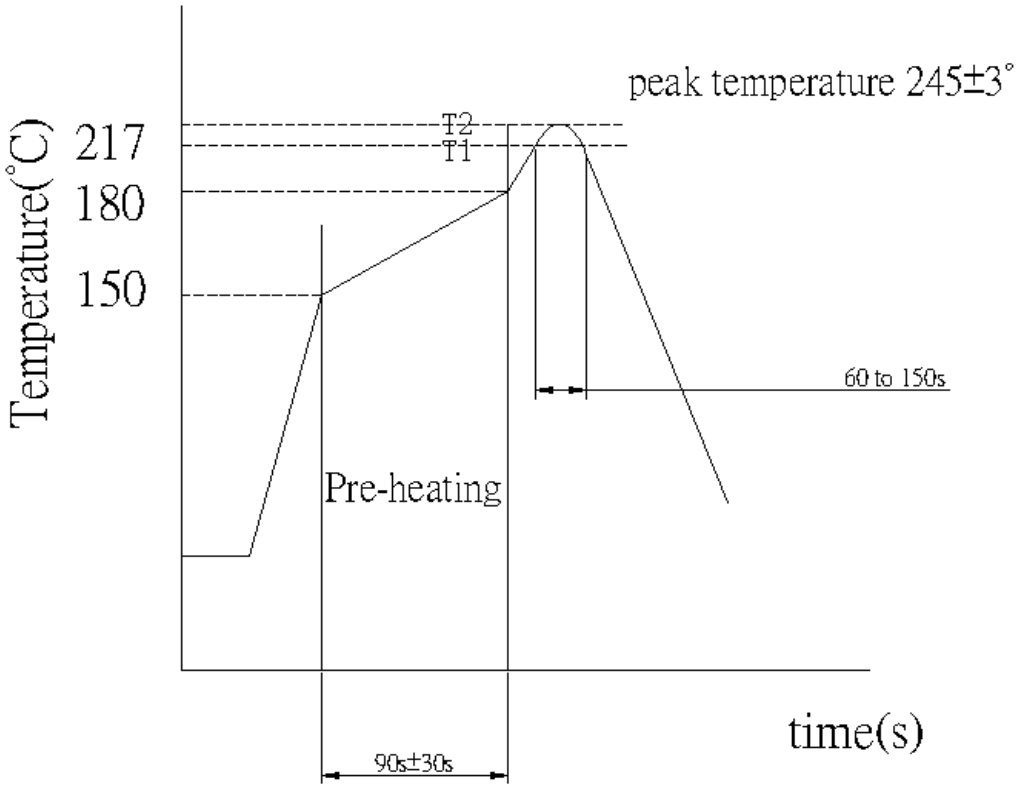
No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage L change: within±10% Q change: within±30%	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Preheat:150℃,60 seconds Solder:temperature:260±5℃ Flux: Rosin Dip time:5±0.5 seconds 
1-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating	Preheat:150℃,60 seconds Solder:temperature:245±5℃ Flux: Rosin Dip time:4±1 seconds 

1-2 Environmental Performance

No	Item	Specification	Test Method
1-2-1	Thermal Shock	Appearance: No damage L change: within±10% Q change: within±30%	One cycle: Step / Temperature (℃) / Time (min) 1 / -40±3 / 30 2 / 85±2 / 30 Total: 100cycles Measured after exposure in the room condition for 24hrs

1-2-2	Humidity Resistance		Temperature: 40±2℃ Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-3	High Temperature Resistance		Temperature: 85±3℃ Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-4	Low Temperature Resistance		Temperature: -25±3℃ Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs

1-3 Recommended Reflow Soldering profile



Note

1. Operating Temperature Range:-25℃ to +85℃
2. Storage Temperature Range:-40℃ to +85℃ (For products in unopened tape package 0℃ to +40℃)

检测报告
Test Report

报告编号 SCL01H015095001ER2 第 1 页 共 7 页
Report No. SCL01H015095001ER2 Page 1 of 7

申请单位 标旗磁电产品(佛冈)有限公司
Applicant FLAG MAGNETIC PRODUCTS(FOGANG)CO.,LTD
地 址 广东省清远市佛冈县龙山镇官路唇工业区
Address GUANLUCHUN INDUSTRIAL ZONE, LONGSHAN FOGANG GUANGDONG

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

样品名称 Sample Name	镍锌铁氧体磁材 NI-ZN Ferrite core
样品型号	FN121,FN301，FN381，FD501，FB251，FB301，FB401，FB451，FB501，FB651，FB701，FH301，FH361，FH401，FH501，F P122，FP161，FP192，FP202, FP212，FM600，FQ800,FQ401
Part No.	FN121,FN301，FN381，FD501，FB251，FB301，FB401，FB451，FB501，FB651，FB701，FH301，FH361，FH401，FH501，F P122，FP161，FP192，FP202, FP212，FM600，FQ800,FQ401
样品接收日期 Sample Received Date	2015.03.09 Mar. 9, 2015
样品检测日期 Testing Period	2015.03.09-2015.03.12 Mar. 9, 2015 to Mar. 12, 2015
检测要求	根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，氟(F)，氯(Cl)，溴(Br)，碘(I)进行测试。
Test Requested	As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs) , Polybrominated Diphenyl Ethers(PBDEs), Fluorine(F), Chlorine(Cl), Bromine(Br), Iodine(I) in the submitted sample(s).
检测依据/检测结果 **Test Method/Test Result(s)**	请参见下页。 Please refer to the following page(s).

主 检 Tested by: che
批 准 Approved by: Danny Liu, Technical Manager
审 核 Reviewed by: Cathy
日 期 Date: 2015.05.25

No. R177732128

深圳市华测检测技术股份有限公司 Centre Testing International (Shenzhen) Co., Ltd.
广东省深圳市宝安区70区鸿威工业园 Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

检测报告
Test Report

检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅(Pb) Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
镉(Cd) Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
汞(Hg) Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
六价铬(Cr(VI)) Hexavalent Chromium(Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis
多溴联苯(PBBs) Polybrominated Biphenyl(PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
多溴二苯醚(PBDEs) Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
氟(F) Fluorine(F)	参考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC
氯(Cl) Chlorine(Cl)	参考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC
溴(Br) Bromine(Br)	参考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC
碘(I) Iodine(I)	参考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC

检测报告
Test Report

检测结果 Test Result(s)

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
铅(Pb) Lead (Pb)	N.D.	2 mg/kg
镉(Cd) Cadmium (Cd)	N.D.	2 mg/kg
汞(Hg) Mercury (Hg)	N.D.	2 mg/kg
六价铬(Cr(VI)) Hexavalent Chromium (Cr(VI))	N.D.	2 mg/kg

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
多溴联苯(PBBs) Polybrominated Biphenyl(PBBs)		
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
多溴二苯醚(PBDEs) Polybrominated Diphenyl Ethers(PBDEs)		
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg

检测报告
Test Report

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
卤素 Halogen(s)		
氟(F) Fluorine(F)	N.D.	10 mg/kg
氯(Cl) Chlorine(Cl)	N.D.	10 mg/kg
溴(Br) Bromine(Br)	N.D.	10 mg/kg
碘(I) Iodine(I)	N.D.	10 mg/kg

