



ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: 3AG Fuse

Product #: 315xxxP Series

Issue Date: March 19, 2012

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes. In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by: 
KRISTEEN BACILA

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the 3AG Fuse RoHS-Compliant series products manufactured by Littelfuse, Inc.

< Raw Materials Used

Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks :

Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	910-005	Cap	3-6
2	909-002-002	Body – Soda Lime Glass Tubes	7-10
3	909-194-002	Body	11-19
4	082xxx	Wire - Cu Sn Plated	20-29
5	497xxx	Wire – 99% Ni	30-36
6	692475	Solder	37-43
7	692476	Solder	44-50
8	692477	Solder	51-57
9	692535-003	Solder	58-62
10	648102	Yarn	63-71
11	087244	HMA	72-80
12	899-40X-1	Resistor	81-90
13	912-228	Spring	91-94
14	934-086 / 934-087 / 934-088	Overcap (Cap Base & Plating)	95-98
15	934-086 / 934-087 / 934-088	Overcap (Wire Base & Plating)	95-98
16	692539-003	Solder	99-103
17	909-194-001	Borosilicate Glass tube	104-107
18	425902	Ink - Black	108-122
19	425906	Ink - Brown	123-137



TEST REPORT

NO.: A002E11121307-1R02

Date: Dec.15, 2011

Page 1 of 4

Customer: SuZhou FuHong Electronic Industrial Co., Ltd.

Address: NO. 89 WEI DU ROAD, WANGTING TOWN, XIANGCHENG DISTRICT, SUZHOU, CHINA

Report on the submitted sample said to be

Sample name: Copper shell

Model: /

Item/Lot No.: /

Material: /

Description: /

Buyer: /

Supplier: /

Manufacturer: /

Sample received date: Dec.13,2011

Testing period: From Dec.13,2011 to Dec.15,2011

Testing Requested

As specified by client, to determine the Lead, Cadmium, Mercury & Hexavalent Chromium content in the submitted sample in accordance with Directive 2002/95/EC (RoHS).

Testing method:

Testing Item	Pretreatment method	Measuring instrument	MQL
Lead (Pb)	IEC 62321: 2008, section 9	ICP-OES	2mg/kg
Cadmium (Cd)	IEC 62321: 2008, section 9	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321: 2008, section 7	ICP-OES	2 mg/kg
Chromium (Cr VI)	IEC 62321: 2008, Annex B	UV-VIS	0.02mg/kg*

Note:

-* 0.02 mg/kg refers to the MQL of sample extraction liquid.

Conclusion:

-When tested as specified the submitted sample complied with the requirements of commission Decision of 18 Aug 2005 amending Directive 2002/95/EC notified under document 2005/618/EC.

*****FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)*****

Project Leader
(Engineer)

Maggie

Approved by
(Lab manager)

Wickay

Inspected by
(Technical manager)

Wei kin

SHENZHEN AOV TESTING TECHNOLOGY CO.,LTD.KUNSHAN BRANCH

No.8,Minguan Road North,Zhoushi,Kunshan,Jiangsu,China

Fax : 86-512-5510 8808 Http: //www.aovt.com

(Attention is drawn to the terms and conditions printed overleaf)



Hotline
86-512-5510 8000

TEST REPORT

NO.: A002E11121307-1R02

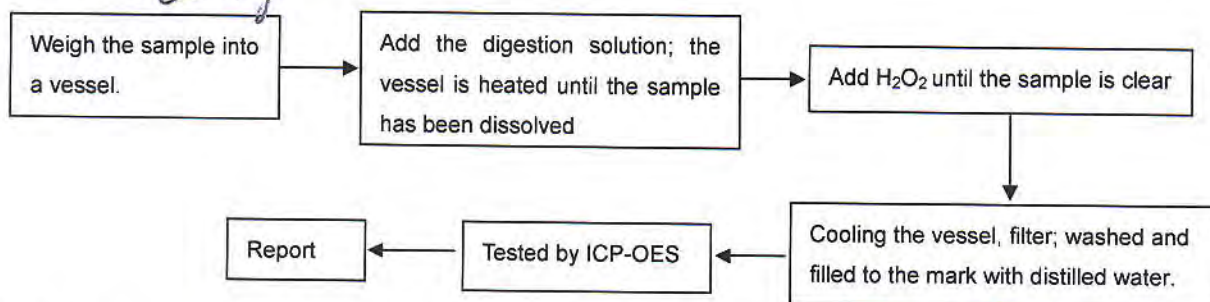
Date: Dec.15, 2011

Page 2 of 4

Test Flow:

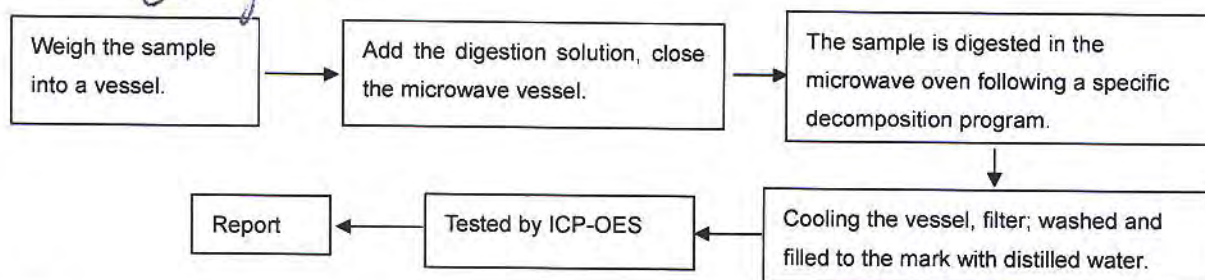
1. To Determine Lead, Cadmium Content: (Metal substrate)

Tested by: *Condy*



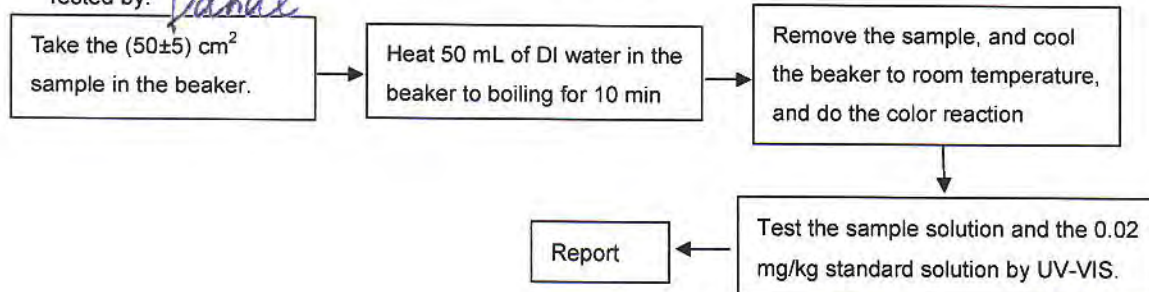
2. To Determine Mercury Content: (Metal substrate)

Tested by: *Condy*



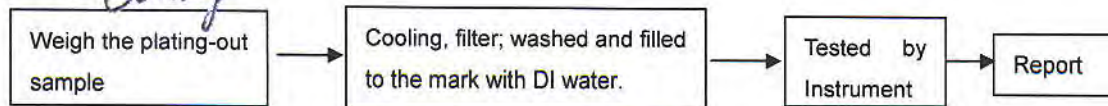
3. To Determine Hexavalent Chromium Content (boiling- water- extraction): (Metal substrate)

Tested by: *Danae*



4. To Determine Lead, Cadmium and Mercury Content: (Plating)

Tested by: *Condy*



TEST REPORT

NO.: A002E11121307-1R02

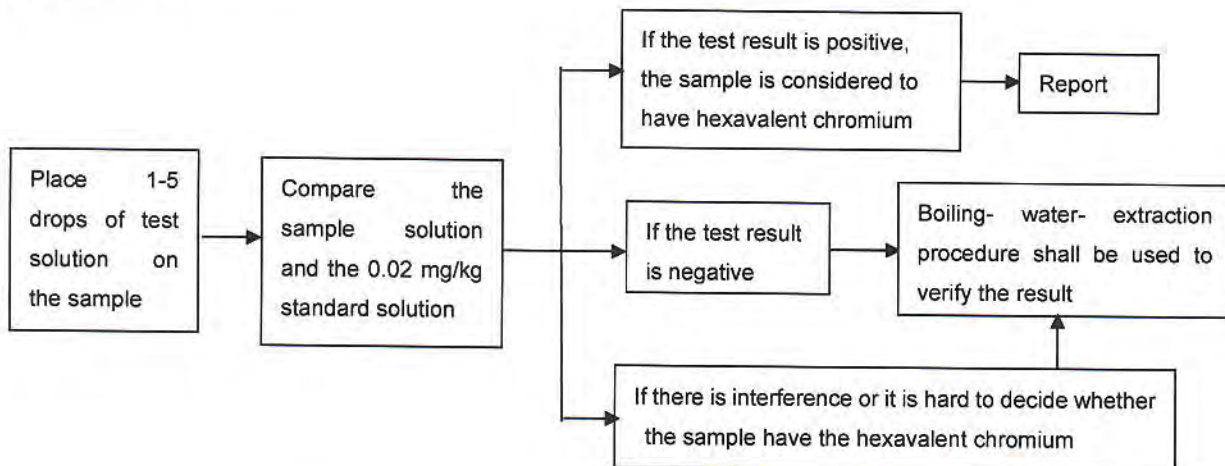
Date: Dec.15, 2011

Page 3 of 4

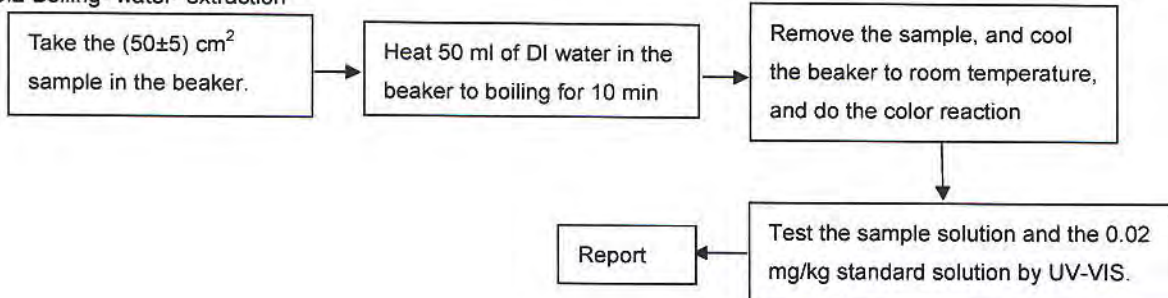
5. To Determine Hexavalent Chromium Content in colorless and colored chromate coating on metals: (Plating)

Tested by: *Danale*

5.1 Spot-test



5.2 Boiling- water- extraction



Test Results:

Item	Unit	RoHS Limit	Result	
			Substrate	Plating*
Lead (Pb)	mg/kg	1000	N.D.	N.D.
Cadmium (Cd)	mg/kg	100	N.D.	N.D.
Mercury (Hg)	mg/kg	1000	N.D.	N.D.
Chromium (CrVI)	mg/kg	1000	Negative	Negative

TEST REPORT

NO.: A002E11121307-1R02

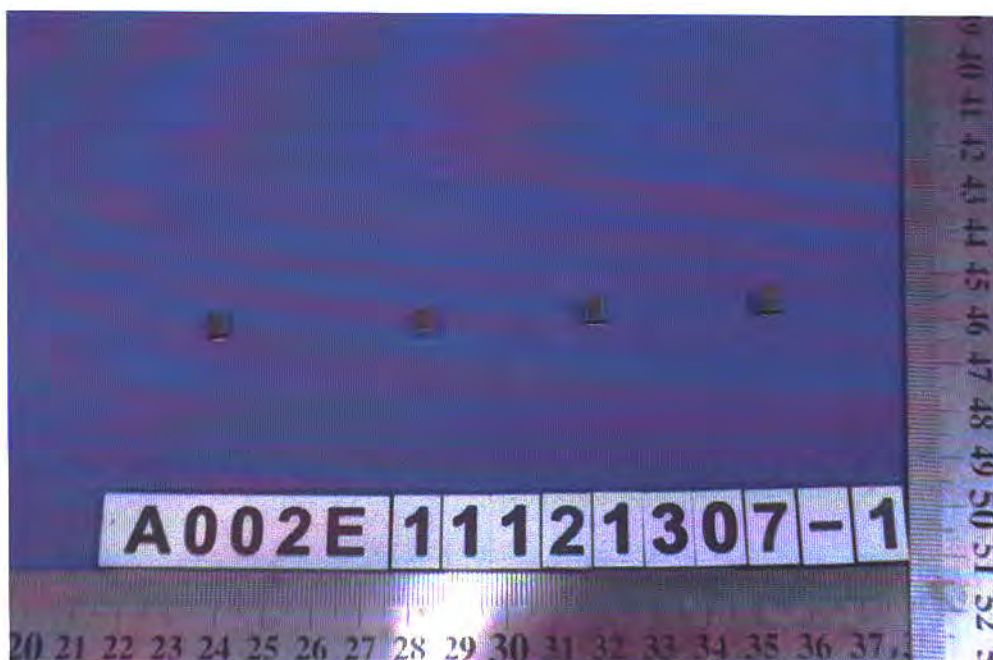
Date: Dec.15, 2011

Page 4 of 4

Note:

- The new RoHS directive 2011/65/EU, on Jul. 21, 2011 come into force, on Jan. 03, 2013 the formal implementation, Directive 2002/95/EC shall be repealed simultaneously.
- Specimens, which requested to determine Lead, Cadmium and Mercury Content, have been dissolved completely.
- mg/kg=ppm
- N.D.=not detected(<MQL)
- MQL=Method Quantitation Limit
- Negative=Absence of Cr (VI);
Positive=Presence of Cr (VI);
Uncertain= can not verify whether the sample have Hexavalent Chromium by spot-test.
(The tested sample should be further verified by boiling-water-extraction method if the spot test result is uncertain or negative.)
- *The test is based on the following assumption: The sample plating is a single layer and each part is uniform. The test result maybe cannot stand for the physical truth of sample plating.
- Photo is included

Photograph of Sample



Copper shell

End of Report





Test Report

No.: GZ1106081315/CHEM

Date: JUN 24, 2011

Page 1 of 4

XIAMEN LICHUN ELECTRONIC ELEMENT CO., LTD
42-2 XINGLIN WEST RD, 361002 JIMEI DISTRICT, XIAMEN FUJIAN, P.R.C

The following sample(s) was/were submitted and identified on behalf of the applicant as SODA LIME GLASS TUBE

SGS Job No. : XM13205987EC

SGS Internal Reference No. : 2.1

Client Reference Information : 3.6.4.6,5.2.6.3.10.3

Date of Sample Received : JUN 23, 2011

Testing Period : JUN 23, 2011 TO JUN 24, 2011

Test Requested : Selected test (s) as requested by client.

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

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

Conclusion : Based on the performed tests on submitted sample(s), the results **comply** with the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS-CSTC Ltd.

Jenny Jiang
Approved Signatory

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. 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 constitute parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



SGS Standards Technical Services Co. Ltd.
Testing Service

193 Kexu Road, Sainfoh Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075125 www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路193号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075125 e sgs.china@sgs.com

Member of the SGS Group (SGS SA)



Test Report

No.: GZ1106081315/CHEM

Date: JUN 24, 2011

Page 2 of 4

Test Results:

Description for specimen 1 : Transparent glass tube

RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	203	2	1000
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321: 2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	-	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg	-	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	

Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not regulated

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects only 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 generate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



SGS Standards Technical Service Co., Ltd.
Guangzhou General Chemistry Laboratory

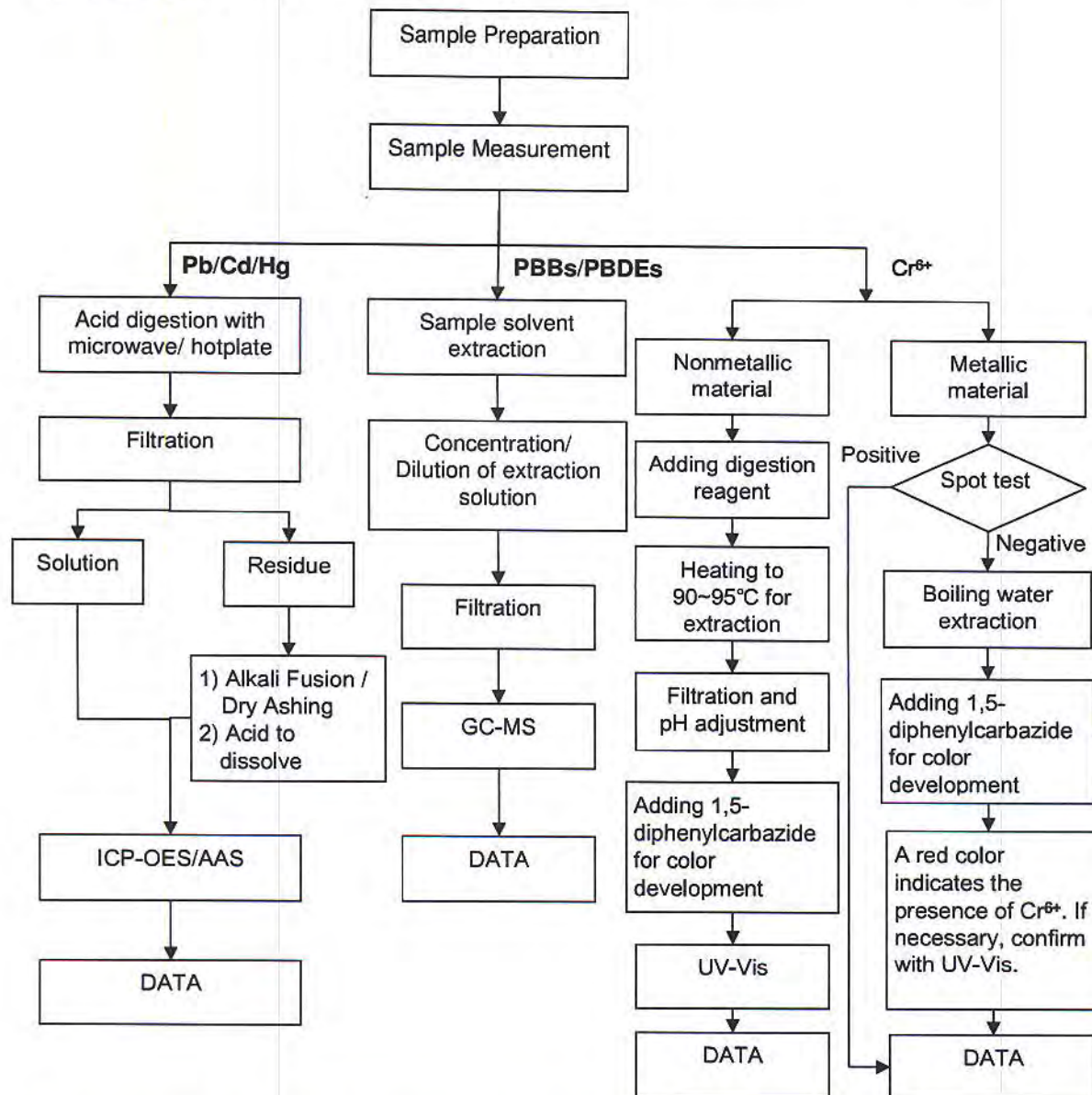
198 Kexin Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 | (86-20) 82155555 | (86-20) 82075125 | www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 | (86-20) 82155555 | (86-20) 82075125 | sgs.china@sgs.com

Member of the SGS Group (SGS SA)

ATTACHMENTS

RoHS Testing Flow Chart

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



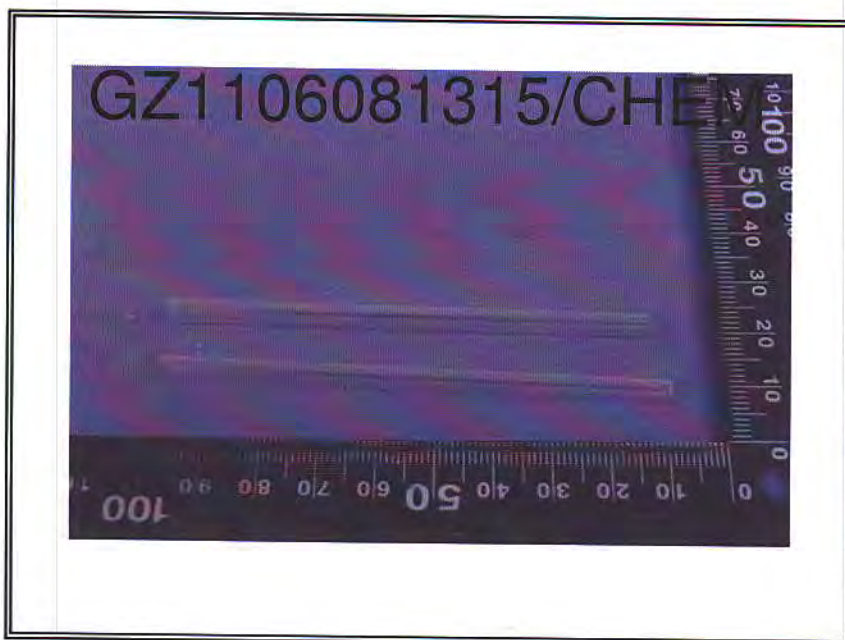
This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects only the 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 constitute a transaction from exercising all their rights and obligations under the transaction documents. 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.