测试样品/部位描述 深灰色固体
Tested Sample/Part Description Deep gray solid

备注: 对于检测铅，镉，汞之样品已完全溶解。
-N.D. = 未检出 (小于方法检出限)
-mg/kg= ppm = 百万分之一

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

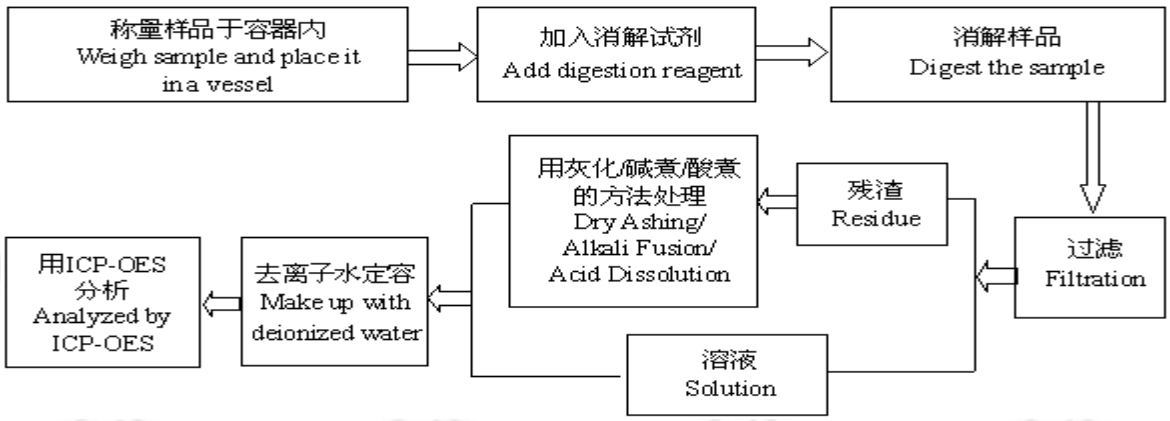
注释: 本报告替换原报告 **SCL01H015095001ER1**，自本报告签发之日起，原报告 **SCL01H015095001ER1** 作废。本报告编号末尾中 **R2** 表示本次修改后的报告版本。

Note: **This testing report displaces the original report of No.SCL01H015095001ER1 and the original one No.SCL01H015095001ER1 was invalid since the date of this testing report released. The end sign of report number R2 represents the revised version.**

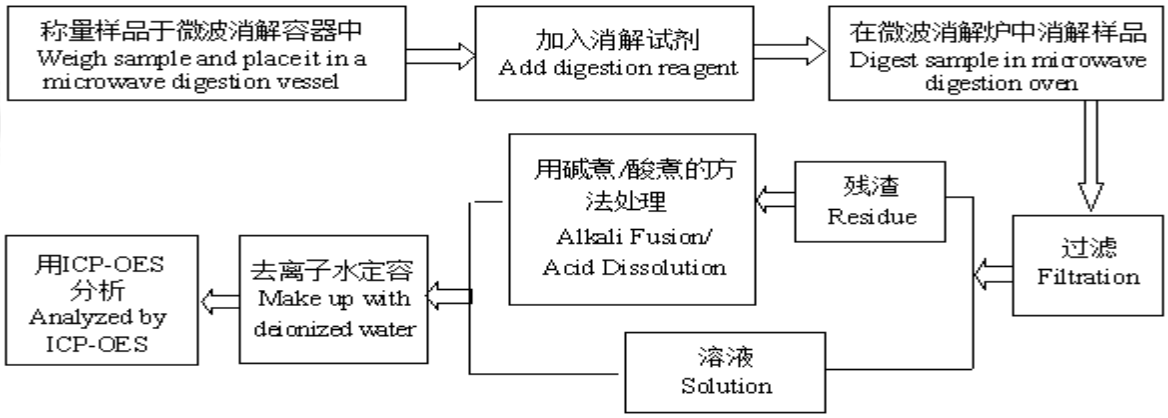
检测报告
Test Report

检测流程 Test Process

1. 铅(Pb)，镉(Cd)
Lead (Pb), Cadmium (Cd)

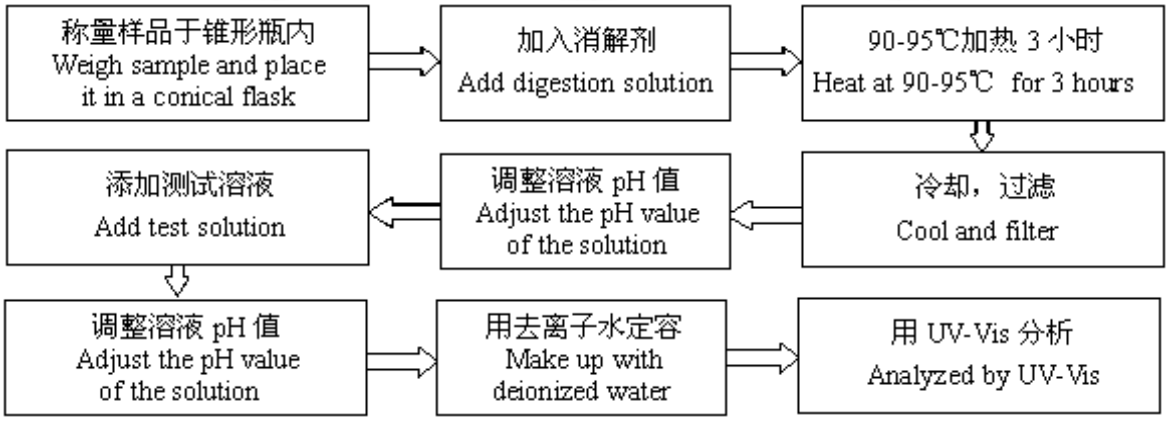


2. 汞(Hg)
Mercury (Hg)

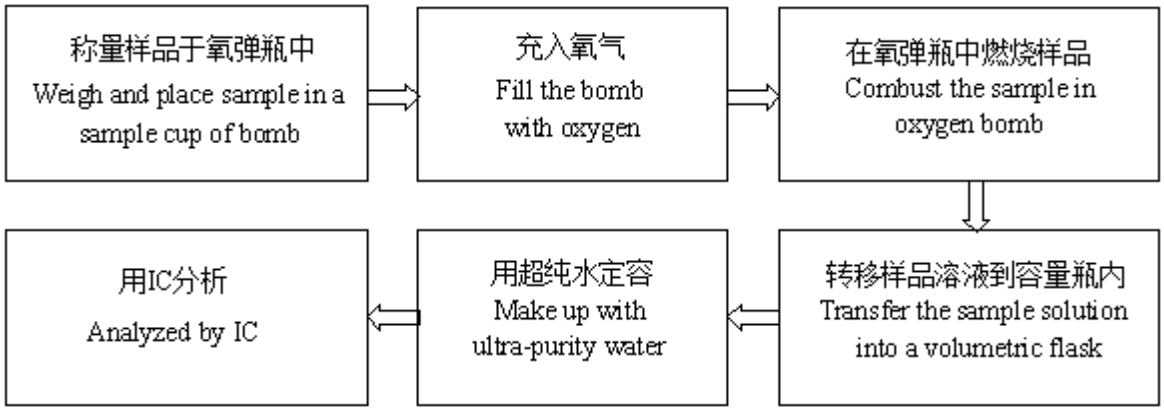


检测报告
Test Report

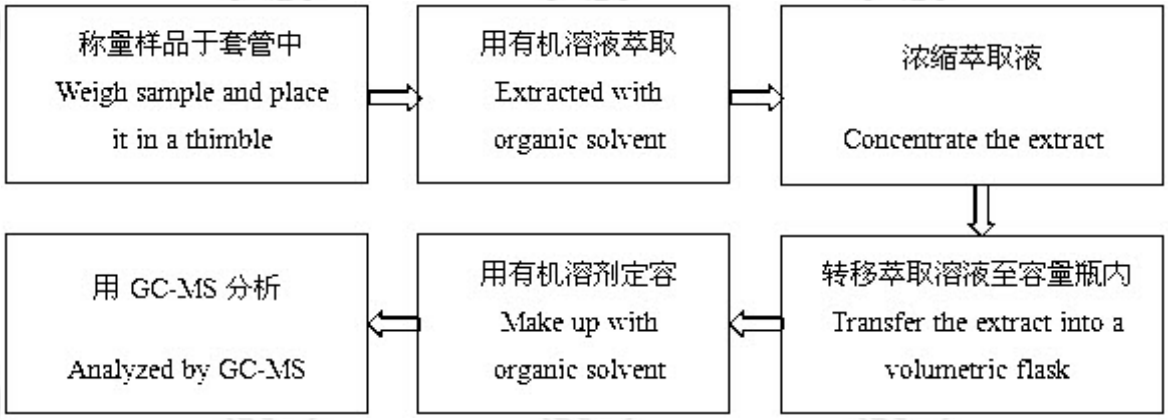
3. 六价铬(Cr(VI))
Hexavalent Chromium(Cr(VI))



4. 溴(Br)，氯(Cl)，氟(F)，碘(I)
Bromine(Br), Chlorine(Cl), Fluorine(F), Iodine(I)



5. 多溴联苯(PBBs)，多溴二苯醚(PBDEs)
Polybrominated Biphenyl(PBBs) , Polybrominated Diphenyl Ethers(PBDEs)



检测报告
Test Report

样品图片
Photo(s) of the sample(s)

报告结束
*** End of report ***

检测报告无批准人签字及“报告专用章”无效，本报告检测结果仅对受测样品负责。未经CTI书面同意，不得部分复制本报告。
The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

DONGGUAN CITY SHIJIE LIANCHENG METALS MANUFACTORY

LIUWU ZHOUTOU INDUSTRIAL AREA,SHIJIE TOWN,DONGGUAN,GUANGDONG
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : SMD BASE(Plating Sn)

SGS Job No. :	CP15-010709 - GZ
Lot No. :	P150114-0028
Main Substance :	Cu Ni Sn
Date of Sample Received :	11 Mar 2015
Testing Period :	11 Mar 2015 - 17 Mar 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 Co., Ltd. Guangzhou Branch

Zmguan

Zm guan
Approved Signatory

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中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN15-032384.002	Silvery / copper-colored plated metal

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 spot test / Colorimetric Method using UV-Vis.
(5)With reference to IEC 62321:2008, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	*002*
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)	-	-	◇	Negative
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

Test Item(s)	Limit	Unit	MDL	*002*
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
(2)◇Spot-test:
Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
(The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)
◇Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm2 sample surface area.
Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

Halogen

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

Test Item(s)	Unit	MDL	*002*
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

PFOS (Perfluorooctane Sulfonates)

Test Method : With reference to US EPA 3550C: 2007, analysis was performed by HPLC-MS.

Test Item(s)	CAS NO.	Unit	MDL	*002*
Perfluorooctane Sulfonates (PFOS) and related Acid,Metal Salt and Amide	1763-23-1	μg/m²	1.0	ND

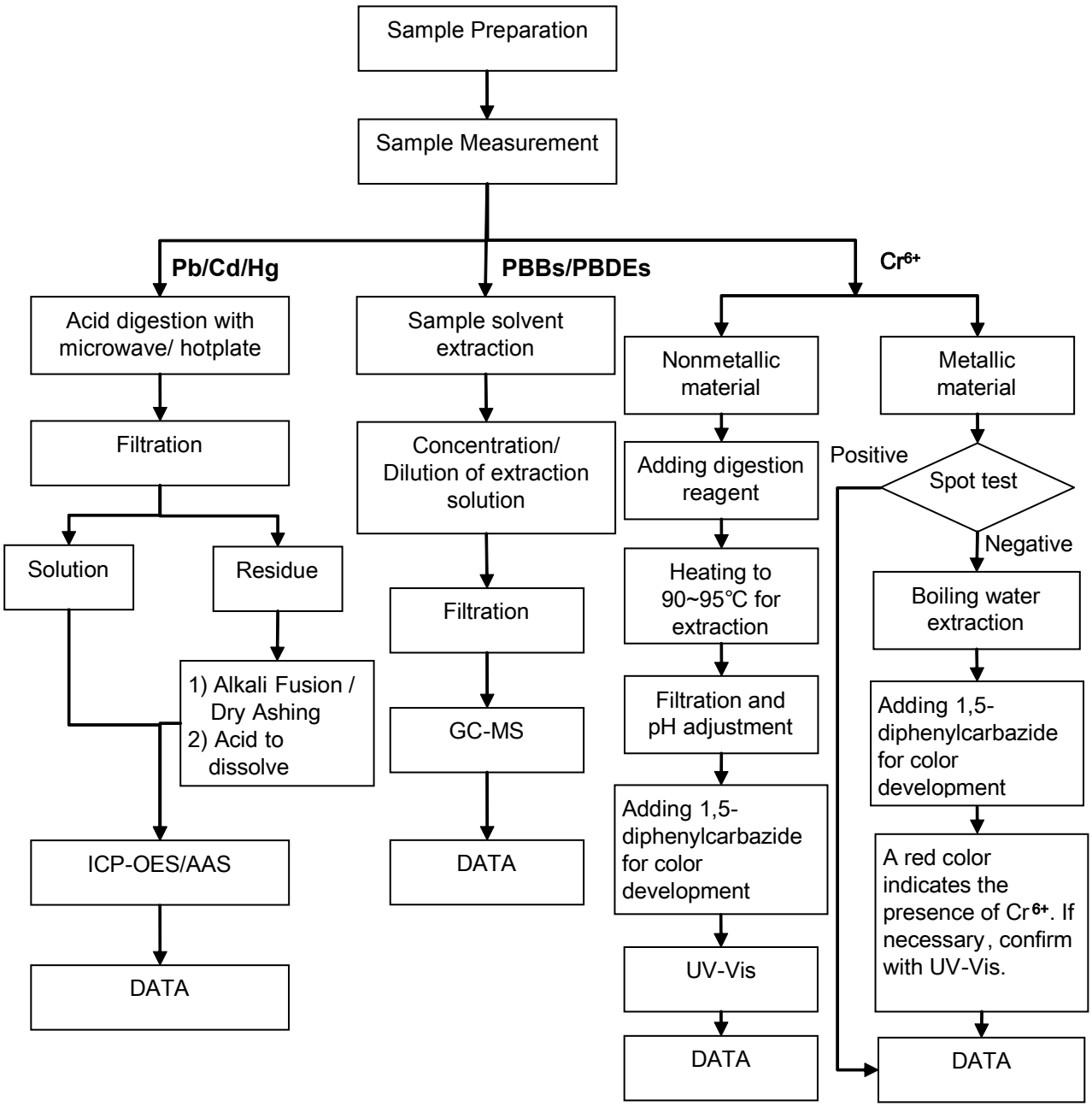
Notes :

For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:
(1) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS equal to or below 10 mg/kg (0,001 % by weight) when it occurs in substances or in preparations.
(2) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS in semi-finished products or articles, or parts thereof, if the concentration of PFOS is lower than 0,1 % by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is lower than 1μg /m2 of the coated material.