198 Kailu Road, Science Park, Guangzhou Economic & Technology Development Zone, Guangzhou, China 510663 | (86-20) 82155555 | (86-20) 82075125 | www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 | (86-20) 82155555 | (86-20) 82075125 | sgs.china@sgs.com

Member of the SGS Group (SGS SA)

Sample photo :



SGS authenticate the photo on original report only

*** End of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. 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 generate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



198 Kexu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 | (86-20) 82155555 | (86-20) 82075125 | www.cn.sgs.com
 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 | (86-20) 82155555 | (86-20) 82075125 | sgs.china@sgs.com

Member of the SGS Group (SGS SA)



TEST REPORT

NUMBER: SHAH00278181S1

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: SEP 07, 2011

THIS IS TO SUPERSEDE
REPORT NO. SHAH00278181
DATED SEP 02, 2011

SAMPLE DESCRIPTION:

One(1) submitted sample said to be **Transparent tube.**

Part Description : Body.
Part Number : 909-194-002.
Date Sample Received : Aug.30, 2011.
Date Test Started : Aug.30, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

1 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	ND
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million based on weight of tested sample =
 mg/kg
 ND = Not detected

Responsibility Of Chemist : Ken He

(II) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Halogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

 TO BE CONTINUED

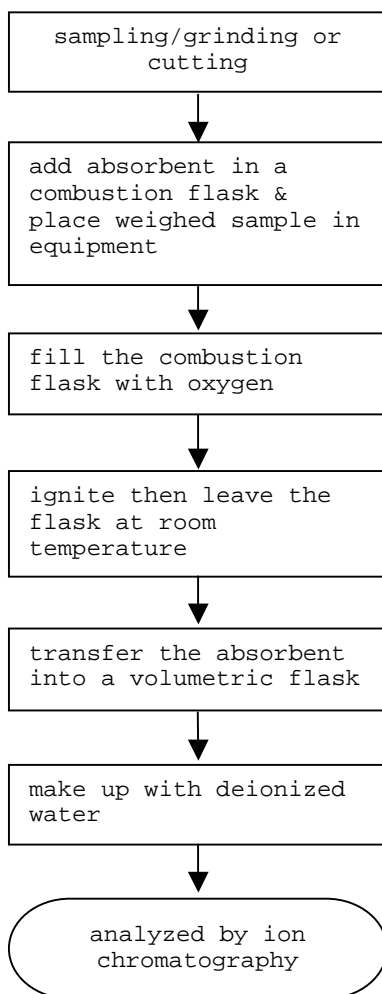
TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

(III) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

2 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
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
Polybrominated Diphenyl Ethers (PBDEs)	
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

Remarks: ppm = Parts per million based on weight of tested sample =
mg/kg

ND = Not detected

Responsibility Of Chemist :Dent Fang / Ken He

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ehters (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment
2005/618/EC for homogeneous material.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

Date Sample Received : AUG.23, 2011

Testing Period : AUG.23, 2011 TO AUG.26, 2011

TO BE CONTINUED

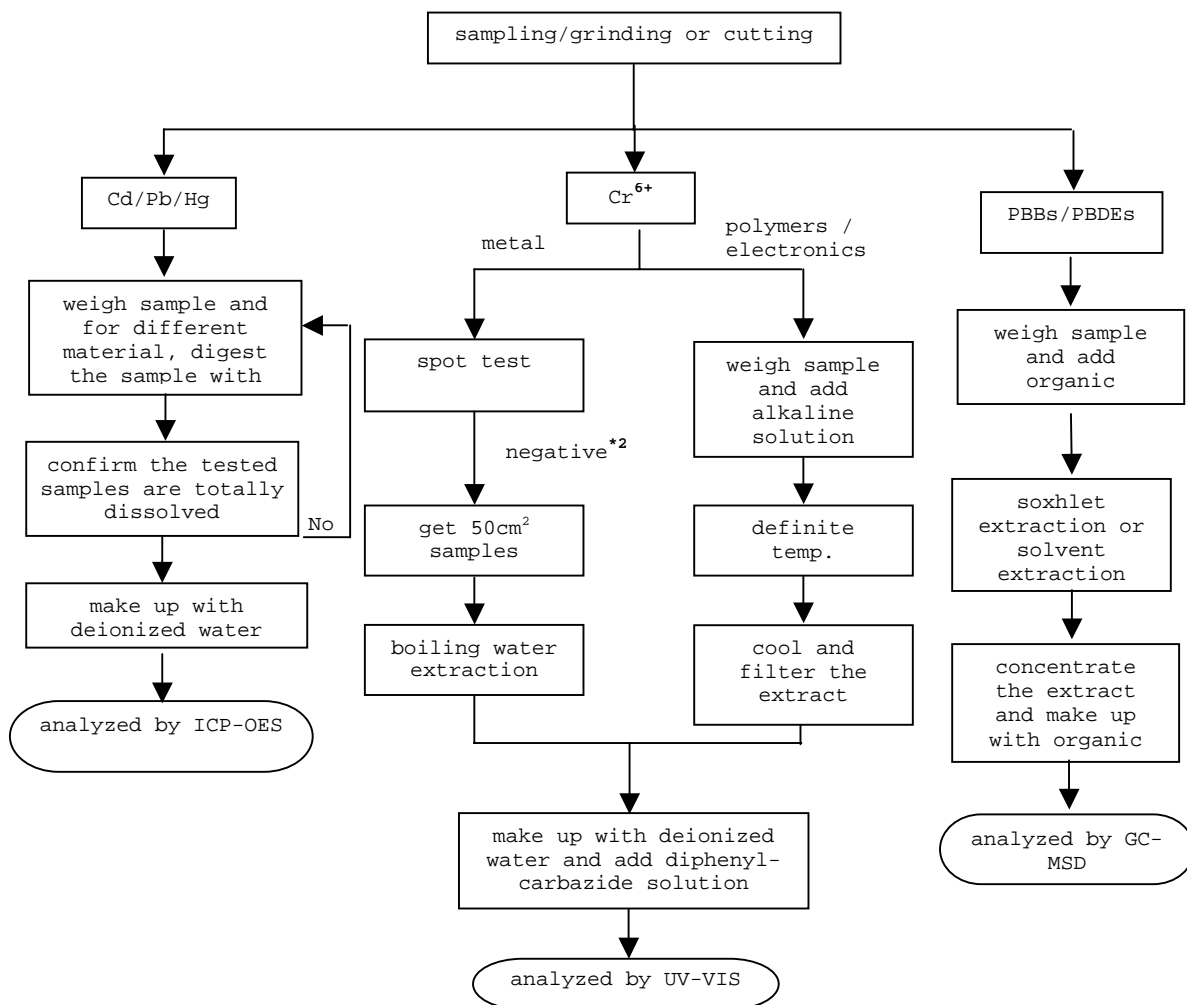
TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Contents
 Reference Standard: IEC 62321 edition 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00278181S1

TESTS CONDUCTED



END OF REPORT

測試報告 Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

頁數(Page) : 1 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : TINNED WIRES
樣品型號(Style/Item No.) : 請參考第5頁 (PLEASE REFER TO PAGE 5)
原產國(Country of Origin) : 德國 (GERMANY)
收件日期(Sample Receiving Date) : 2012/1/4
測試期間(Testing Period) : 2012/1/4 TO 2012/01/11

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


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告所顯示的測試結果僅在未經本公司書面許可下，不得複製或轉載。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市 烏樹林區 吳福路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告

Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

頁數(Page) : 2 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



測試結果(Test Results)

測試部位(PART NAME) No.1 : 混測所有顏色金屬線 (含鍍層) (共14款) (MIXED ALL COLOR METAL WIRE
(INCLUDING THE PLATING LAYER) (14 TYPES))

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	68
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	**	參考IEC 62321: 2008方法, 以沸水萃取法檢測. / With reference to IEC 62321: 2008 and performed by Boiling water extraction Method.#	#	Negative
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3540C: 1996方法, 以液相層析質譜儀檢測全氟辛烷磺酸含量. / With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
全氟辛酸(銨) / PFOA (CAS No.: 335-67-1)	mg/kg	參考US EPA 3540C: 1996方法, 以液相層析質譜儀檢測全氟辛酸(銨)含量. / With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試的樣品負責。本報告未經本公司許可, 不得全部或部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS 台灣分公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區五福路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告

Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

頁數(Page) : 3 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH

GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result) No.1
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法, 以氣相層析儀/質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.
二溴聯苯 / Dibromobiphenyl			5	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.
四溴聯苯 / Tetrabromobiphenyl			5	n.d.
五溴聯苯 / Pentabromobiphenyl			5	n.d.
六溴聯苯 / Hexabromobiphenyl			5	n.d.
七溴聯苯 / Heptabromobiphenyl			5	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether			5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.
鹵素 / Halogen				
鹵素 (氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	參考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 (氯) / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)			50	n.d.
鹵素 (溴) / Halogen-Bromine (Br) (CAS No.: 10097-32-2)			50	n.d.
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)			50	n.d.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此測試報告的結果僅針對所檢之樣品。本報告不得重印或轉載, 除非事先獲得SGS之書面許可。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區吳興里常路33號 +886 (02) 2299 3279 f +886 (02) 2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

頁數(Page) : 4 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



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 \geq 0.02 mg/kg with 50 cm² (tested areas)

7. 樣品的測試是基於申請人要求混合測試，報告中的混合測試結果不代表其中個別單一材質的含量。
(The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)
8. 此份報告取代2012/01/11所核發的CE/2012/10834報告。
(This report supersedes the previous document bearing the test report number CE/2012/10834 which was issued on 2012/01/11.)

PFOS參考資訊(Reference Information) : 指令 2006/122/EC (Directive 2006/122/EC)

- (1) 該物質不可置於市場上或使用於特殊物質或配置成分重量濃度等於或大於0.005%。
(May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.)
- (2) 該物質不可置於市場上的半成品或商品或其物件；假若零件上明顯地具有PFOS並參照結構上及微細構造上計算PFOS重量濃度等於或大於0.1%，而紡織品或其他覆蓋物質，如果PFOS在覆蓋物質中含量等於或大於1 μ g/m²。
(May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than 1 μ g/m² of the coated material.)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有註明，此報告僅以所測試的樣品為限。本報告未經本公司許可，不可重印或複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Testing Services
SGS 檢驗有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市板橋區吳福街33號 第三大樓10樓 電話 +886 (02)2299 3279 / +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

頁數(Page) : 5 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH

GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



樣品型號(Style/Item No.)

:

- (A-1) 101 - - 271. 0 - - - -tinned copper wire—Cu, Sn - - %
- (A-2) 101 - - 283. 0 - - - -tinned copper clad wire—Elcon 30, Sn - - %
- (A-3) 101 - - 272. 0 - - - -tinned copper clad wire—Elcon F, Sn - - %
- (A-4) 101 - - 281. 0 - - - -tinned copper clad wire—Elcon D, Sn - - %
- (A-5) 101- - 221. 0 - - - -tinned copper nickel alloy wire—CuNi44, Sn - - %
- (A-6) 101 - - 24-. 0 - - - -tinned silver plated copper wire—Cu, Ag--%, Sn -- %
- (A-7) 101 - - 257. 0 - - - -tinned brass wire—Cu80Zn20, Sn - - %
- (A-8) 101 - - 232. 0 - - - -tinned silver copper alloy wire—AgCu50, Sn - - %
- (A-9) 101 - - 234. 0 - - - -tinned silver copper alloy wire—AgCu90, Sn - -% (ElCu90, Sn - - %)
- (A-10) 101- - 255. - - - -tinned copper zinc alloy wire—Cu70Zn30, Sn - - %
- (A-11) 101- - 229. - - - -tinned copper nickel alloy wire—CuNi12, Sn - - %
- (A-12) 101- - 235. - - - -tinned silver copper alloy wire—Ag72Cu28, Sn - - %
- (A-13) 101- - 231. - - - -tinned silver wire—Ag1000, Sn - - %
- (A-14) 101- - 236. - - - -tinned silver copper alloy wire — Ag45Cu55, Sn - - %(AgCu55, Sn)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告只針對測試的結果有效。本報告未經本公司書面許可，不得部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan (SGS)
台灣檢驗科技股份有限公司

Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市板橋區五湖路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.) : CE/2012/10834

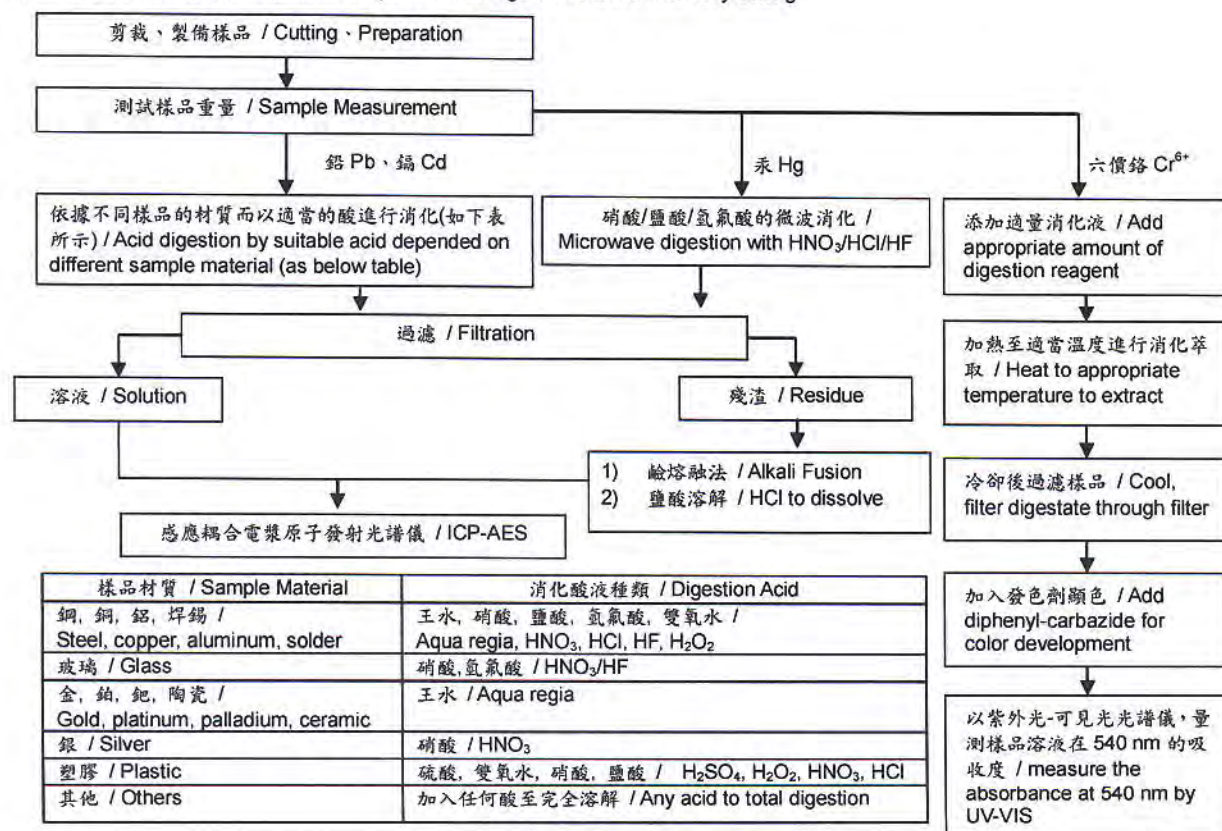
日期(Date) : 2012/01/12

頁數(Page) : 6 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



- 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. (Cr⁶⁺ 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



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此測試報告中的測試結果僅針對被測樣品。本報告未經本公司書面許可，不得部分複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan 台灣SGS
SGS Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區武吉元路33號 +886 (02)299 3279 1 + 886 (02)299 3237 www.sgs.com

測試報告 Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

頁數(Page) : 7 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



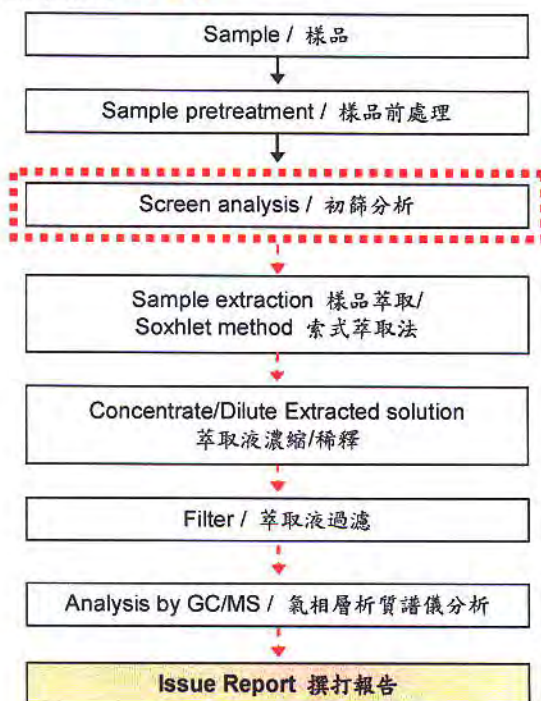
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 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

初次測試程序 / First testing process —————>

選擇性篩檢程序 / Optional screen process>

確認程序 / Confirmation process - - - ->



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除另有註明外，此測試結果僅指測試的樣品而言。本報告未經本公司書面許可，不得部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd
有線檢驗有限公司
Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市板橋區工業區梧庫路33號 電話+886 (02)2299 3279 / +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.) : CE/2012/10834

日期(Date) : 2012/01/12

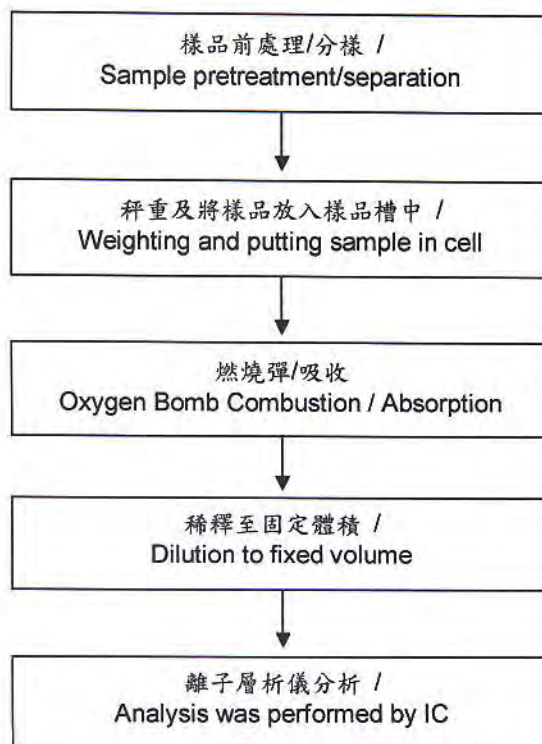
頁數(Page) : 8 of 10

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



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



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此測試報告所載測試結果僅針對被測樣品，未經本公司許可，不得重印或複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區 | 吳興五福路10號 | +886 (02) 2299 3279 f +886 (02) 2299 3237 www.sgs.com

測試報告 Test Report

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY

號碼(No.) : CE/2012/10834 日期(Date) : 2012/01/12 頁數(Page) : 10 of 10



* 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/2012/10834



SGSE12108340001

CE/2012/10834



SGSE12108340101

**** 報告結尾(End of Report) ****

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告僅對所測試的樣品負責。本報告未經本公司許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區：東二路66號 電話 +886 (02)2299 3279 / +886 (02)2299 3237 www.sgs.com

Test Report

No. : CE/2011/B4958

Date : 2011/12/01

Page: 1 of 7

POLYFIL AG
OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



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

Sample Description	: Ni99.9
Buyer/Order No.	: 4-1357
Sample Receiving Date	: 2011/11/25
Testing Period	: 2011/11/25 TO 2011/12/01

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


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告僅指所測試的樣品而言。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

Test Report

No. : CE/2011/B4958

Date : 2011/12/01

Page: 2 of 7

POLYFIL AG
OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



Test Result(s)

PART NAME No.1 : SILVER COLORED METAL WIRE

Test Item(s)	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 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
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
Sum of PBDEs			-	n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether			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.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有註明，此報告結果僅對測試的樣品有效。本報告未經本公司同意，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
有海檢驗科技股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市板橋區五湖路33號 電話 + 886 (02)2299 3279 / + 886 (02)2299 3237 www.sgs.com

Test Report

No. : CE/2011/B4958

Date : 2011/12/01

Page: 3 of 7

POLYFIL AG

OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



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)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)			50	n.d.
Halogen-Iodine (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
5. ** = Qualitative analysis (No Unit)
6. # = 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.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告對所測試的樣品負責。本報告未經本公司 (sgs.com.tw) 許可，不得部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Co., Ltd. Chemical-Taipei: 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股工業區五福路33號 +886 (02)2299 3279 / +886 (02)2299 3237 www.sgs.com

Test Report

No. : CE/2011/B4958

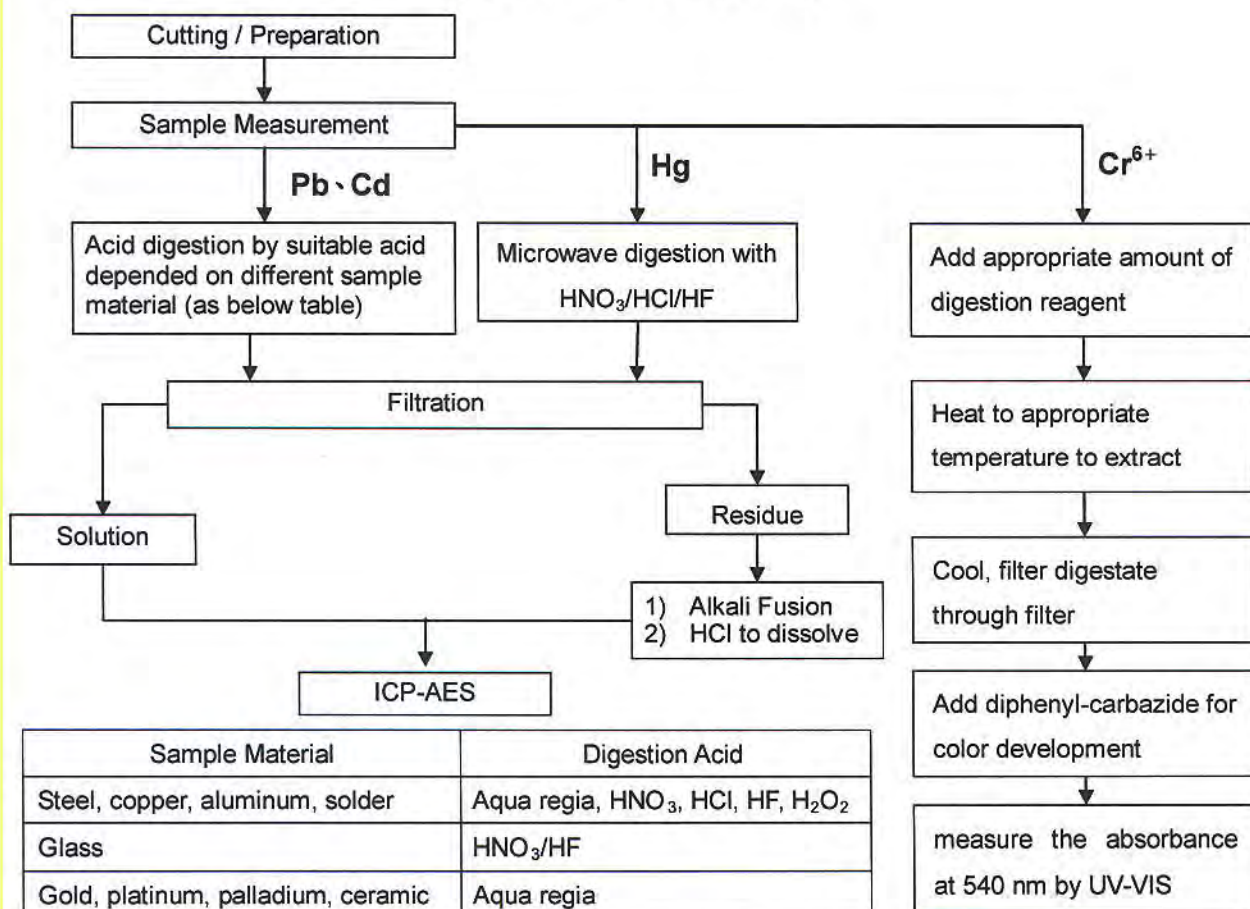
Date : 2011/12/01

Page: 4 of 7

POLYFIL AG
OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
(Cr⁶⁺ 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 ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Any acid to total digestion

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm, and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Technology Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區吳興路33號 電話 +886 (02)2299 3279 / +886 (02)2299 3237 www.sgs.com

Test Report

No. : CE/2011/B4958

Date : 2011/12/01

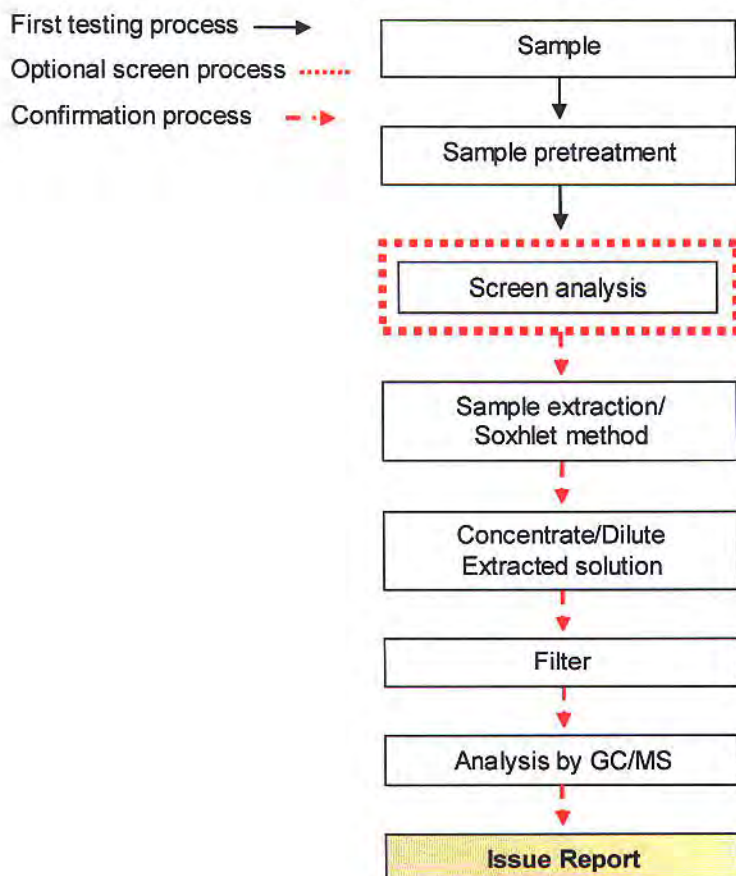
Page: 5 of 7

POLYFIL AG
OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



PBB/PBDE analytical FLOW CHART

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



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。未經本公司書面許可，不可重印或複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

Test Report

No. : CE/2011/B4958

Date : 2011/12/01

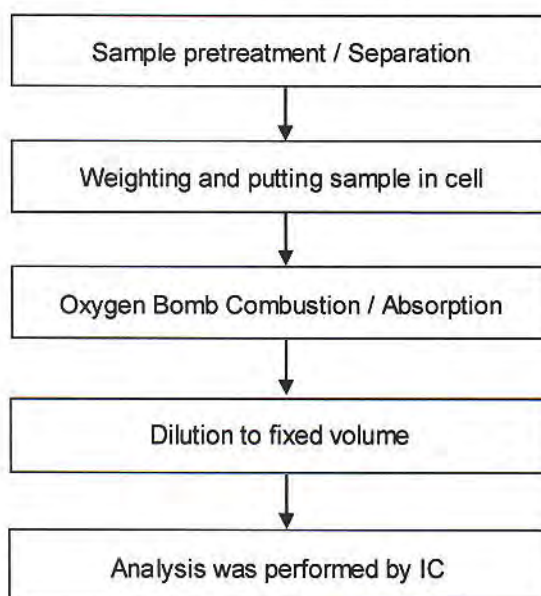
Page: 6 of 7

POLYFIL AG
OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



Analytical flow chart of halogen content

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



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有註明，此報告結果僅對測試的樣品負責。本報告未經本公司同意不得全部或局部複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區吳興路33號 電話 +886 (02) 2299 3279 f +886 (02) 2299 3237 www.sgs.com

Test Report

No. : CE/2011/B4958

Date : 2011/12/01

Page: 7 of 7

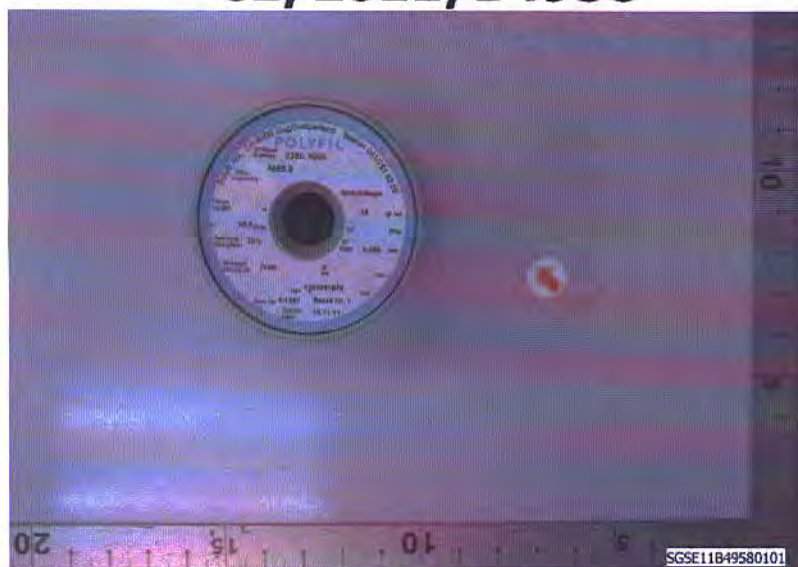
POLYFIL AG

OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



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

CE/2011/B4958



** End of Report **

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告所載測試結果僅供參考。本報告未經本公司許可，不可擅自複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.



TEST REPORT

NUMBER: SHAH00247323

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY

DATE: MAR 18, 2011

ATTN: A. CESISTA/ K. BACILA

SAMPLE DESCRIPTION:

ONE(1) SUBMITTED SAMPLE SAID TO BE : **SILVER METAL WIRE.**

PART DESCRIPTION : SOLDER.

PART NUMBER : 692475.

DATE SAMPLE RECEIVED : MAR.15, 2011.

DATE TEST STARTED : MAR.15, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00247323

TESTS CONDUCTED

(I) TEST RESULT SUMMARY :

TESTING ITEM	RESULT (ppm)
HEAVY METAL	
CADMIUM (CD) CONTENT	ND
LEAD (PB) CONTENT	145
MERCURY (HG) CONTENT	ND
CHROMIUM VI (CR ⁶⁺) CONTENT (MG/KG WITH 50CM ²)	NEGATIVE (< 0.02)
POLYBROMINATED BIPHENYLS (PBBS)	
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
POLYBROMINATED DIPHENYL ETHERS (PBDES)	
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

REMARKS: ppm = PARTS PER MILLION BASED ON WEIGHT OF TESTED SAMPLE =
 mg/kg

ND = NOT DETECTED

mg/kg WITH 50cm² = MILLIGRAM PER KILOGRAM WITH 50 SQUARE
 CENTIMETRE

NEGATIVE = A NEGATIVE TEST RESULT INDICATED POSITIVE
 OBSERVATION WAS NOT FOUND AT THE TIME OF TESTING.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247323

TESTS CONDUCTED

(II) ROHS REQUIREMENT:

<u>RESTRICTED SUBSTANCES</u>	<u>LIMITS</u>
CADMIUM (CD) CONTENT	0.01% (100PPM)
LEAD (PB) CONTENT	0.1% (1000PPM)
MERCURY (HG) CONTENT	0.1% (1000PPM)
CHROMIUM VI (CR ⁶⁺) CONTENT	0.1% (1000PPM)
POLYBROMINATED BIPHENYLS (PBBS)	0.1% (1000PPM)
POLYBROMINATED DIPHENYL ETHERS (PBDES)	0.1% (1000PPM)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT
2005/618/EC FOR HOMOGENEOUS MATERIAL.

(III) TEST METHOD:

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
CADMIUM (CD) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN CLAUSE 8/9/10, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP- OES.	2 ppm
LEAD (PB) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN CLAUSE 8/9/10, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP- OES.	2 ppm
MERCURY (HG) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN CLAUSE 7, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES.	2 ppm
CHROMIUM VI (CR ⁶⁺) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN ANNEX B, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER.	0.02 mg/kg WITH 50cm ²

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00247323

TESTS CONDUCTED

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
POLYBROMINATED BIPHENYLS (PBBS)	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN ANNEX A, BY SOLVENT EXTRACTION AND DETERMINED BY GC-MSD AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 ppm
POLYBROMINATED DIPHENYL ETHERS (PBDES)	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN ANNEX A, BY SOLVENT EXTRACTION AND DETERMINED BY GC-MSD AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 ppm

REMARK: REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

TO BE CONTINUED

TEST REPORT

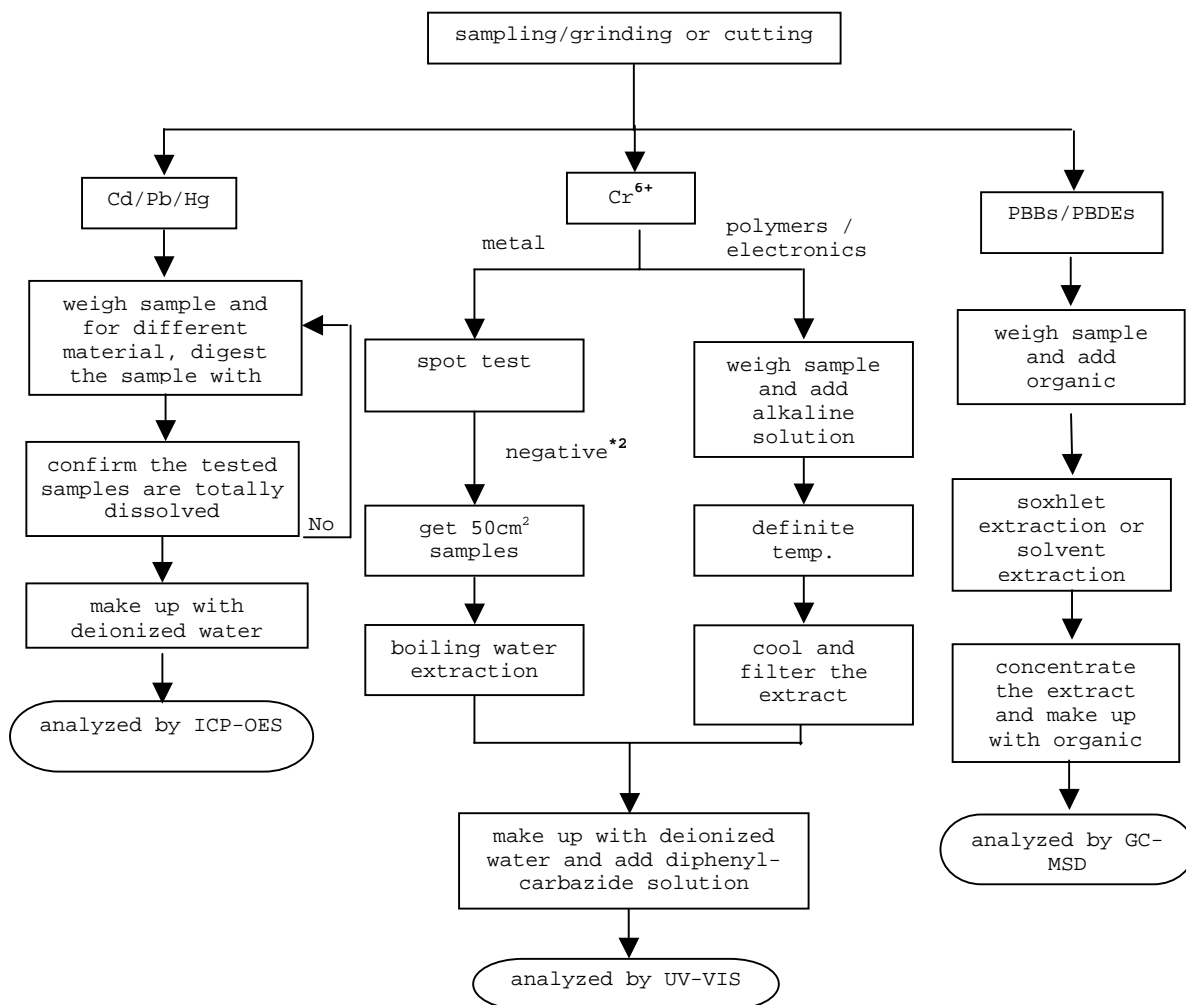
NUMBER: SHAH00247323

TESTS CONDUCTED

(IV) MEASUREMENT FLOWCHART:

TEST FOR CD/PB/HG/CHROMIUM (VI)/PBBS/PBDES CONTENTS

REFERENCE STANDARD: IEC 62321 EDITION 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00247323

TESTS CONDUCTED

REMARKS:

*1: LIST OF APPROPRIATE ACID:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE
DETERMINED AS DETECTED.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247323

TESTS CONDUCTED



END OF REPORT



TEST REPORT

NUMBER: SHAH00247312

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: MAR 21, 2011

SAMPLE DESCRIPTION:

One(1) submitted sample said to be **Silver metal wire.**

Part Description : Solder.

Part Number : 692476.

Date Sample Received : Mar.15, 2011.