ATTACHMENTS

RoHS Testing Flow Chart

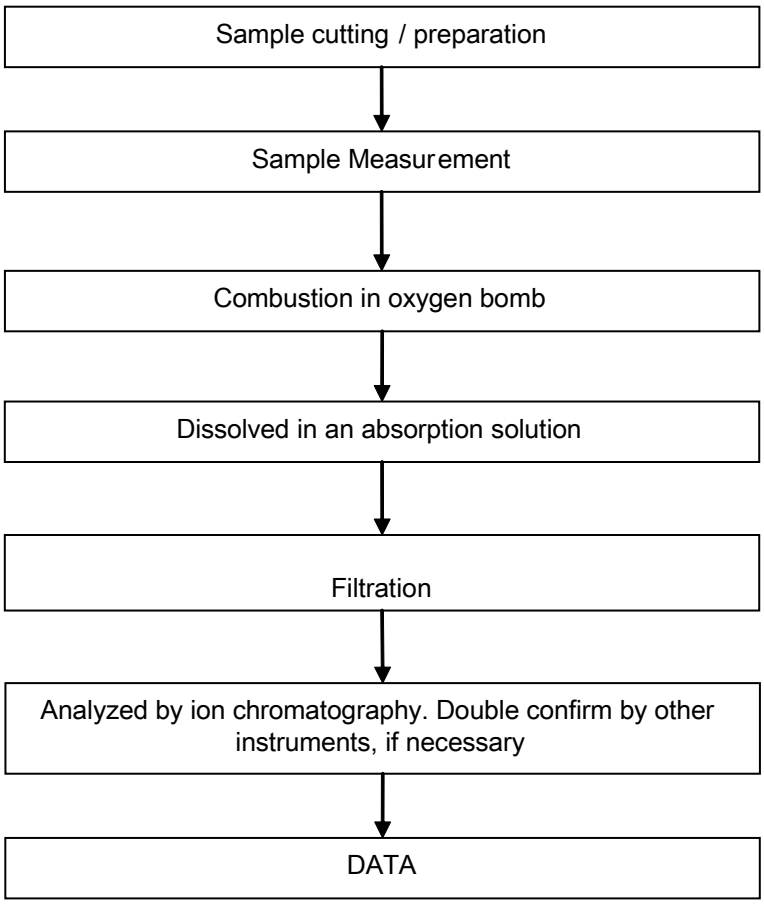
1) Name of the person who made testing: Bruce Xiao / Sunny Hu
2) Name of the person in charge of testing: Bella Wang / Cutey Yu
3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr^{6+} and PBBs/PBDEs test method excluded).



ATTACHMENTS

Halogen Testing Flow Chart

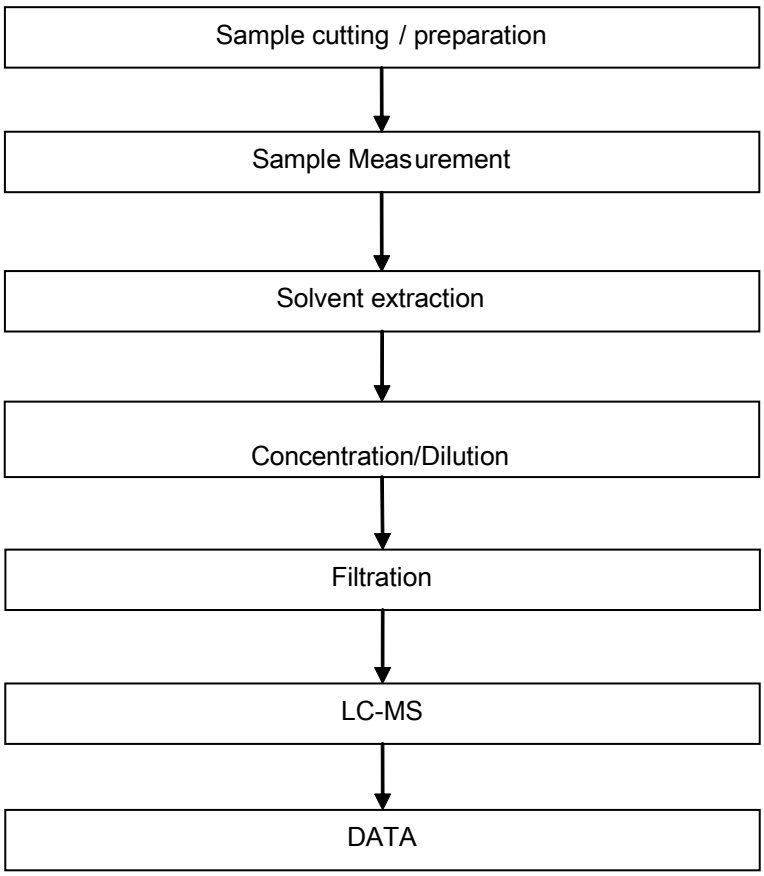
1) Name of the person who made testing: Hanming Xiao
2) Name of the person in charge of testing: Bella Wang



ATTACHMENTS

PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Zhihong Wang
2) Name of the person in charge of testing: Cutey Yu



Sample photo:

CAN15-032384.002

SGS authenticate the photo on original report only

*** End of Report ***

Test Report No. : CE/2015/44583 Date : 2015/04/27

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 POLYURETHANE-BASED INSULATION VARNISH
Style/Item No.	:	P130, P155, P155b, P155p, Pg155, P180, Pv180, P190, P210, G155, G155p, G170, G180
Sample Receiving Date	:	2015/04/22
Testing Period	:	2015/04/22 TO 2015/04/27

==========

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

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

SGS TAIWAN LTD

Troy Chang / Manager – Tech
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

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

Test Result(s)

PART NAME No.1 : DK.BROWN LUMP

Test Item(s)	Unit	Method	MDL	Result
				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)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
Beryllium (Be)	mg/kg	With reference to US EPA Method 3050B. Analysis was performed by ICP-AES.	2	n.d.
Antimony (Sb)	mg/kg	With reference to US EPA Method 3050B. Analysis was performed by ICP-AES.	2	n.d.
Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
PFOA (CAS No.: 335-67-1)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β- HBCDD, γ- HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.