Date Test Started : Mar.15, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00247312

TESTS CONDUCTED

(I) TEST RESULT SUMMARY :

TESTING ITEM	RESULT (ppm)
HEAVY METAL	
CADMIUM (CD) CONTENT	ND
LEAD (PB) CONTENT	86
MERCURY (HG) CONTENT	ND
CHROMIUM VI (CR ⁶⁺) CONTENT (MG/KG WITH 50CM ²)	NEGATIVE (< 0.02)
POLYBROMINATED BIPHENYLS (PBBS)	
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
POLYBROMINATED DIPHENYL ETHERS (PBDES)	
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

REMARKS: ppm = PARTS PER MILLION BASED ON WEIGHT OF TESTED SAMPLE =
 mg/kg

ND = NOT DETECTED

mg/kg WITH 50cm² = MILLIGRAM PER KILOGRAM WITH 50 SQUARE
 CENTIMETRE

NEGATIVE = A NEGATIVE TEST RESULT INDICATED POSITIVE

OBSERVATION WAS NOT FOUND AT THE TIME OF TESTING.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247312

TESTS CONDUCTED

(II) ROHS REQUIREMENT:

<u>RESTRICTED SUBSTANCES</u>	<u>LIMITS</u>
CADMIUM (CD) CONTENT	0.01% (100PPM)
LEAD (PB) CONTENT	0.1% (1000PPM)
MERCURY (HG) CONTENT	0.1% (1000PPM)
CHROMIUM VI (CR ⁶⁺) CONTENT	0.1% (1000PPM)
POLYBROMINATED BIPHENYLS (PBBS)	0.1% (1000PPM)
POLYBROMINATED DIPHENYL ETHERS (PBDES)	0.1% (1000PPM)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

(III) TEST METHOD:

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
CADMIUM (CD) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN CLAUSE 8/9/10, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES.	2 ppm
LEAD (PB) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN CLAUSE 8/9/10, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES.	2 ppm
MERCURY (HG) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN CLAUSE 7, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES.	2 ppm
CHROMIUM VI (CR ⁶⁺) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN ANNEX B, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER.	0.02 mg/kg WITH 50cm ²

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00247312

TESTS CONDUCTED

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
POLYBROMINATED BIPHENYLS (PBBS)	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN ANNEX A, BY SOLVENT EXTRACTION AND DETERMINED BY GC-MSD AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 ppm
POLYBROMINATED DIPHENYL ETHERS (PBDES)	WITH REFERENCE TO IEC 62321 EDITION 1.0:2008 IN ANNEX A, BY SOLVENT EXTRACTION AND DETERMINED BY GC-MSD AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 ppm

REMARK: REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

Date Sample Received : Mar.15, 2011

Testing Period : Mar.18, 2011

TO BE CONTINUED

TEST REPORT

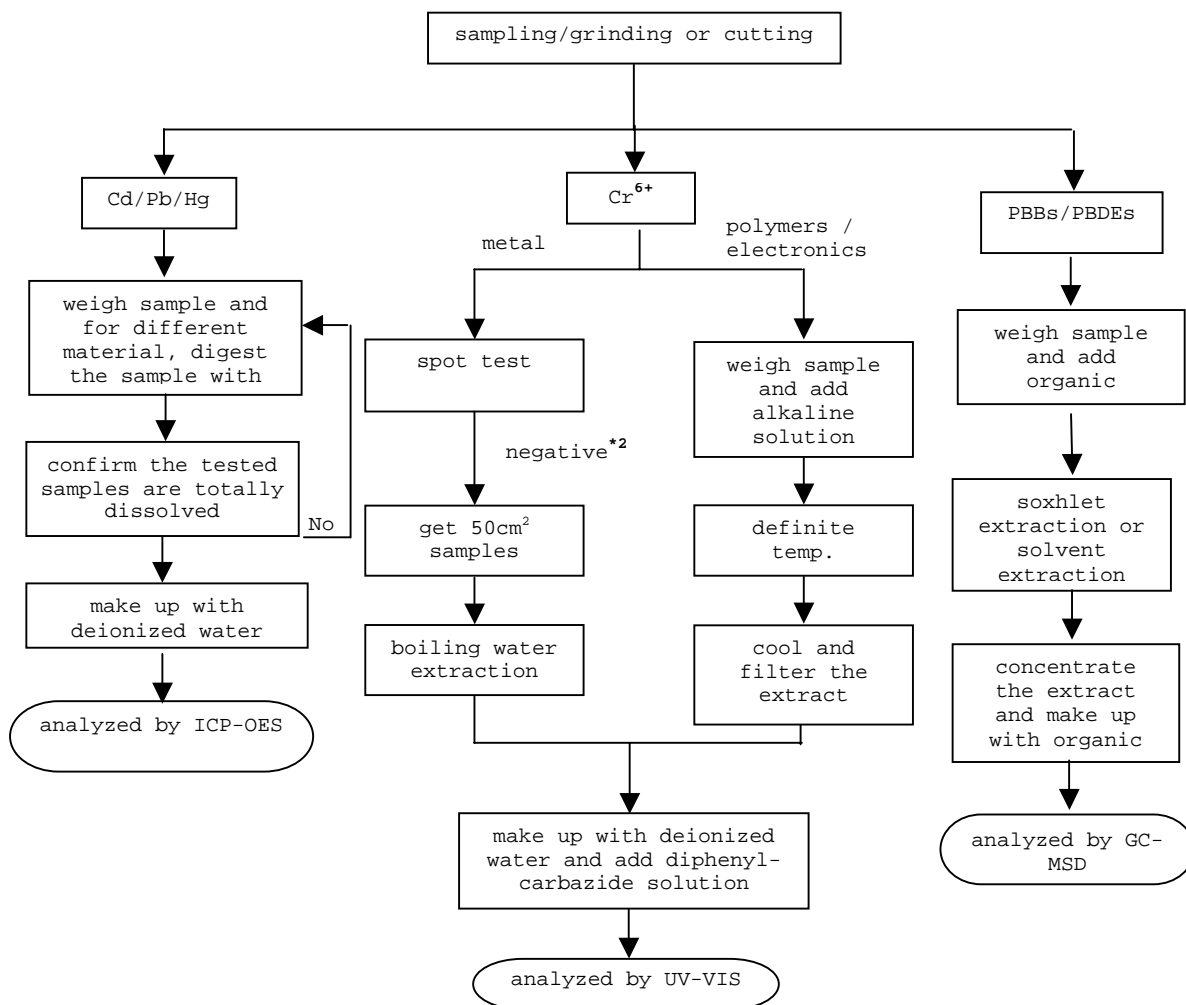
NUMBER: SHAH00247312

TESTS CONDUCTED

(IV) MEASUREMENT FLOWCHART:

TEST FOR CD/PB/HG/CHROMIUM (VI)/PBBS/PBDES CONTENTS

REFERENCE STANDARD: IEC 62321 EDITION 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00247312

TESTS CONDUCTED

REMARKS:

*1: LIST OF APPROPRIATE ACID:

Material	Acid added for digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE
DETERMINED AS DETECTED.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247312

TESTS CONDUCTED



END OF REPORT



TEST REPORT

NUMBER: SHAH00247320

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: MAR 21, 2011

SAMPLE DESCRIPTION:

One(1) submitted sample said to be **Silver metal wire.**

Part Description : Solder.

Part Number : 692477.

Date Sample Received : Mar.15, 2011.

Date Test Started : Mar.15, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00247320

TESTS CONDUCTED

(I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	60
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content (mg/kg with 50cm ²)	Negative (< 0.02)
Polybrominated Biphenyls (PBBs)	
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
Polybrominated Diphenyl Ethers (PBDEs)	
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

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247320

TESTS CONDUCTED

Remarks: ppm = Parts per million based on weight of tested sample =
 mg/kg
 ND = Not detected
 mg/kg with 50cm² = milligram per kilogram with 50 square
 centimeter
 Negative = A negative test result indicated positive
 observation was not found at the time of testing.

Responsibility Of Chemist :Dent Fang / Ken He

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ehters (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment
 2005/618/EC for homogeneous material.

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP- OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP- OES.	2 ppm

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247320

TESTS CONDUCTED

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis spectrophotometer.	0.02 mg/kg with 50cm ²
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

Date Sample Received : Mar.15, 2011

Testing Period : Mar.18, 2011

TO BE CONTINUED

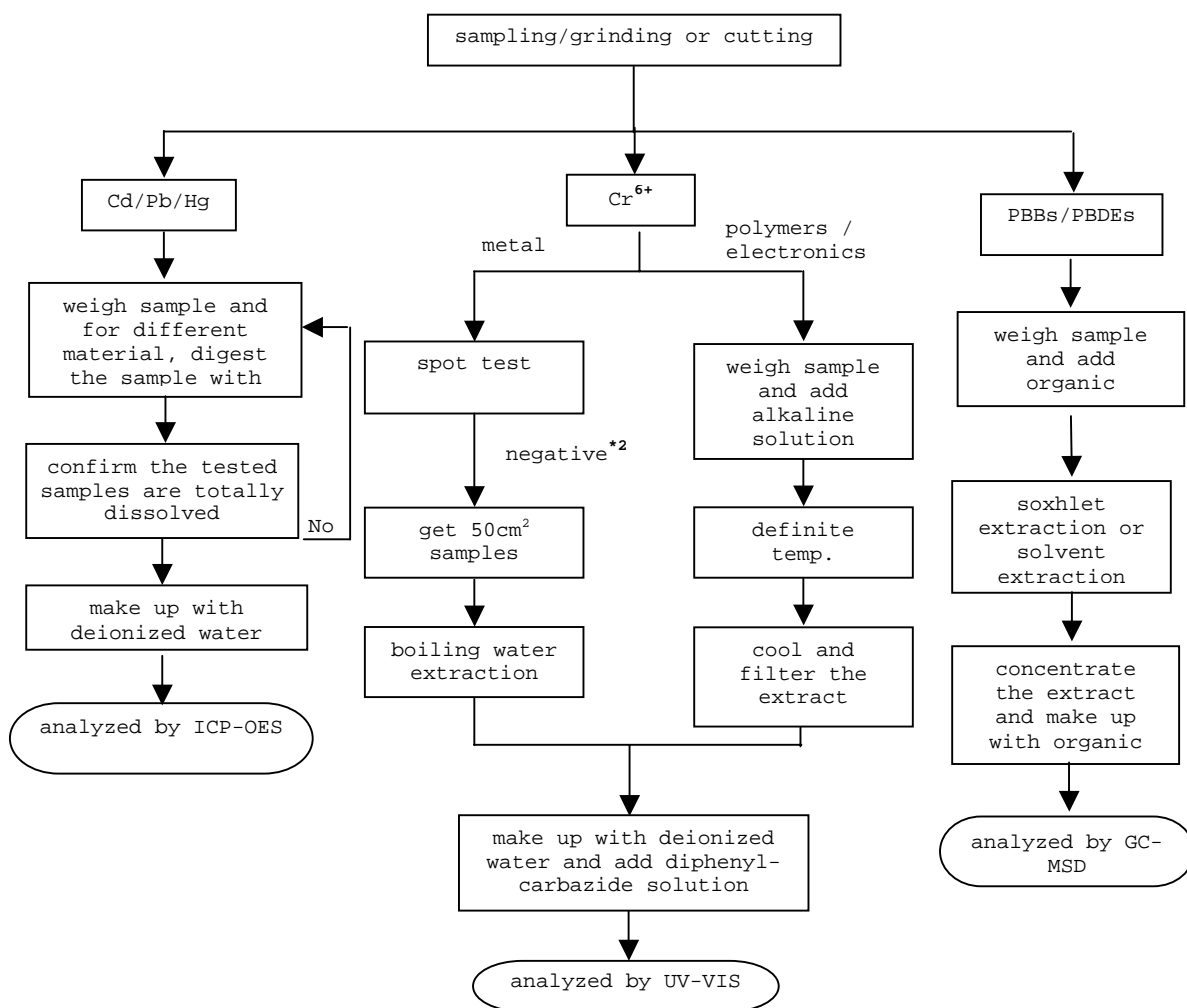
TEST REPORT

NUMBER: SHAH00247320

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Contents
Reference Standard: IEC 62321 edition 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00247320

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00247320

TESTS CONDUCTED



END OF REPORT



Test Report

No. SHAEC1116009838

Date: 14 Oct 2011

Page 1 of 5

ZHEJIANG ASIA GENERAL SOLDERING & BRAZING MATERIAL CO.,LTD
XIHU INDUSTRIAL PARK,SANDUN,HANGZHOU CITY,ZHEJIANG PROVINCE,CHINA

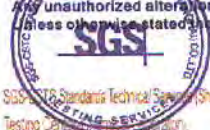
The following sample(s) was/were submitted and identified on behalf of the clients as : LEAD-FREE SOLDER WIRE

SGS Job No. : SP11-030781 - SH
Model No. : YTW102(692535-001,692535-002,692535-003)
Composition : Sn2.0CuRE
Date of Sample Received : 09 Oct 2011
Testing Period : 09 Oct 2011 - 13 Oct 2011
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.

Fan Jingjie, JJ
Approved Signatory

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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its inspection 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.



3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

t E&E (86-21) 61402553 f E&E (86-21) 64953679
HL: (86-21) 61402594 HL: (86-21) 54500353

www.cn.sgs.com
e sgs.china@sgs.com

Member of the SGS Group (SGS SA)

Test Report

No. SHAEC1116009838

Date: 14 Oct 2011

Page 2 of 5

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA11-160098.033	Silvery metal wire

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 Spot test / Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	033
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	167
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	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

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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction 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 inspection 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.



SGS - STP Standards Technical Services (Shanghai) Co., Ltd.
Testing Center (Shanghai)

3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

T E&E (86-21) 61402553 F E&E (86-21) 64953679
HL: (86-21) 61402594 HL: (86-21) 54500353

www.cn.sgs.com
e sgs.china@sgs.com

Test Report

No. SHAEC1116009838

Date: 14 Oct 2011

Page 3 of 5

Test Item(s)	Limit	Unit	MDL	033
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

(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.

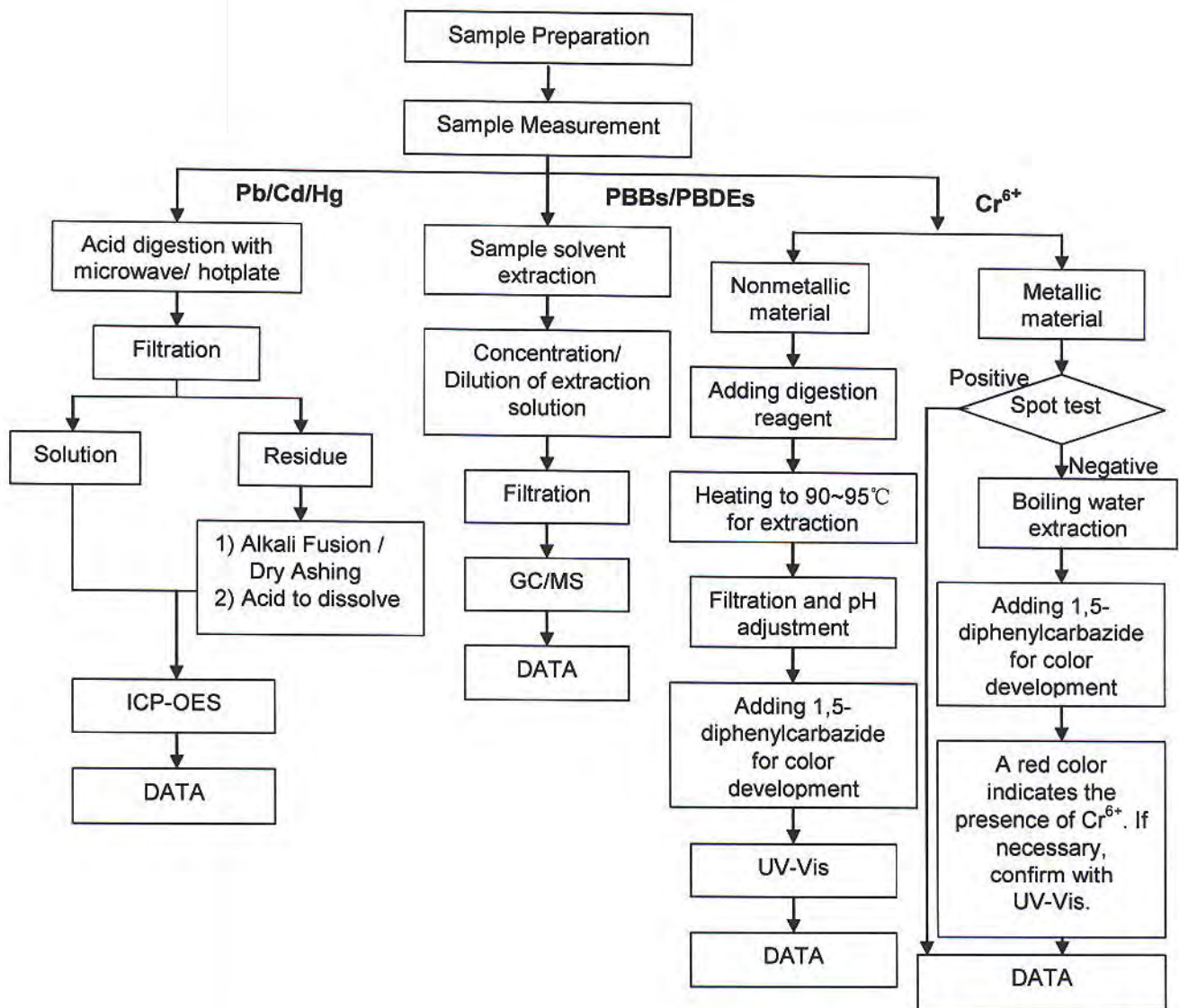
For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing

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/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, interpretation 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 inspection 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.

ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Jan Shi/Yoyo Wang/Allen Xiao/Gary Xu
- 2) Name of the person in charge of testing: Jeff Zhang/George Xu/ Elim Lin
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart.
(Cr⁶⁺ and PBBs/PBDEs test method excluded)



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/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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 preparation 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.

Test Report

No. SHAEC1116009838

Date: 14 Oct 2011

Page 5 of 5

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.



TEST REPORT

NUMBER: SHAH00276230

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: AUG 24, 2011

SAMPLE DESCRIPTION:

One(1) submitted sample said to be :**White yarn.**

Part Description : Yarn.

Part Number : 648102.

Date Sample Received : Aug.18, 2011.

Date Test Started : Aug.18, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED

1 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	ND
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million = mg/kg
ND = Not detected

Responsibility Of Chemist : Ken He

(II) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Halogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TEST REPORT

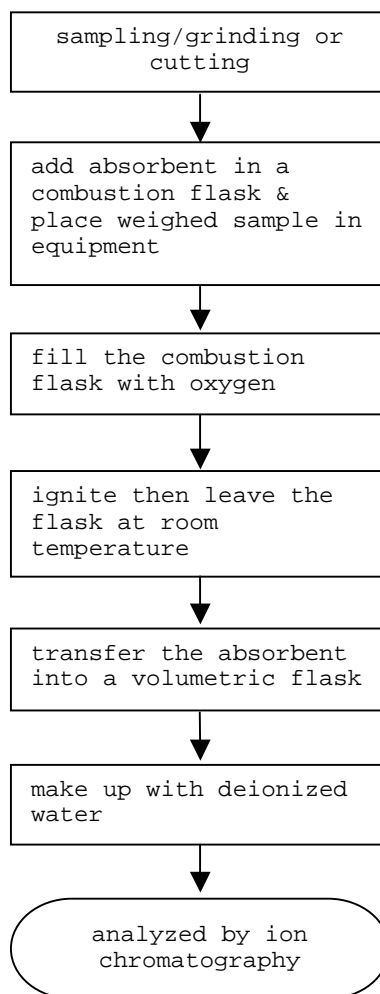
NUMBER: SHAH00276230

TESTS CONDUCTED

(III) Measurement Flowchart:

Test For Halogen Content

Reference Standard: EN 14582



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED

2 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
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
Polybrominated Diphenyl Ethers (PBDEs)	
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

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Dent Fang / Ken He

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment 2005/618/EC for homogeneous material.

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

Date Sample Received : AUG.18, 2011

Testing Period : AUG.18, 2011 TO AUG.23, 2011

TO BE CONTINUED

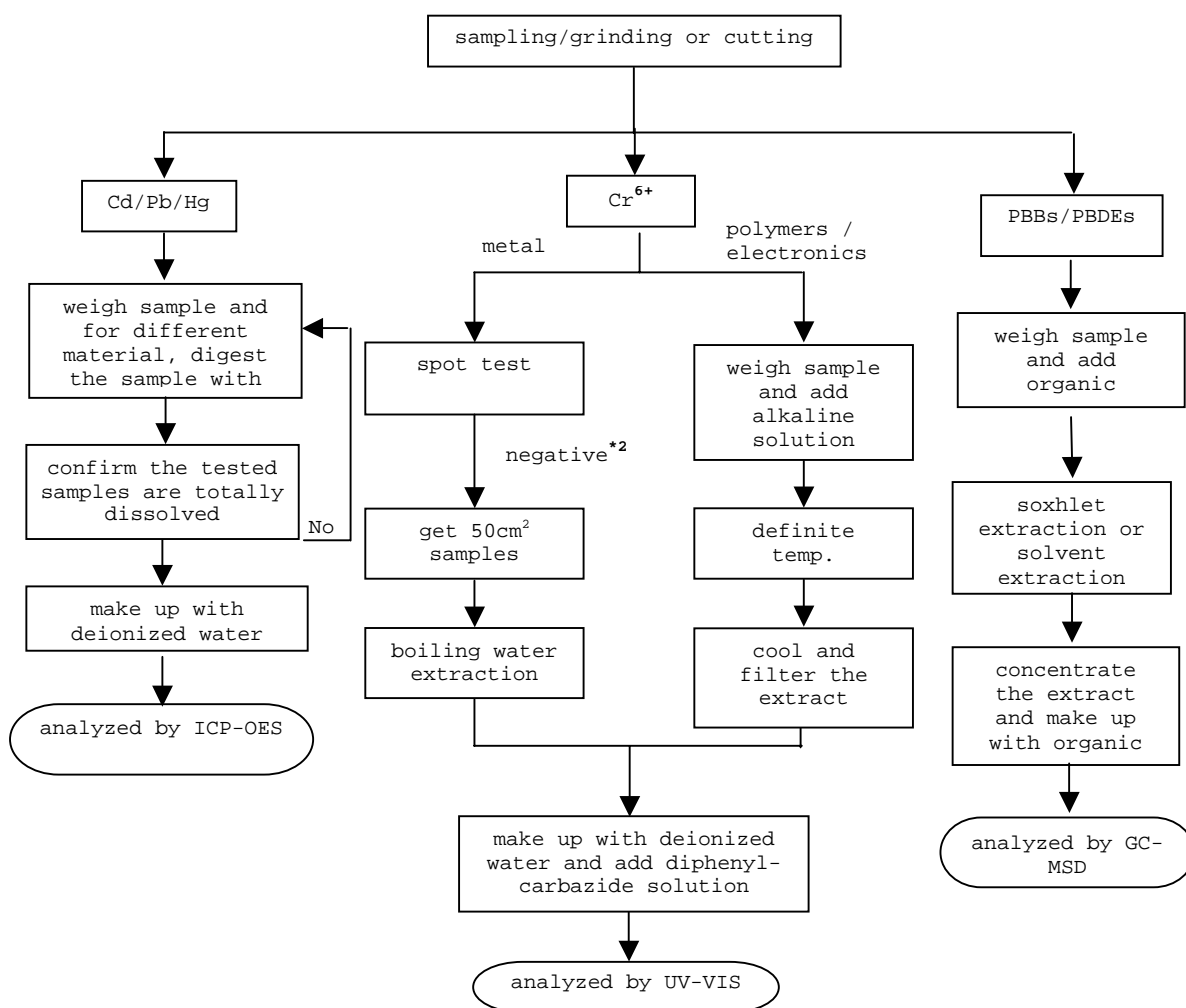
TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Contents
 Reference Standard: IEC 62321 edition 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00276230

TESTS CONDUCTED



END OF REPORT



Test Report

No. SHAEC1119525001

Date: 07 Dec 2011

Page 1 of 5

3M CHINA LIMITED

222# TIAN LIN ROAD, SHANGHAI (200233)

The following sample(s) was/were submitted and identified on behalf of the clients as : 3M 3779-PG

SGS Job No. : SP11-036760 - SH
Date of Sample Received : 03 Dec 2011
Testing Period : 03 Dec 2011 - 07 Dec 2011
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.

Fan Jingjie, JJ
Approved Signatory

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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction 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 preparation 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.



3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

t E&E (86-21) 61402553 f E&E (86-21) 64953679 www.cn.sgs.com
HL: (86-21) 61402594 HL: (86-21) 54500353 e sgs.china@sgs.com

Member of the SGS Group (SGS SA)

Test Report

No. SHAEC1119525001

Date: 07 Dec 2011

Page 2 of 5

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA11-195250.001	Yellow solid

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	001
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 (Cr(VI))	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

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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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 inspection 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.



3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

TEL: (86-21) 61402553 FAX: (86-21) 64953679 www.cn.sgs.com
HL: (86-21) 61402594 HL: (86-21) 54500353 e sgs.china@sgs.com

Test Report

No. SHAEC1119525001

Date: 07 Dec 2011

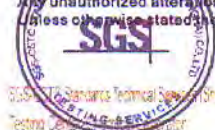
Page 3 of 5

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

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/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, interpretation 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 preparation 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.



SGS Standard Technical Services (Shanghai) Co., Ltd.
Testing Center

3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

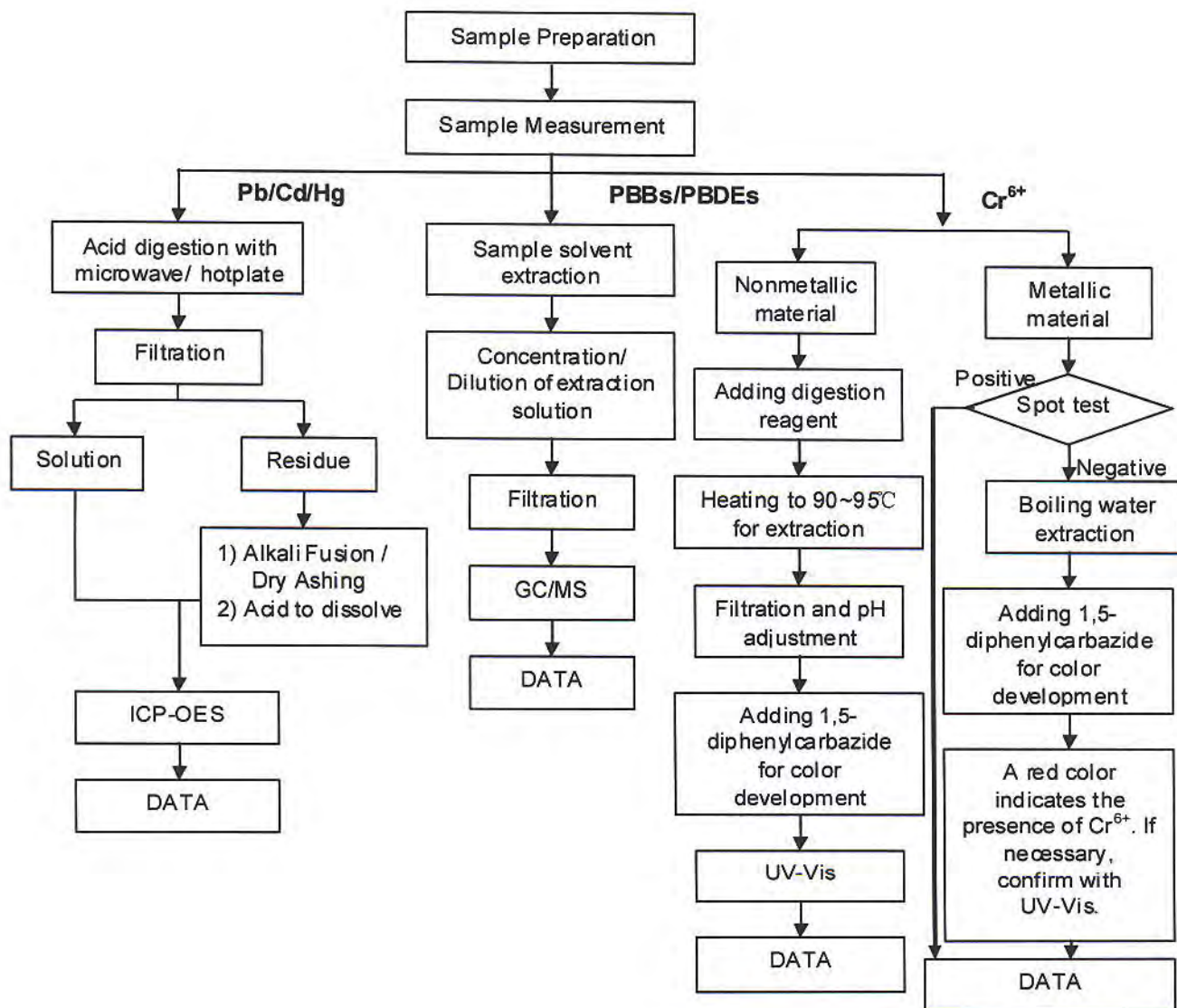
Tel: (86-21) 61402553 Fax: (86-21) 64953679
HL: (86-21) 61402594 HL: (86-21) 54500353

www.cn.sgs.com
e sgs.china@sgs.com

ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Jan Shi/Yoyo Wang/Allen Xiao/Gary Xu
- 2) Name of the person in charge of testing: Jeff Zhang/George Xu/ Elim Lin
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction 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 inspection 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.



Test Report

No. SHAEC1119525001

Date: 07 Dec 2011

Page 5 of 5

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction 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 presentation 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.



Test Report

No. SHAEC1119525002

Date: 07 Dec 2011

Page 1 of 4

3M CHINA LIMITED

222# TIAN LIN ROAD, SHANGHAI (200233)

The following sample(s) was/were submitted and identified on behalf of the clients as : 3M 3779-PG

SGS Job No. : SP11-036760 - SH
Date of Sample Received : 03 Dec 2011
Testing Period : 03 Dec 2011 - 07 Dec 2011
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.

Fan Jingjie, JJ
Approved Signatory

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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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 inspection 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.



3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

t E&E (86-21) 61402553 f E&E (86-21) 64853679
HL: (86-21) 61402594 HL: (86-21) 54500353

www.cn.sgs.com
e sgs.china@sgs.com

Member of the SGS Group (SGS SA)



Test Report

No. SHAEC1119525002

Date: 07 Dec 2011

Page 2 of 4

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA11-195250.001	Yellow solid

Remarks :

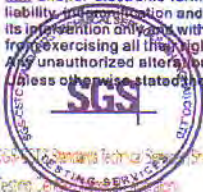
- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

Halogen

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

Test Item(s)	Unit	MDL	001
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

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/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction 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 inspection 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.



SGS Testing Service (Shanghai) Co., Ltd.
Testing Service (Shanghai) Co., Ltd.

3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

t E&E (86-21) 61402553 f E&E (86-21) 64953679
HL: (86-21) 61402594 HL: (86-21) 54500353

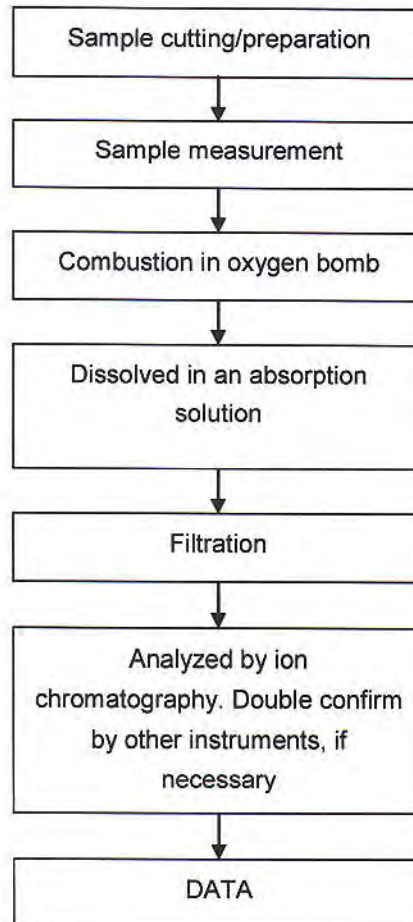
www.cn.sgs.com
e sgs.china@sgs.com

Member of the SGS Group (SGS SA)

ATTACHMENTS

Halogen Testing Flow Chart

- 1) Name of the person who made testing: Daisy Gong
- 2) Name of the person in charge of testing: Alex Jiang



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/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein 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.



Test Report

No. SHAEC1119525002

Date: 07 Dec 2011

Page 4 of 4

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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/terms_and_conditions.htm and for electronic format documents subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction 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 presentation only, 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.

測試報告 Test Report

號碼(No.) : CE/2011/41267 日期(Date) : 2011/04/15 頁數(Page) : 1 of 6

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN



以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as) :

樣品名稱(Sample Description) : CARBON FILM RESISTORS
樣品型號(Style/Item No.) : RD SERIES
收件日期(Sample Receiving Date) : 2011/04/08
測試期間(Testing Period) : 2011/04/08 TO 2011/04/15

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


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可對外複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股工業區梧子寮路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告

Test Report

號碼(No.) : CE/2011/41267 日期(Date) : 2011/04/15 頁數(Page) : 2 of 6

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN



測試結果(Test Results)

測試部位(PARTNAME)No.1 : 整體混測 (MIXED ALL PARTS)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result) No.1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	參考IEC 62321: 2008方法, 以UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法, 以氣相層析儀/質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.
二溴聯苯 / Dibromobiphenyl			5	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.
四溴聯苯 / Tetrabromobiphenyl			5	n.d.
五溴聯苯 / Pentabromobiphenyl			5	n.d.
六溴聯苯 / Hexabromobiphenyl			5	n.d.
七溴聯苯 / Heptabromobiphenyl			5	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告只與送到測試的樣品負責。本報告未經本公司書面許可, 不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股工業區梧槽路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告

Test Report

號碼(No.) : CE/2011/41267 日期(Date) : 2011/04/15 頁數(Page) : 3 of 6

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result) No.1
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	參考IEC 62321: 2008方法, 以氣相層析儀/質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether			5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.
十溴聯苯醚 / Decabromodiphenyl ether			5	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. 樣品的測試是基於申請人要求混合測試, 報告中的混合測試結果不代表其中個別單一材質的含量. (The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試的樣品負責。本報告未經本公司書面許可, 不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan 台灣檢驗科技股份有限公司 Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股工業區五福路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.): CE/2011/41267 日期(Date): 2011/04/15 頁數(Page): 4 of 6

幸亞電子工業股份有限公司

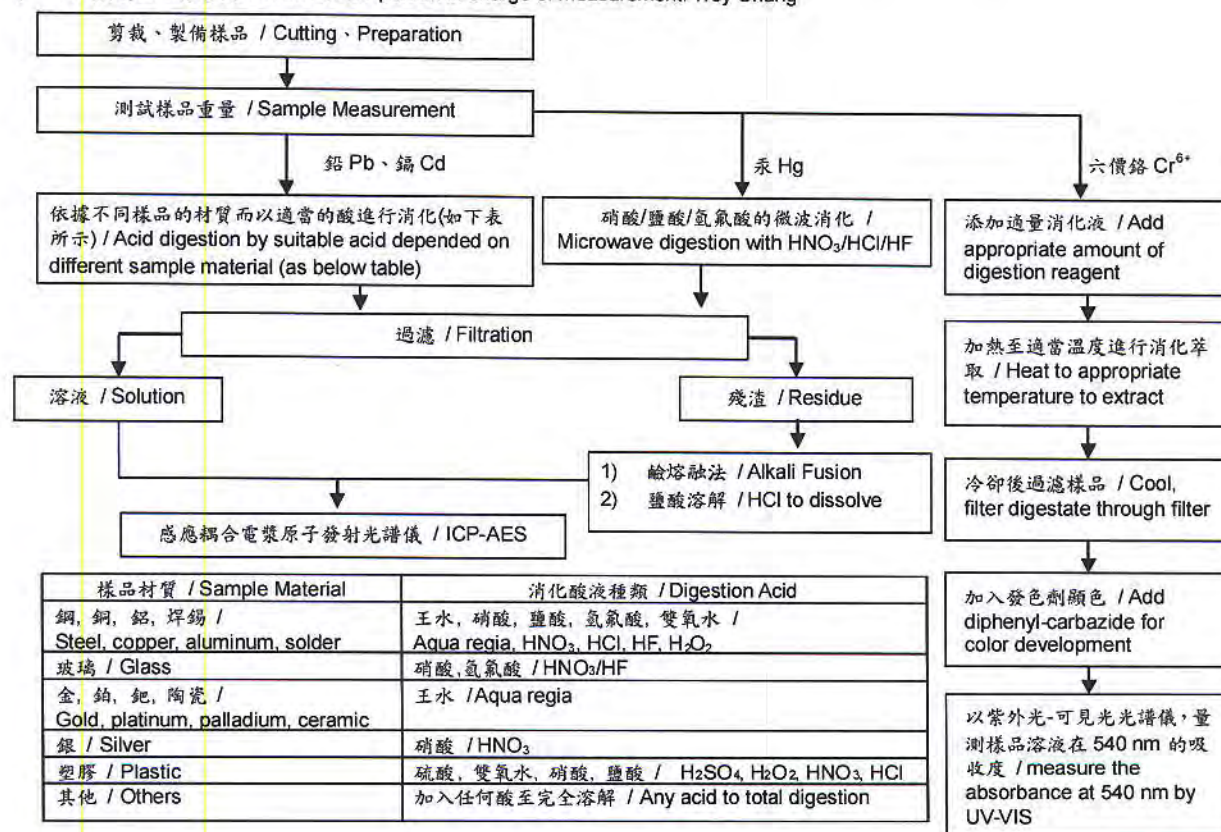
TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, 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. (Cr⁶⁺ 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



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告書僅針對測試的樣品負責。本報告未經本公司書面許可，不可全部複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司
Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區五福路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告 Test Report

號碼(No.) : CE/2011/41267 日期(Date) : 2011/04/15 頁數(Page) : 5 of 6

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN



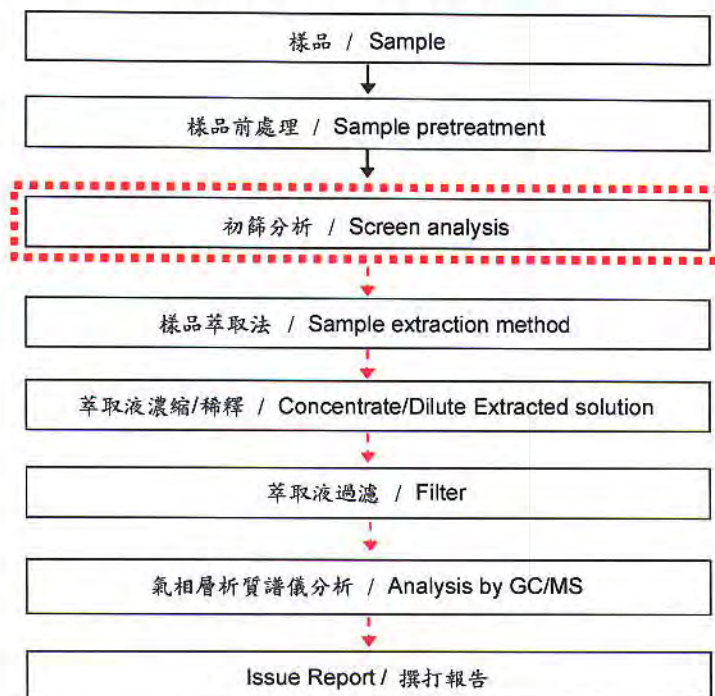
分析流程圖 / Analytical flow chart

1) 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong

2) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

■ 測試項目(Test Items): 多溴聯苯/多溴聯苯醚, 四溴雙酚-A-雙 / PBB/PBDE, TBBP-A-bis

初次測試程序 / First testing process → 選擇性篩檢程序 / Optional screen process 確認程序 / Confirmation process - - -