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

Test Item(s)	Unit	Method	MDL	Result No.1
DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
Monobromobiphenyl	mg/kg		5	n.d.
Dibromobiphenyl	mg/kg		5	n.d.
Tribromobiphenyl	mg/kg		5	n.d.
Tetrabromobiphenyl	mg/kg		5	n.d.
Pentabromobiphenyl	mg/kg		5	n.d.
Hexabromobiphenyl	mg/kg		5	n.d.
Heptabromobiphenyl	mg/kg		5	n.d.
Octabromobiphenyl	mg/kg		5	n.d.
Nonabromobiphenyl	mg/kg		5	n.d.
Decabromobiphenyl	mg/kg		5	n.d.
Sum of PBDEs	mg/kg		-	n.d.
Monobromodiphenyl ether	mg/kg		5	n.d.
Dibromodiphenyl ether	mg/kg		5	n.d.
Tribromodiphenyl ether	mg/kg		5	n.d.
Tetrabromodiphenyl ether	mg/kg		5	n.d.
Pentabromodiphenyl ether	mg/kg		5	n.d.
Hexabromodiphenyl ether	mg/kg		5	n.d.
Heptabromodiphenyl ether	mg/kg		5	n.d.
Octabromodiphenyl ether	mg/kg		5	n.d.
Nonabromodiphenyl ether	mg/kg		5	n.d.
Decabromodiphenyl ether	mg/kg		5	n.d.

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

Test Item(s)	Unit	Method	MDL	Result No.1
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.

Note：

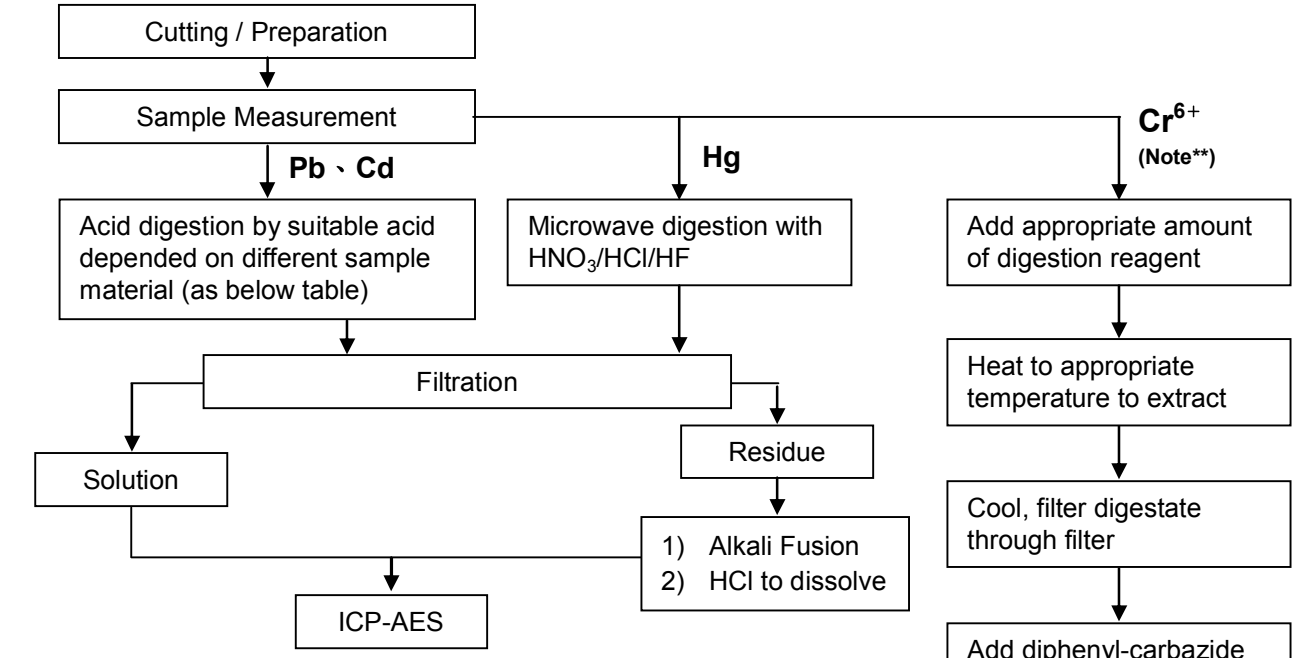
1. mg/kg = ppm；0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated

PFOS Reference Information : POPs - (EU) 757/2010

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 1μg/m².

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

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



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO_3, HCl, HF, H_2O_2
Glass	HNO_3/HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO_3
Plastic	H_2SO_4, H_2O_2, HNO_3, HCl
Others	Added appropriate reagent to total digestion

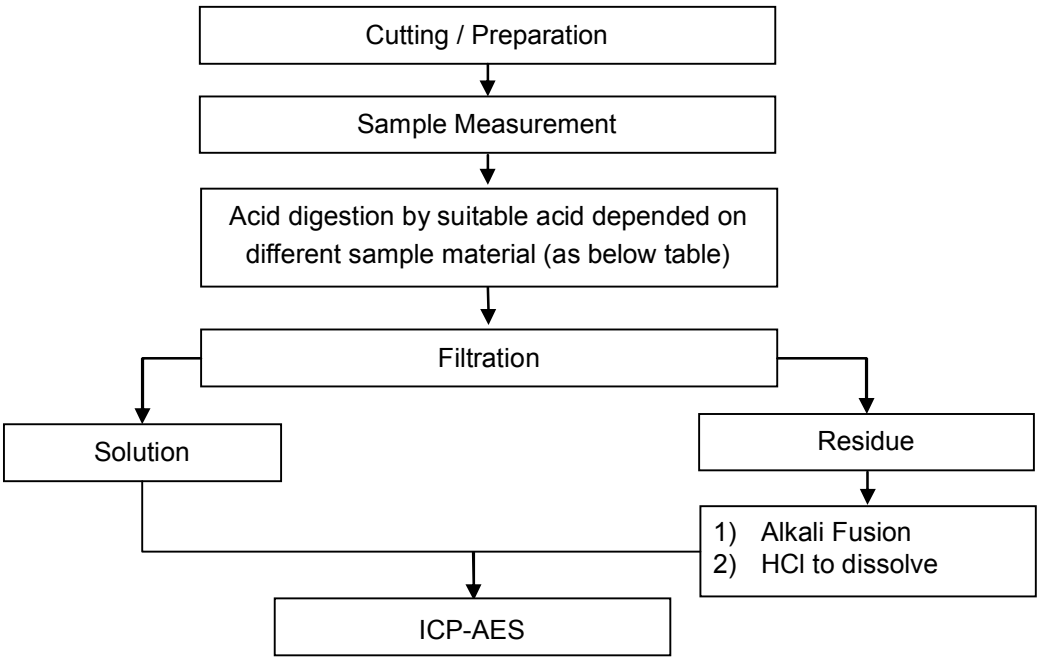
Note (For IEC 62321)**

(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.