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅限於測試的樣品負責。本報告未經本公司書面許可，不可全部複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區五福路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

測試報告 Test Report

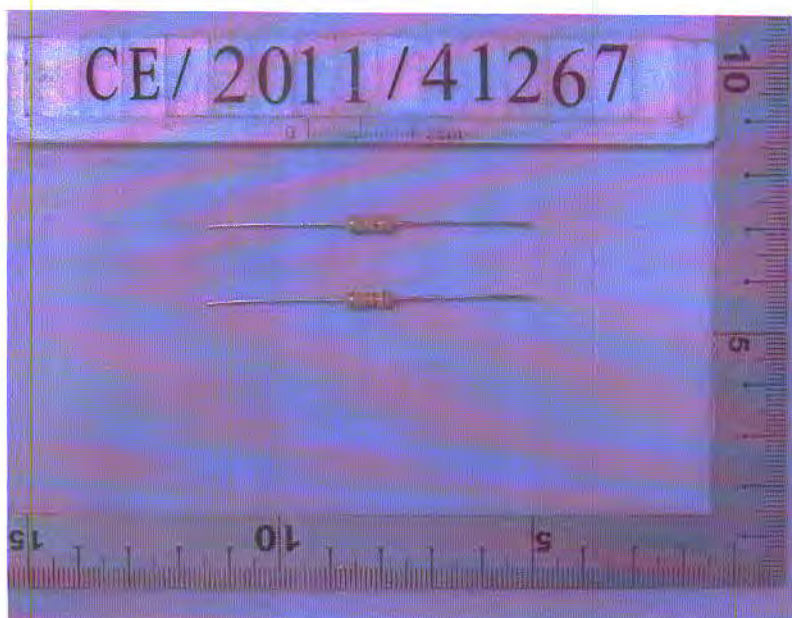
號碼(No.) : CE/2011/41267 日期(Date) : 2011/04/15 頁數(Page) : 6 of 6

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN



** 報告結尾 (End of Report) **

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區五權路33號 +886 (02)2299 3279 f +886 (02)2799 3237 www.sgs.com

Member of the SGS Group (SGS SA)

測試報告 Test Report

號碼(No.) : CE/2011/41301 日期(Date) : 2011/04/15 頁數(Page) : 1 of 4

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1ST STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : CARBON FILM RESISTORS
樣品型號(Style/Item No.) : RD SERIES
收件日期(Sample Receiving Date) : 2011/04/08
測試期間(Testing Period) : 2011/04/08 TO 2011/04/15

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

Shin-Jyh Chen
Shin-Jyh Chen, Asst. Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
幸亞電子工業股份有限公司
Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區五權路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com

測試報告

Test Report

號碼(No.) : CE/2011/41301 日期(Date) : 2011/04/15 頁數(Page) : 2 of 4

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1ST STREET, GUEISHAN TOWNSHIP, TAoyUAN COUNTY 333, TAIWAN

測試結果(Test Results)

測試部位(PART NAME) No.1 : 整體混測 (MIXED ALL PARTS)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result) No.1
鹵素 / Halogen				
鹵素 (氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	參考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 (氯) / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)			50	n.d.
鹵素 (溴) / Halogen-Bromine (Br) (CAS No.: 10097-32-2)			50	n.d.
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)			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. 樣品的測試是基於申請人要求混合測試, 報告中的混合測試結果不代表其中個別單一材質的含量。
(The samples was/were analyzed on behalf of the applicant as mixing sample in one testing.
The above results was/were only given as the informality value.)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試的樣品負責。本報告未經本公司書面許可, 不可部分複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區五股路33號 +886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com

測試報告 Test Report

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

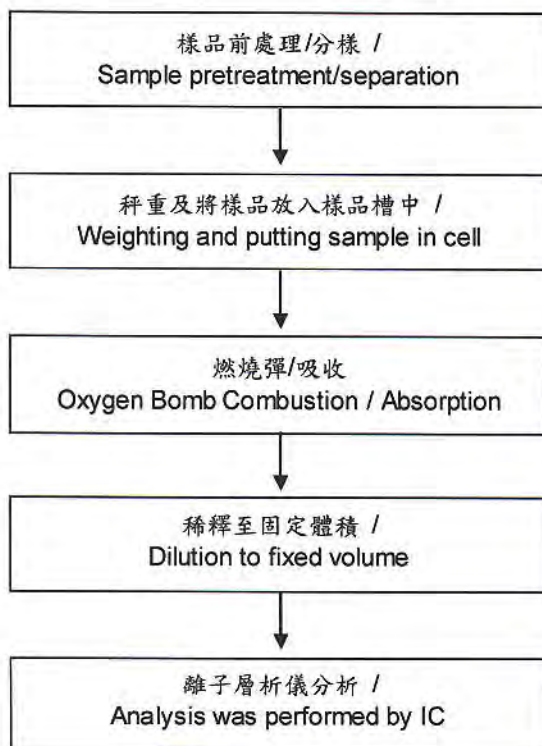
NO. 49, DINGFU 1st STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN

號碼(No.) : CE/2011/41301 日期(Date) : 2011/04/15 頁數(Page) : 3 of 4



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

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



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced except in full without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可對外複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市五股區吳福工業區33號 電話 +886 (02) 2299 3279 / +886 (02) 2299 3237 www.sgs.com

測試報告 Test Report

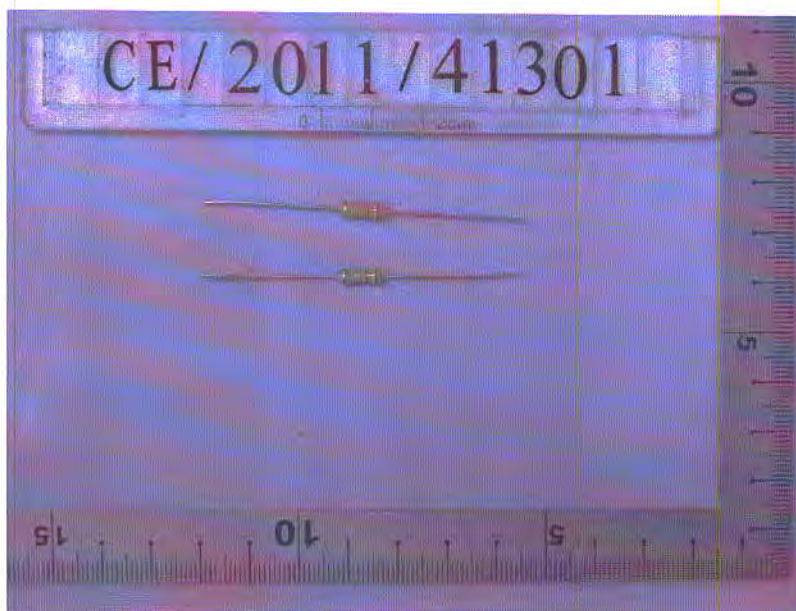
號碼(No.) : CE/2011/41301 日期(Date) : 2011/04/15 頁數(Page) : 4 of 4

幸亞電子工業股份有限公司

TY-OHM ELECTRONIC WORKS CO., LTD.

桃園縣龜山鄉大崗村頂湖一街49號

NO. 49, DINGFU 1ST STREET, GUEISHAN TOWNSHIP, TAOYUAN COUNTY 333, TAIWAN



** 報告結尾(End of Report) **

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不得部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan/新北市五股區五權路33號 +886 (02)2299 3279 f +886 (02)2299 3237 www.sgs.com



Test Report

No. CANEC1023903807

Date: 15 Jul 2011

Page 1 of 4

XIAMEN GOLDEN BRIDGE IMPORT & EXPORT TRADE CO.,LTD
ROOM 407-408, FORTH FLOOR, BAIHEYAN BUILDINGS, NO.83 WENYUAN ROAD,SIMING
DISTRICT,XIAMEN CITY
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :
Copper-beryllium alloy rod 铍青铜棒

SGS Job No. : 13508147 - SZ
Tested Sample Information : Copper-beryllium alloy rod 铍青铜棒
SGS Internal Reference No. : 2.1
Date of Sample Received : 11 Jul 2011
Testing Period : 11 Jul 2011 - 15 Jul 2011
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 comply with the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS-CSTC Ltd.

Silva Zhou
Approved Signatory

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/terms_and_conditions.
This and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of
liability and jurisdiction clauses defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of
its analysis only, 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.
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.
Data values indicated in results shown in this test report refer only to the sample(s) tested.



SGS (Shanghai) Inspection & Certification Co., Ltd.
China Representative Office

39 Aqiao Road, Qiantan Park, Guangzhou Economic & Technology Development Zone, Guangzhou, China 510663 T: (86-20) 82188888 F: (86-20) 82075112 www.cn.sgs.com
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) 82188888 F: (86-20) 82075112 E: sgs.china@sgs.com

GZCM 4488191

Member of the SGS Group (S.A.S.)



Test Report

No. CANEC1023903807

Date: 15 Jul 2011

Page 2 of 4

Test Results:

ID for specimen 1 : CAN10-239038.001
Description for specimen 1 : Copper-colored metal rod

RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321:2008, ICP-OES	26	2	1000
Mercury (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321:2008, UV-Vis	Negative	◇	#

Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. ◇ = 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.

Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

5. # = Positive indicates the presence of CrVI on the tested areas.

Negative indicates the absence of CrVI on the tested areas.

6. * = Not regulated

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/terms_and_conditions.htm, and for electronic format documents subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction and arbitration issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its issuance, 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. Results or conclusions stated in this test report refer only to the sample(s) tested.



G2CM 4468192

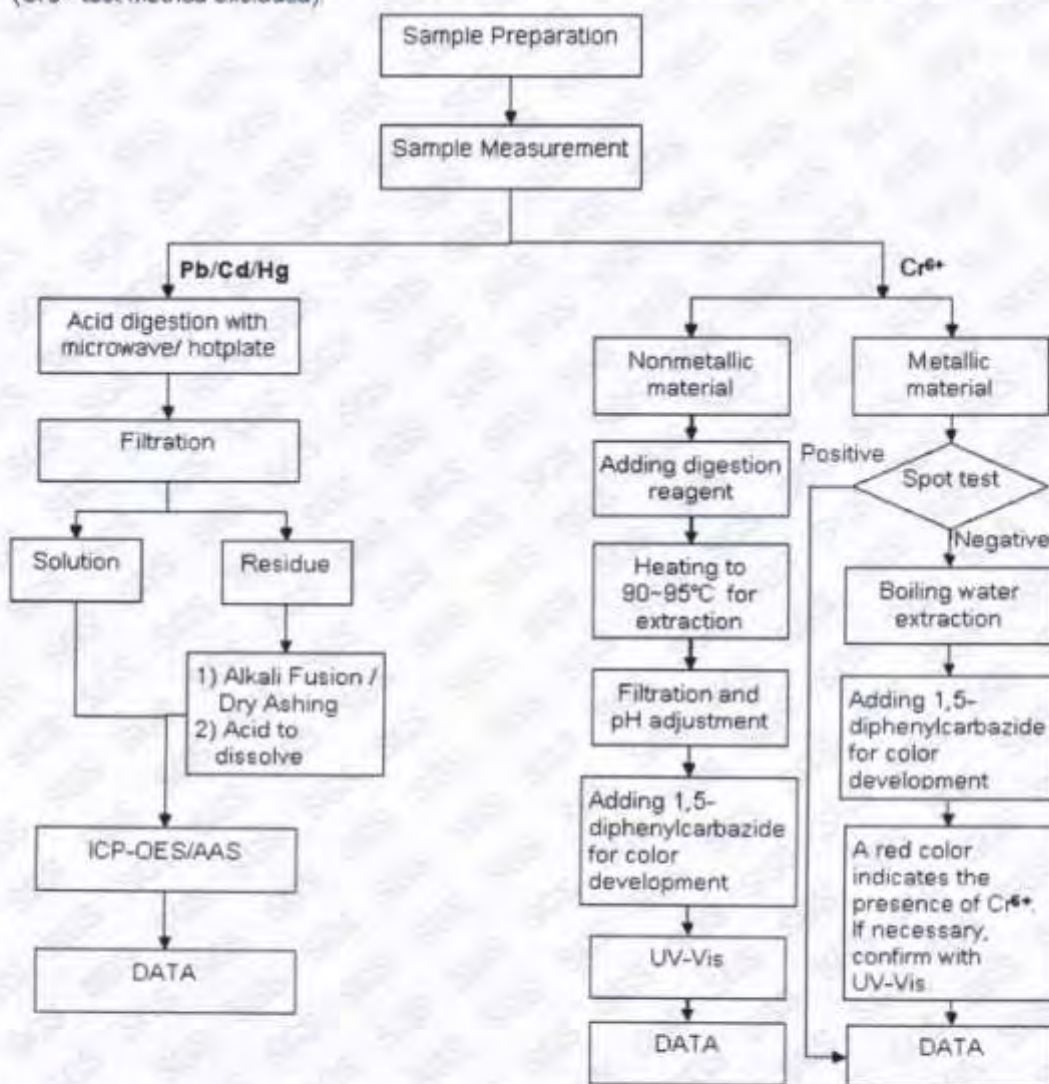
18-Artis Road, Street Park, Guangzhou Economic & Technology Development Zone, Guangzhou, China 510663 T: (86-20) 82155555 F: (86-20) 82075113 www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路18号 邮编: 510663 T: (86-20) 82155555 F: (86-20) 82075113 E: sgs.china@sgs.com

Member of the RSC Group (RSC R&S)

ATTACHMENTS

RoHS Testing Flow Chart

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



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/terms_and_conditions.htm and for electronic format documents subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, jurisdiction and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its issuance and is not intended to be used for any other purpose. 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.



SGS

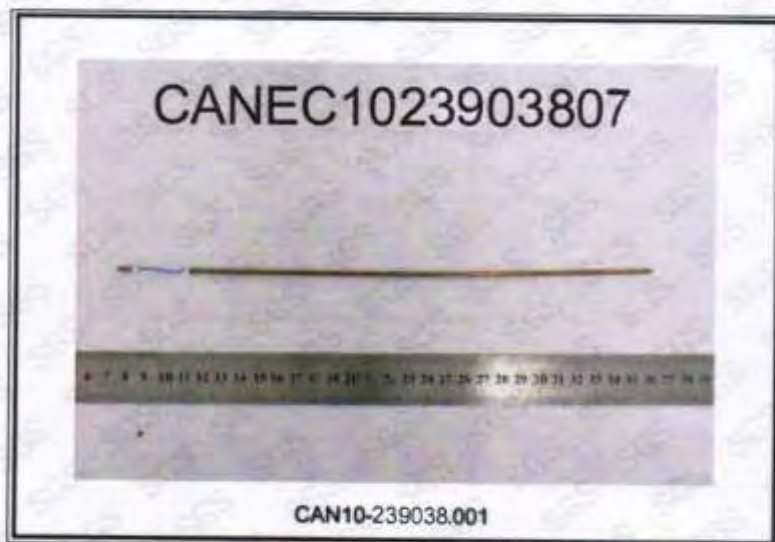
Test Report

No. CANEC1023903807

Date: 15 Jul 2011

Page 4 of 4

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

Attention: To check the authenticity of testing inspection report & certificate, pls. contact tel: 180-7501607443 email: Cn.Detect@sgs.com

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/terms_and_conditions.htm and for electronic format documents subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of its liability, jurisdiction and jurisdiction leaves defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings, at the time of its inspection, 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. Where otherwise stated, the results shown in this test report refer only to the sample(s) tested.



198 Kechu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663
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

GZCM 4468194

www.cn.sgs.com

Member of the SGS Group (SGS SA)



TEST REPORT

NO.: A002E11121307-2R02

Date: Dec.15, 2011

Page 1 of 4

Customer: SuZhou FuHong Electronic Industrial Co., Ltd.

Address: NO. 89 WEI DU ROAD, WANGTING TOWN, XIANGCHENG DISTRICT, SUZHOU, CHINA

Report on the submitted sample said to be

Sample name: Fuses copper shell

Model: /

Item/Lot No.: /

Material: /

Description: /

Buyer: /

Supplier: /

Manufacturer: /

Sample received date: Dec.13,2011

Testing period: From Dec.13,2011 to Dec.15,2011

Testing Requested

As specified by client, to determine the Lead, Cadmium, Mercury & Hexavalent Chromium content in the submitted sample in accordance with Directive 2002/95/EC (RoHS).

Testing method:

Testing Item	Pretreatment method	Measuring instrument	MQL
Lead (Pb)	IEC 62321: 2008, section 9	ICP-OES	2mg/kg
Cadmium (Cd)	IEC 62321: 2008, section 9	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321: 2008, section 7	ICP-OES	2 mg/kg
Chromium (Cr VI)	IEC 62321: 2008, Annex B	UV-VIS	0.02mg/kg*

Note:

-* 0.02 mg/kg refers to the MQL of sample extraction liquid.

Conclusion:

-When tested as specified the submitted sample complied with the requirements of commission Decision of 18 Aug 2005 amending Directive 2002/95/EC notified under document 2005/618/EC.