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

1) 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

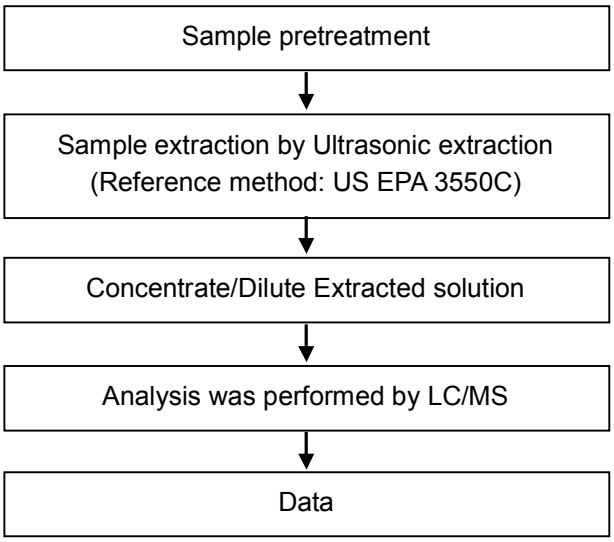


Steel, copper, aluminum, solder	Aqua regia, HNO_3, HCl, HF, H_2O_2
Glass	HNO_3/HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO_3
Plastic	H_2SO_4, H_2O_2, HNO_3, HCl
Others	Added appropriate reagent to total digestion

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

PFOA/PFOS analytical flow chart of Ultrasonic extraction (LC/MS) procedure

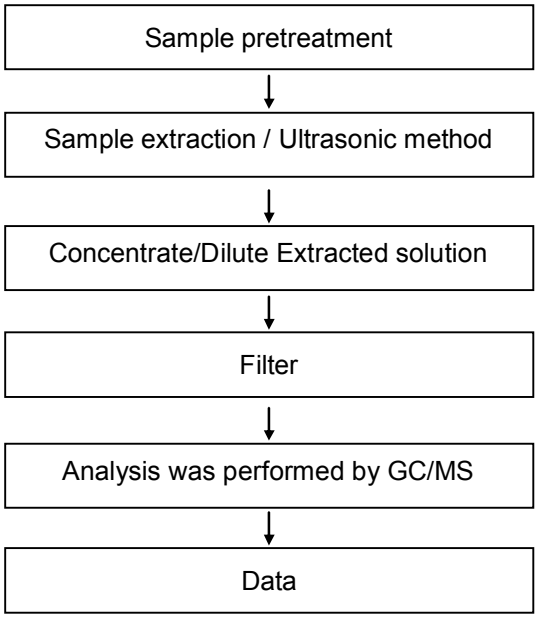
- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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

HBCDD analytical flow chart

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

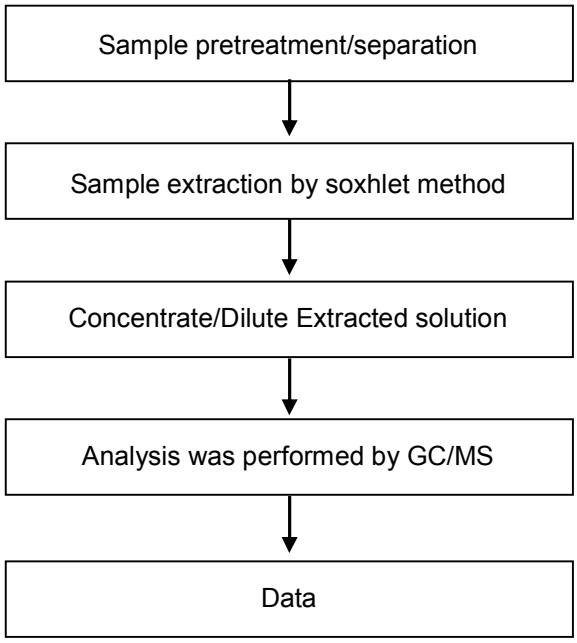


ELEKTRISOLA (MALAYSIA) SDN. BHD.
JALAN DAMAI SATU, JANDA BAIK, 28750 BENTONG, PAHANG, MALAYSIA.

Analytical flow chart of phthalate content

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

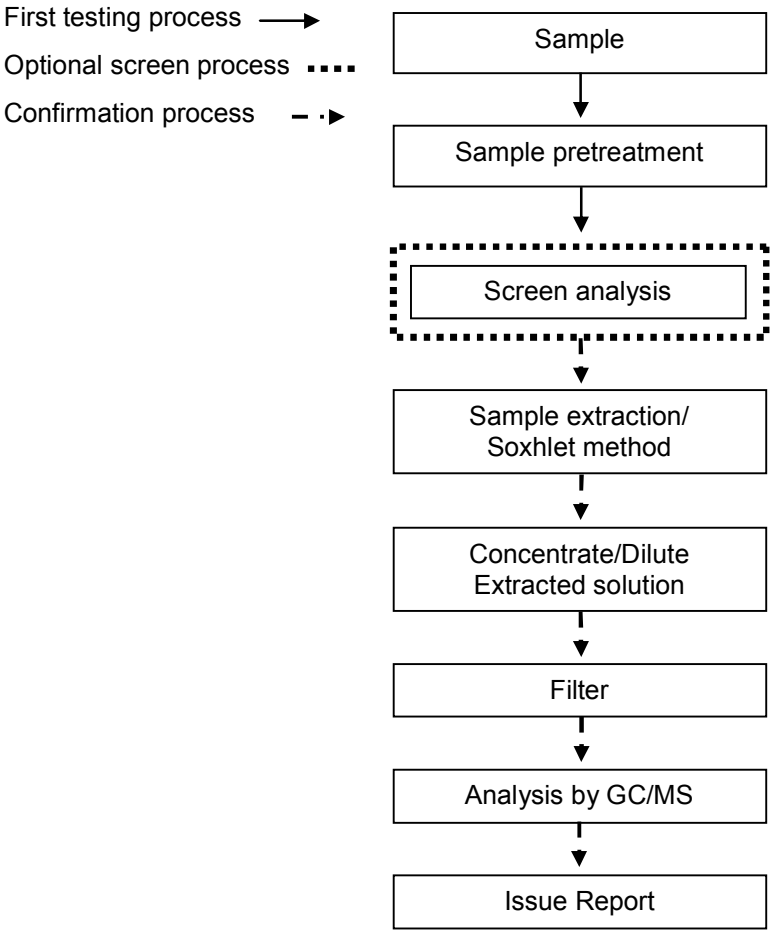
【Test method: EN 14372】



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

PBB/PBDE analytical FLOW CHART

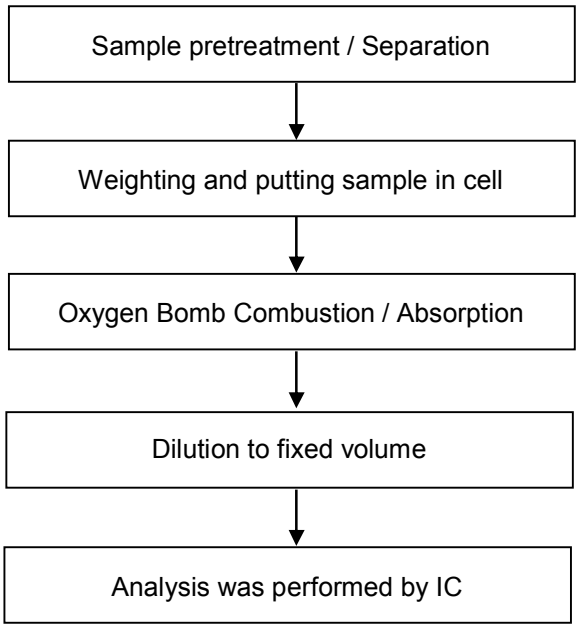
- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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

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



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

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

CE/2015/44583

** End of Report **

BOLUO SAMTONG ELECTRONIC MATERIAL CO.,LTD.