*****FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)*****

Project Leader
(Engineer)

Maggie

Approved by
(Lab manager)

Wickay

Inspected by

(Technical manager)

Weikin



TEST REPORT

NO.: A002E11121307-2R02

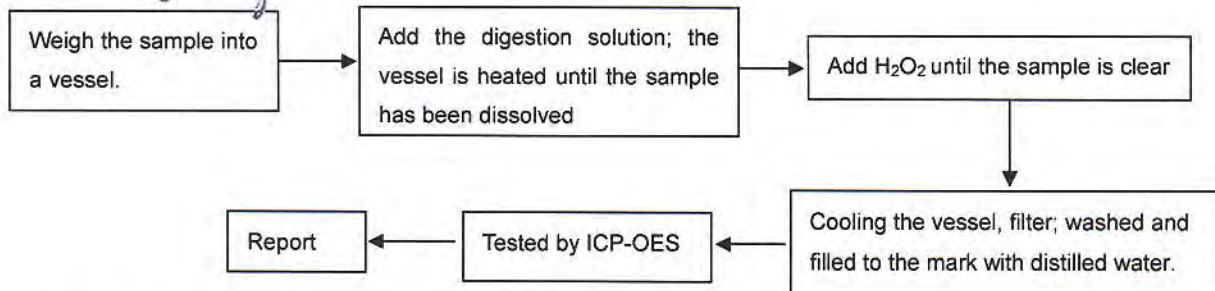
Date: Dec.15, 2011

Page 2 of 4

Test Flow:

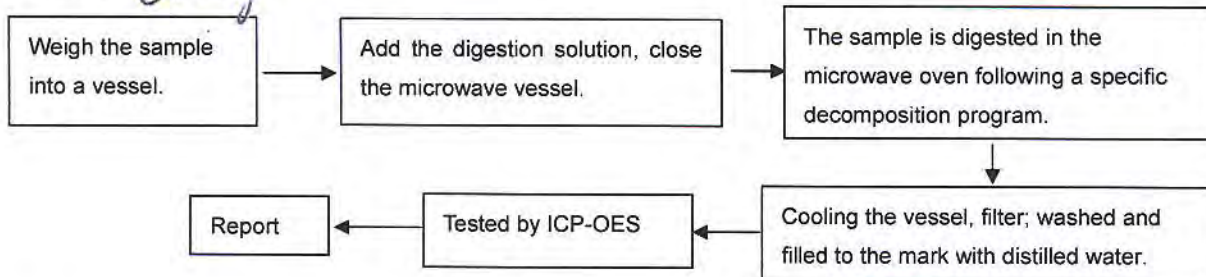
1. To Determine Lead, Cadmium Content: (Metal substrate)

Tested by: *Condy*



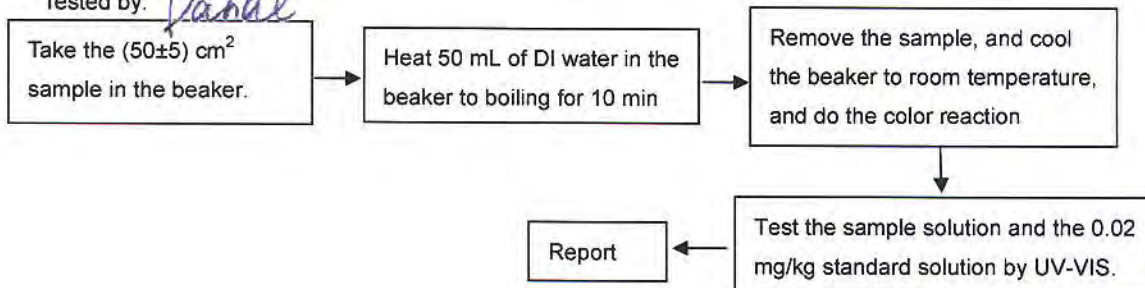
2. To Determine Mercury Content: (Metal substrate)

Tested by: *Condy*



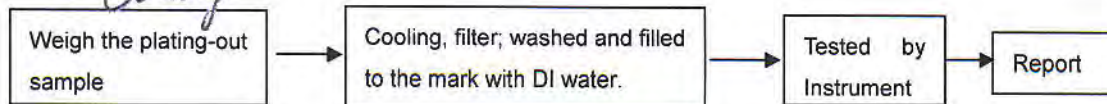
3. To Determine Hexavalent Chromium Content (boiling- water- extraction): (Metal substrate)

Tested by: *Danae*



4. To Determine Lead, Cadmium and Mercury Content: (Plating)

Tested by: *Condy*



TEST REPORT

NO.: A002E11121307-2R02

Date: Dec.15, 2011

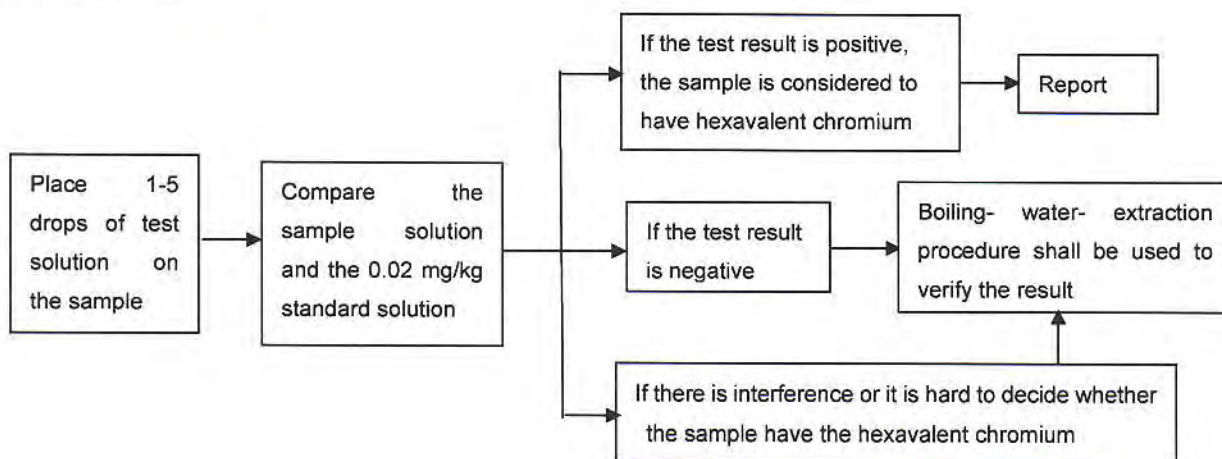
Page 3 of 4

5. To Determine Hexavalent Chromium Content in colorless and colored chromate coating on metals: (Plating)

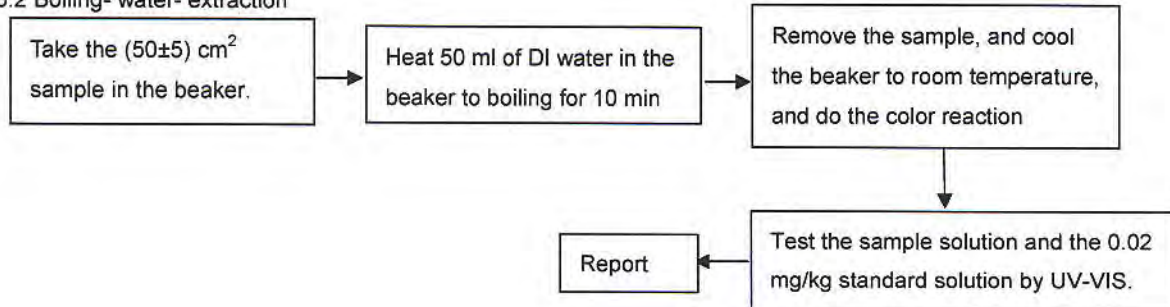
Tested by:

Danai

5.1 Spot-test



5.2 Boiling- water- extraction



Sample description:

Code	Sample name	Code	Sample name
2-1	Lead wire substrate	2-3	Copper shell substrate
2-2	Lead wire Plating	2-4	Copper shell Plating

Test Results:

Item	Unit	RoHS Limit	Result			
			2-1	2-2*	2-3	2-4*
Lead (Pb)	mg/kg	1000	N.D.	2.5	40.0	N.D.
Cadmium (Cd)	mg/kg	100	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.
Chromium (CrVI)	mg/kg	1000	Negative	Negative	Negative	Negative

TEST REPORT

NO.: A002E11121307-2R02

Date: Dec.15, 2011

Page 4 of 4

Note:

-The new RoHS directive 2011/65/EU, on Jul. 21, 2011 come into force, on Jan. 03, 2013 the formal implementation, Directive 2002/95/EC shall be repealed simultaneously.

-Specimens, which requested to determine Lead, Cadmium and Mercury Content, have been dissolved completely.

-mg/kg=ppm

-N.D.=not detected(<MQL)

-MQL=Method Quantitation Limit

-Negative=Absence of Cr (VI);

Positive=Presence of Cr (VI);

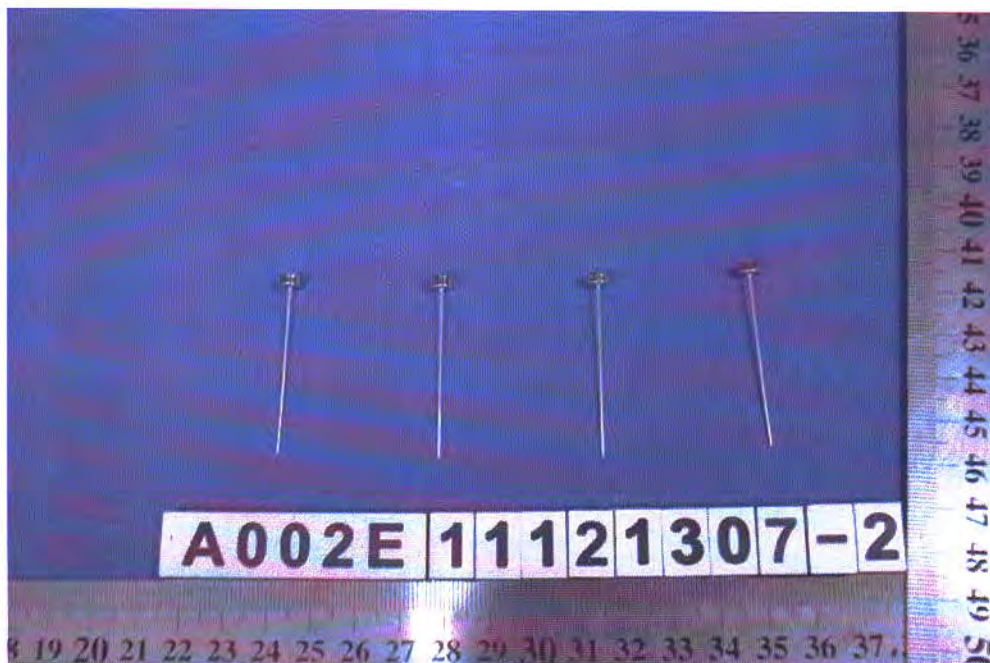
Uncertain= can not verify whether the sample have Hexavalent Chromium by spot-test.

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is uncertain or negative.)

-*The test is based on the following assumption: The sample plating is a single layer and each part is uniform. The test result maybe cannot stand for the physical truth of sample plating.

-Photo is included

Photograph of Sample



Fuses copper shell

End of Report

Test Report No.: Z118071121

Page 1 of 5

Client: **AIM SOLDER (SHEN ZHEN) CO., LTD.**
Block 69, Third Industrial Zone, Luotian Village, Songgang Town, Baoan District,
Shenzhen, P. R. China**Test item(s):** 1 metal material, silvery**Identification/
Model No(s):** SOLDER WIRE AIM230 FAST CORE H RSA605**Sample Receiving date:** Jul. 08th 2011**Testing Period:** Jul. 11th 2011 – Jul. 14th 2011**Test specification:****Test result:**Directive 2002/95/EC (RoHS) and corresponding amendment directives. **PASS****Other Information:**

According to customer's requirement, only the appointed test item have been tested.

**For and on behalf of
TÜV Rheinland (Shenzhen) Co., Ltd.**Jul. 15th 2011 Aaron Zhou / Senior Chemist

Date

Name/Position

*Test result is drawn according to the kind and extent of tests performed.**This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.*

Test Report No.: Z118071121

Page 2 of 5

Test Method: Total Cadmium, Lead, Mercury, Chromium – Ref. to IEC 62321 Ed.1, 2008
Chromium VI – Ref. to IEC 62321 Ed.1, 2008
PBBs, PBDEs – Ref. to IEC 62321 Ed.1, 2008

Material list

Material No.	Material	Color	Description/ Location	Remark	Test Plan
					A=Test HM only B=Test FR only C=Test HM+FR
1	Metal	Silver	Solder wire AIM230 Fast Core H RSA605	-	C

Abbreviation: HM (Heavy Metal) = Cd, Pb, Hg, Cr(VI)
FR (Flame Retardant) = PBBs, PBDEs



Test Report No.: Z118071121

Page 3 of 5

Test result

	Cd	Pb	Cr(VI)	Hg	PBBs	PBDEs
Maximum Permissible Limit ppm (mg/kg)	100	1000	1000	1000	1000	1000

Material No.	ppm (mg/kg)					
	Cd	Pb	Cr^	Hg	PBBs	PBDEs
	RL (mg/kg)					
	2	2	2	2	-- (*1)	-- (*1)
1	N.D.	122	5 (*2)	N.D.	N.D.	N.D.

Test No.	Material No.	Spot test for Cr(VI) (*2)	Boiling-water-extraction for Cr(VI) (*2)
1	1	Negative	Negative

Abbreviation:

- Pb = Lead
- Cd = Cadmium
- Hg = Mercury
- Cr (VI) = Chromium (VI)
- PBBs = Total Polybrominated Biphenyls
- PBDEs = Total Polybrominated Diphenyl Ethers
- N.D. = Not Detected (< Reporting Limit)
- RL = Reporting Limit
- N.A. = Not Applicable
- ^ = The total Chromium have been determined.
- ppm = parts per million
- mg/kg = milligram per kilogram



Test Report No.: Z118071121

Page 4 of 5

Remark:

(*1) The reporting limit for each individual PBBs and individual PBDEs are:

Reporting Limit in ppm (mg/kg)		
PBBs	Monobromobiphenyl	5
	Dibromobiphenyl	5
	Tribromobiphenyl	5
	Tetrabromobiphenyl	5
	Pentabromobiphenyl	5
	Hexabromobiphenyl	5
	Heptabromobiphenyl	5
	Octabromobiphenyl	5
	Nonabromobiphenyl	5
	Decabromobiphenyl	5
PBDEs	Monobromodiphenyl ether	5
	Dibromodiphenyl ether	5
	Tribromodiphenyl ether	5
	Tetrabromodiphenyl ether	5
	Pentabromodiphenyl ether	5
	Hexabromodiphenyl ether	5
	Heptabromodiphenyl ether	5
	Octabromodiphenyl ether	5
	Nonabromodiphenyl ether	5
	Decabromodiphenyl ether	5

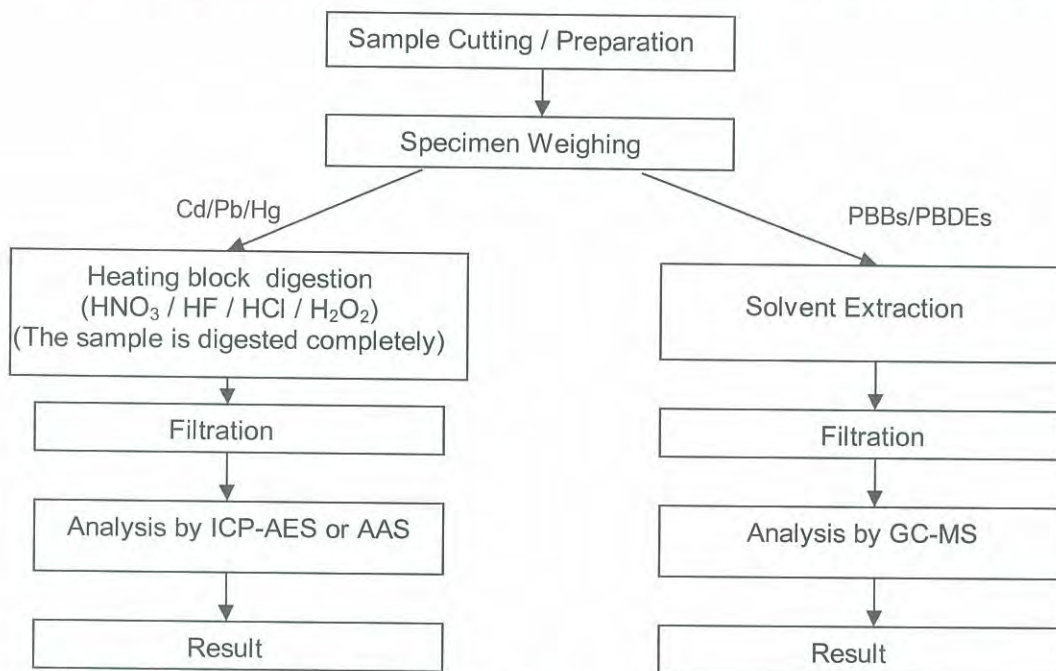
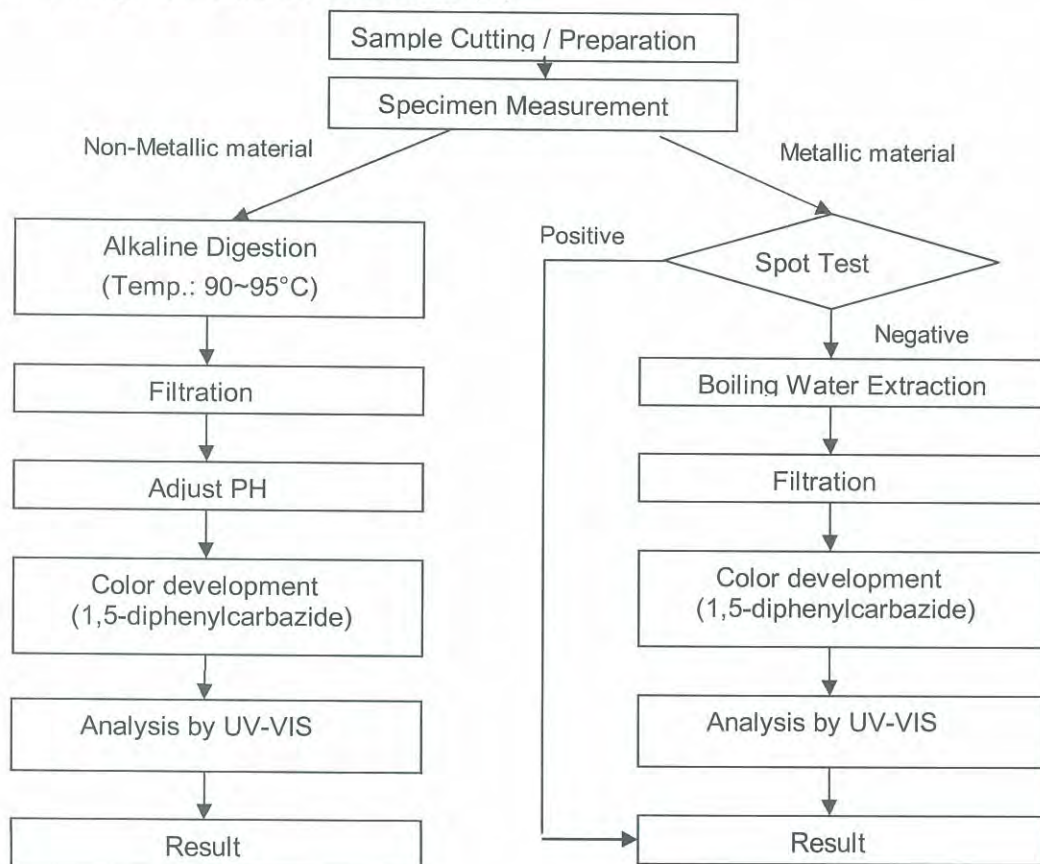
(*2) The Chromium(VI) content in surface layer has been confirmed with reference to IEC 62321

Sample photo:



Test Report No.: Z118071121

Page 5 of 5

Annex:**1. Testing Flow Chart for Cadmium (Cd) / Lead (Pb) / Mercury (Hg) / PBBs & PBDEs****2. Testing Flow Chart for Chromium (VI)**

-- END --





Test Report

No.: GZ1106081316/CHEM

Date: JUN 24, 2011

Page 1 of 4

XIAMEN LICHUN ELECTRONIC ELEMENT CO., LTD
42-2 XINGLIN WEST RD, 361002 JIMEI DISTRICT, XIAMEN FUJIAN, P.R.C

The following sample(s) was/were submitted and identified on behalf of the applicant as BOSI GLASS TUBE

SGS Job No. : XM13205987EC

SGS Internal Reference No. : 2.2

Date of Sample Received : JUN 23, 2011

Testing Period : JUN 23, 2011 TO JUN 24, 2011

Test Requested : Selected test (s) as requested by client.

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

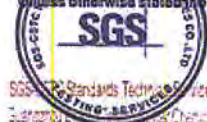
Test Result(s) : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results **comply with** the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS-CSTC Ltd.