LONGXI TOWN,BOLUO COUNTY,GUANGDONG PROVINCE
CHINA

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

SGS Job No. :	CP14-054863 - GZ
Model No. :	EP-600-B5
Client Ref. Info. :	EP-600, EP-600-F, EP-600-H, EP-600-B, EP-600-SL, EP-600-SM, ST-500, ST-500-SL-1, ST-500-SH, ST-500-SH-1, ST-500-3
Date of Sample Received :	17 Oct 2014
Testing Period :	17 Oct 2014 - 23 Oct 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).

Signed for and on behalf of
SGS-CSTC Ltd.

Alkene_Liang
Approved Signatory

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN14-169718.001	Black liquid

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

Elementary Analysis & Flame Retardants

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)	Unit	MDL	*001*
Cadmium (Cd)	mg/kg	2	ND
Lead (Pb)	mg/kg	2	ND
Mercury (Hg)	mg/kg	2	ND
Hexavalent Chromium (CrVI)	mg/kg	2	ND
Sum of PBBs	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	mg/kg	-	ND
Monobromodiphenyl ether	mg/kg	5	ND

Test Item(s)	Unit	MDL	001
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

Polynuclear Aromatic Hydrocarbons (PAHs)

Test Method : With reference to ZEK 01.4-08 of German ZLS and its amendments, analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	001
Naphthalene(NAP)	mg/kg	0.1	ND
Acenaphthylene(ANY)	mg/kg	0.1	ND
Acenaphthene(ANA)	mg/kg	0.1	ND
Fluorene(FLU)	mg/kg	0.1	ND
Phenanthrene(PHE)	mg/kg	0.1	ND
Anthracene(ANT)	mg/kg	0.1	ND
Fluoranthene(FLT)	mg/kg	0.1	ND
Pyrene(PYR)	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	mg/kg	0.1	ND
Chrysene(CHR)	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF) + Benzo(j)fluoranthene(BjF)	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	mg/kg	0.1	ND

Test Item(s)	Unit	MDL	001
Benzo(e)pyrene(BeP)	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	mg/kg	0.1	ND
Sum of 18 PAHs	mg/kg	-	ND

ZEK 01.4-08: Restraining maximum values for products

Parameter	Category 1	Category 2	Category 3
	Material indented to be put in the mouth or material for toys with normal skin contact for children aged < 36 months	Materials those are not included in Category 1, with predictable contact with the skin longer than 30 s. (long-term skin contact).	Materials those are not included in Category 1 or 2, with predictable skin contact up to 30 s (short-term skin contact).
Benzo(a)pyrene (mg/kg)	<0.2**	1	20
Sum of 18 PAH (mg/kg)*	<0.2**	10	200

Notes:

* = Only PAH substances >0.2 mg/kg are taken into account while calculating the sum of PAHs

** = In case that the maximum values exceed the limits of category 1, but are within the limits of category 2, one may confirm the suitability of the tested material which is indented to be put in the mouth by additional specific migration tests of PAH components based on DIN EN 1186ff and §64 LFGB 80.30-1. The conclusion of the migration test results must be made based on food law criteria.

Hexabromocyclododecane (HBCDD)

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

Test Item(s)	Unit	MDL	001
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.

Phthalate

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

Test Item(s)	CAS NO.	Unit	MDL	*001*
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND

Notes :

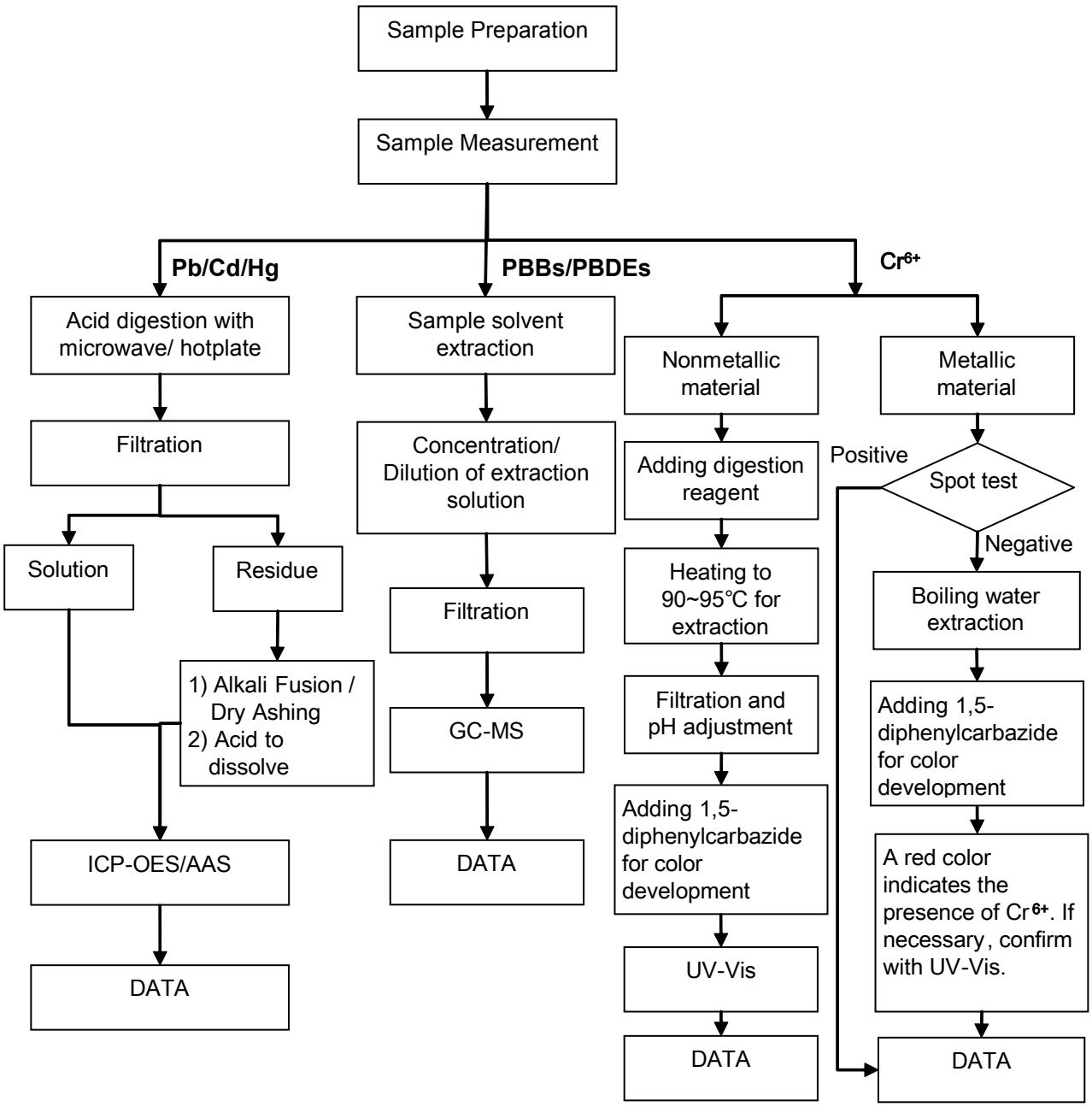
(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.

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

ATTACHMENTS

RoHS Testing Flow Chart

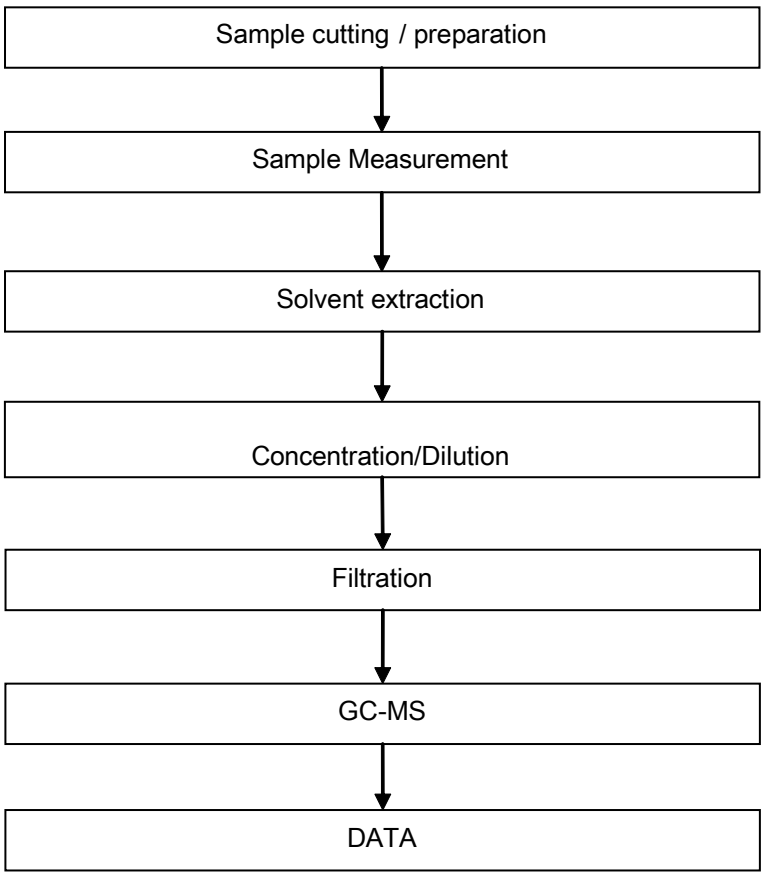
1) Name of the person who made testing: Bruce Xiao / Sunny Hu
2) Name of the person in charge of testing: Bella Wang / Cutey Yu
3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr^{6+} and PBBs/PBDEs test method excluded).



ATTACHMENTS

HBCDD Testing Flow Chart

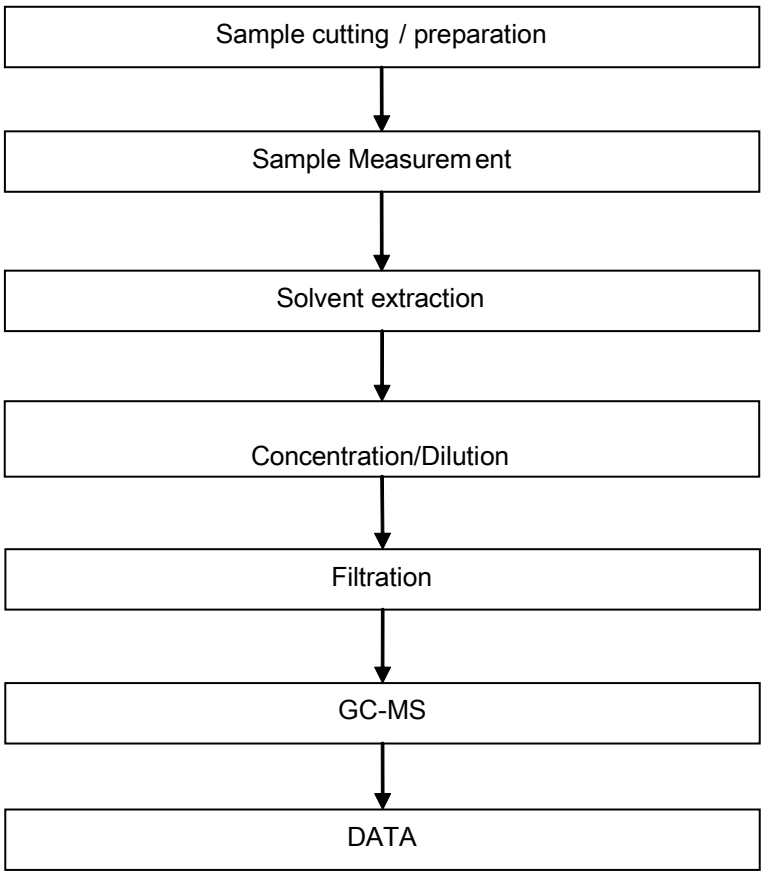
1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



ATTACHMENTS

Phthalates Testing Flow Chart

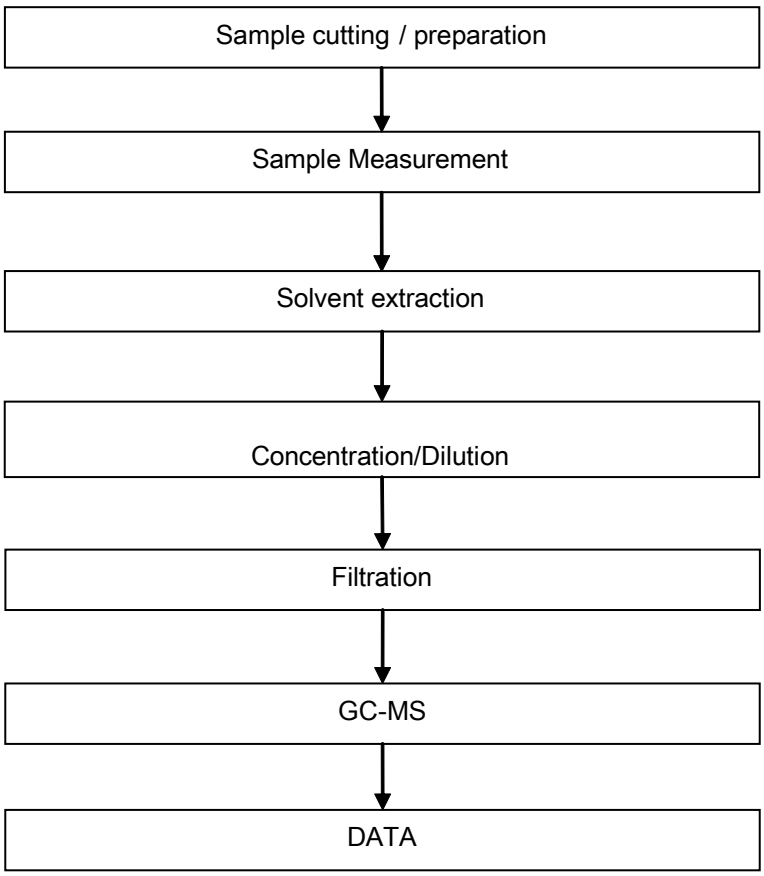
1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



ATTACHMENTS

PAHs Testing Flow Chart

1) Name of the person who made testing: Sunny Hu
2) Name of the person in charge of testing: Cutey Yu



Sample photo:

CAN14-169718.001

SGS authenticate the photo on original report only

*** End of Report ***