Jenny Jiang
Approved Signatory

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. 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 generate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



198 Kailu Road, Saitan Port, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 | (86-20) 82155555 | (86-20) 82075125 | www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 | (86-20) 82155555 | (86-20) 82075125 | sgs.china@sgs.com

Member of the SGS Group (SGS SA)



Test Report

No.: GZ1106081316/CHEM

Date: JUN 24, 2011

Page 2 of 4

Test Results:

Description for specimen 1 : Transparent glass tube

RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321: 2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	-	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg	-	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	

Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not regulated

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. 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 generate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



SGS Standards Technical Services Co. Ltd.
Guangzhou Chemical Laboratory

178 Kexin Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663
中国·广州·经济技术开发区科学城科珠路178号

510663 | (86-20) 82155555 | (86-20) 82075125
邮编: 510663 | (86-20) 82155555 | (86-20) 82075125

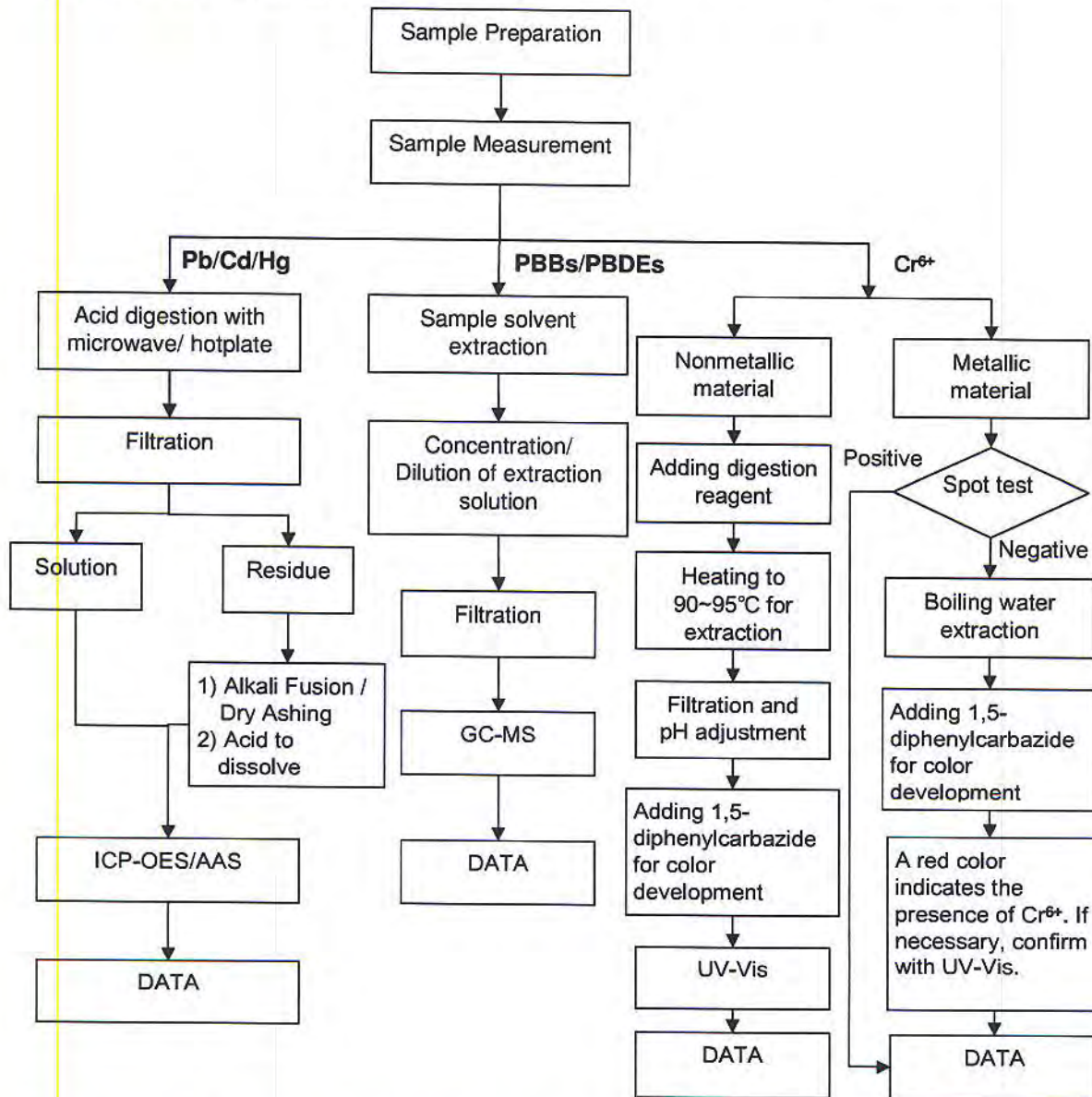
www.cn.sgs.com
sgs.china@sgs.com

Member of the SGS Group (SGS SA)

ATTACHMENTS

RoHS Testing Flow Chart

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



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. 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 generate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



Sample photo :



SGS authenticate the photo on original report only

*** End of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. 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 only SGS'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 generate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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. This document cannot be reproduced except in full, without prior approval of the Company.



SGS Standards Technical Services Co., Ltd.
Guangzhou Chemical Laboratory

198 Kexu Road, Science Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075125 www.cn.sgs.com
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) 82075125 e sgs.china@sgs.com

Member of the SGS Group (SGS SA)



TEST REPORT

NUMBER: SHAH00287569

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: OCT 31, 2011

SAMPLE DESCRIPTION:

One (1) submitted sample said to be **Black ink.**

Part Description : Ink - black.

Part Number : 425902.

Date Sample Received : Oct.25, 2011.

Date Test Started : Oct.25, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

1 PHTHALATE CONTENT TEST

WITH REFERENCE TO EN14372, BY GAS CHROMATOGRAPHY-MASS
 SPECTROMETRY (GC-MS) ANALYSIS.

<u>TESTED COMPOUND</u>	<u>RESULT (% ,W/W)</u>	<u>LIMIT(% ,W/W)</u> <u>(MAX.)</u>
DIBUTYL PHTHALATE (DBP)	ND	---
DI(2-ETHYL HEXYL) PHTHALATE (DEHP)	ND	---
BENZYL BUTYL PHTHALATE (BBP)	ND	---
SUM OF THREE PHTHALATES	ND	0.1

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII
 ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006
 & AMENDMENT NO. 552/2009 (FORMERLY KNOWN AS DIRECTIVE
 2005/84/EC) FOR PHTHALATE CONTENT IN TOYS AND CHILDREN
 CARE ARTICLES.

DETECTION LIMIT = 0.01% (W/W)

ND = NOT DETECTED

% = PERCENTAGE BASED ON DRY WEIGHT OF SAMPLE/COMPONENT

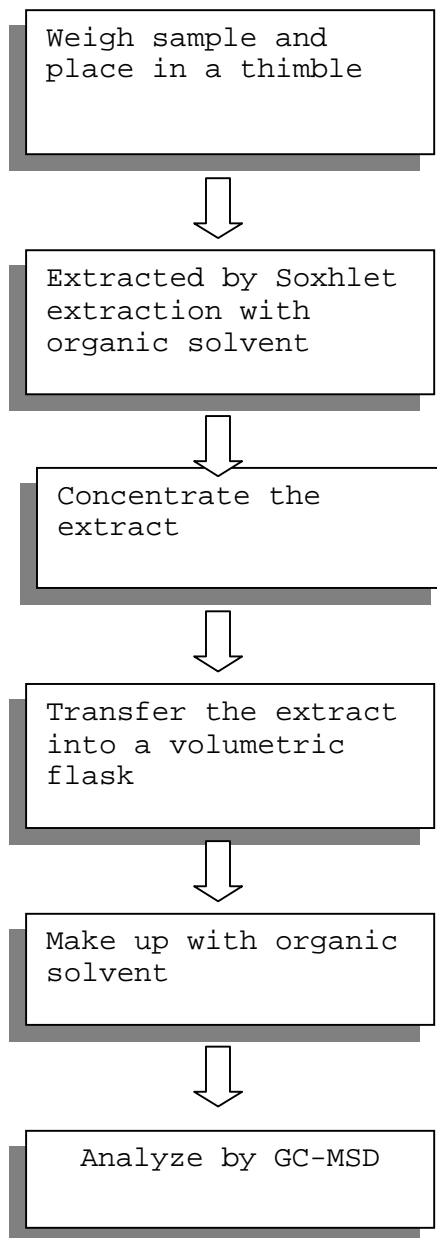
TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

2 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	ND
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million based on weight of tested sample =
 mg/kg
 ND = Not detected

Responsibility Of Chemist : Ken He

(II) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Halogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

 TO BE CONTINUED

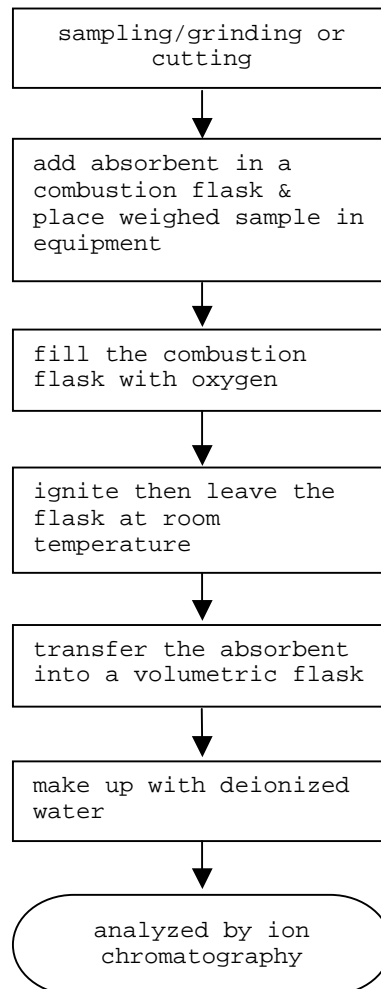
TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

(III) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

3 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
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
Polybrominated Diphenyl Ethers (PBDEs)	
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

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

Remarks: ppm = Parts per million = mg/kg
ND = Not detected

Responsibility Of Chemist : Dent Fang / Ken He

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment
2005/618/EC for homogeneous material.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

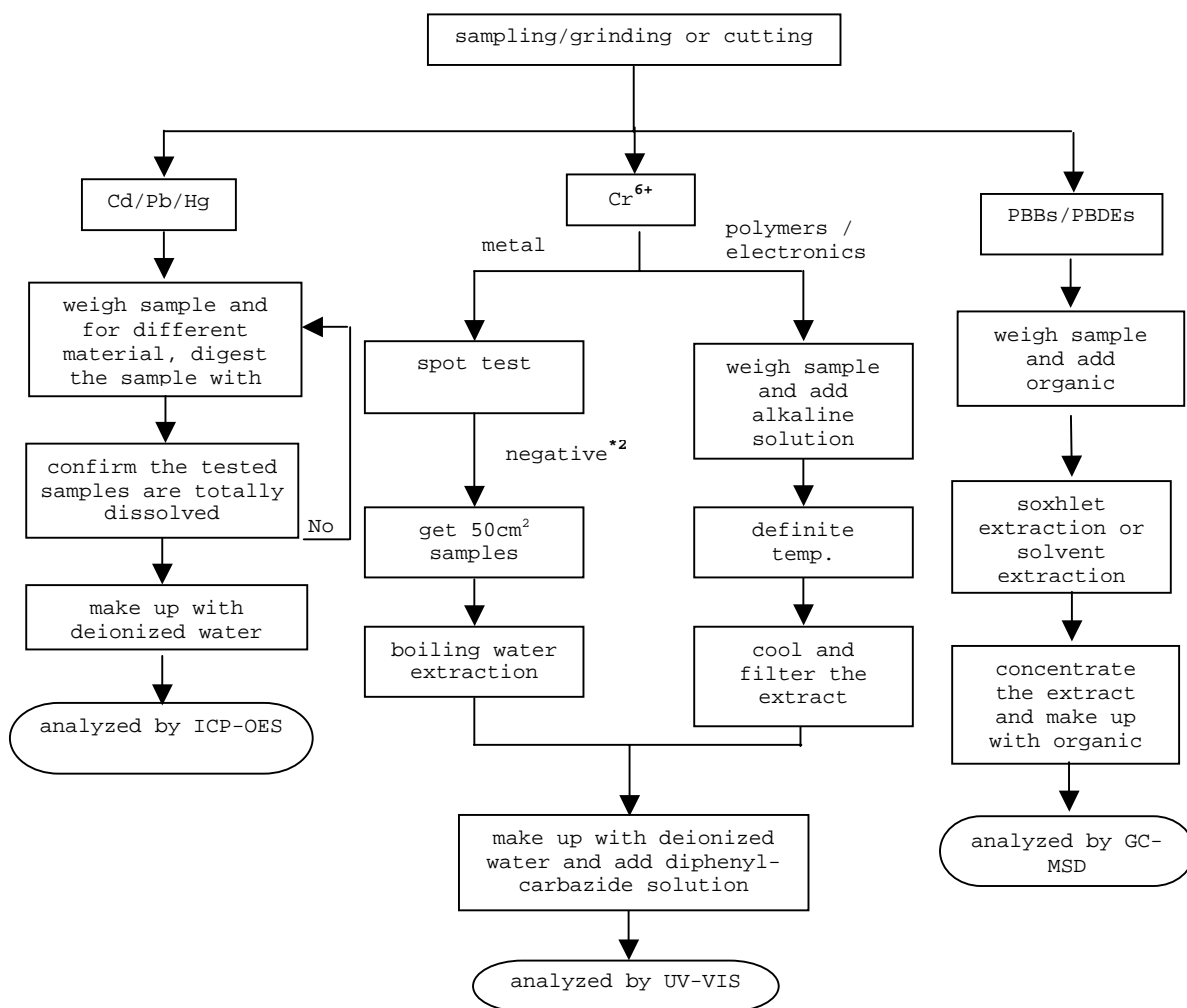
TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED
(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Contents
Reference Standard: IEC 62321 edition 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

4 PHthalate Content Test

WITH REFERENCE TO ASTM D3421, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

	<u>RESULT (% , w/w)</u>	<u>LIMIT (% , w/w)</u> <u>(MAX.)</u>
DIBUTYL PHTHALATE (DBP)	ND	0.1
DI(2-ETHYL HEXYL) PHTHALATE (DEHP)	ND	0.1
BENZYL BUTYL PHTHALATE (BBP)	ND	0.1

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO US CONSUMER PRODUCT SAFETY IMPROVEMENT ACT 2008 FOR PROHIBITION ON SALE OF CERTAIN PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01% (w/w)

ND = NOT DETECTED

% = PERCENTAGE BASED ON DRY WEIGHT OF SAMPLE/COMPONENT.

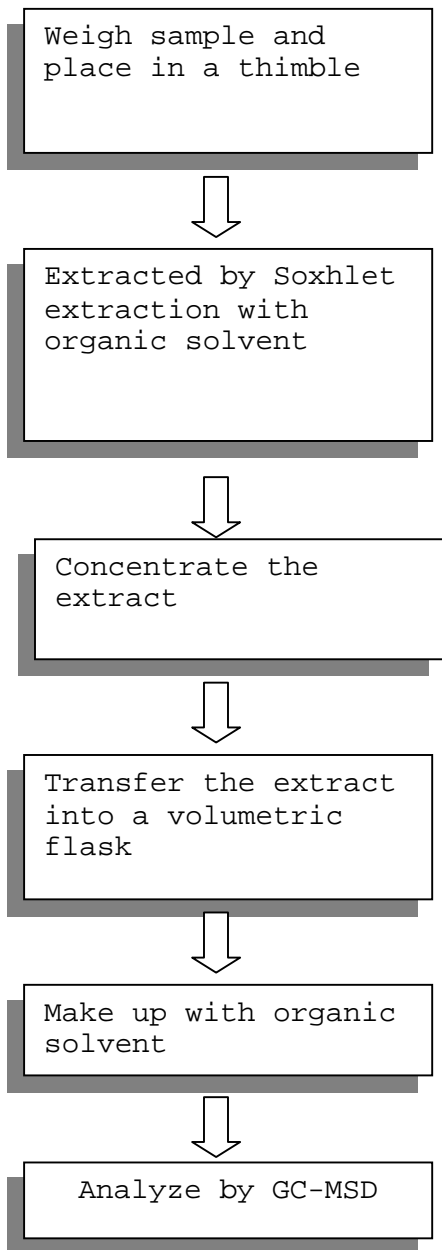
TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

5 (A) TEST RESULT SUMMARY:

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
HBCDD (HEXABROMOCYCLODODECANE)	ND

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
HBCDD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

DATE SAMPLE RECEIVED : OCT.25, 2011

TESTING PERIOD : OCT.25, 2011 TO OCT.28, 2011

TO BE CONTINUED

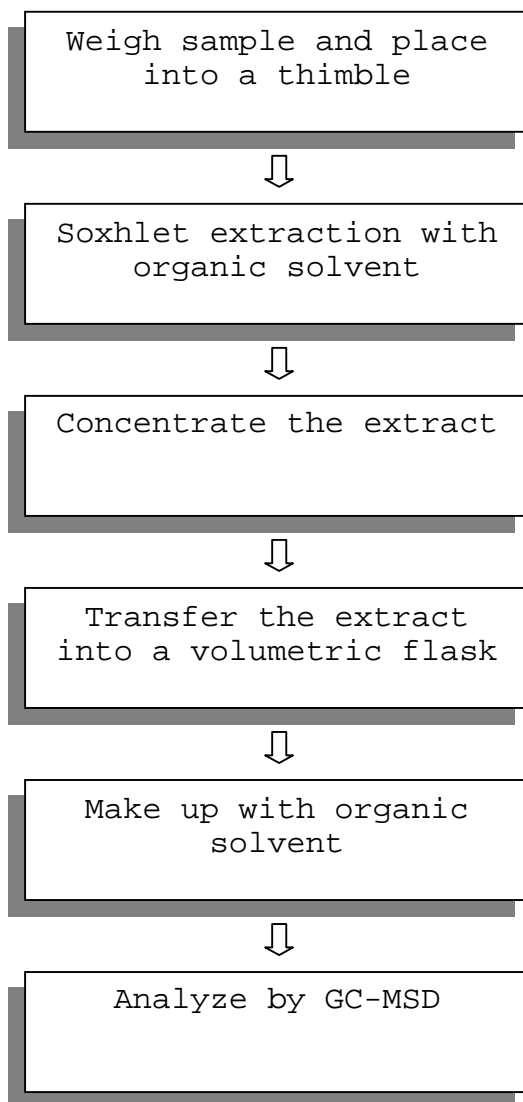
TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCDD (Hexabromocyclododecane) CONTENT



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287569

TESTS CONDUCTED



END OF REPORT



TEST REPORT

NUMBER: SHAH00287516

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: OCT 31, 2011

SAMPLE DESCRIPTION:

One (1) submitted sample said to be **Brown ink.**

Part Description : Ink - brown.

Part Number : 425906.

Date Sample Received : Oct.25, 2011.

Date Test Started : Oct.25, 2011.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

1 PHthalate Content Test

WITH REFERENCE TO EN14372, BY GAS CHROMATOGRAPHY-MASS
 SPECTROMETRY (GC-MS) ANALYSIS.

<u>TESTED COMPOUND</u>	<u>RESULT (% ,W/W)</u>	<u>LIMIT(% ,W/W)</u> <u>(MAX.)</u>
DIBUTYL PHTHALATE (DBP)	ND	---
DI(2-ETHYL HEXYL) PHTHALATE(DEHP)	ND	---
BENZYL BUTYL PHTHALATE (BBP)	ND	---
SUM OF THREE PHTHALATES	ND	0.1

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII
 ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006
 & AMENDMENT NO.552/2009 (FORMERLY KNOWN AS DIRECTIVE
 2005/84/EC) FOR PHTHALATE CONTENT IN TOYS AND CHILDREN
 CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

% = PERCENTAGE BASED ON DRY WEIGHT OF SAMPLE/COMPONENT

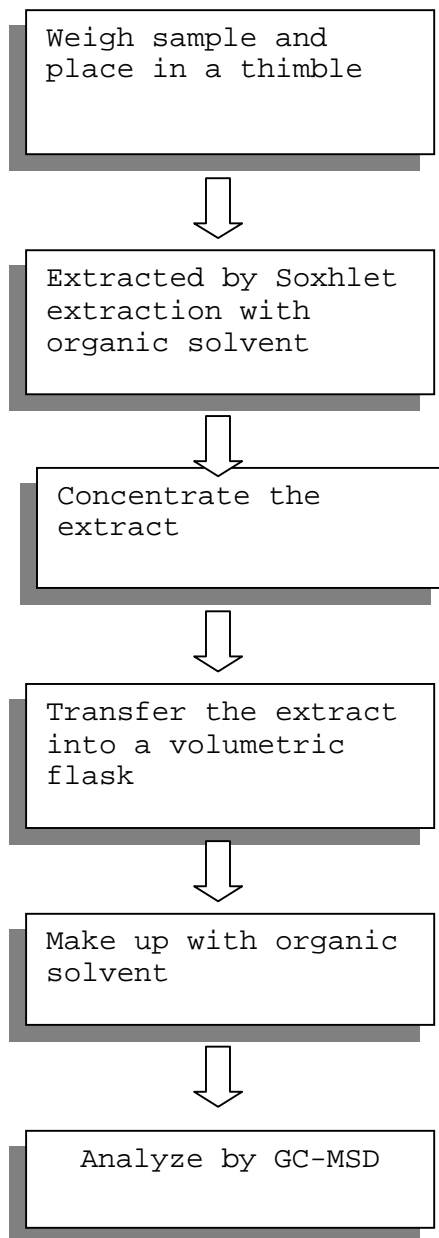
TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

2 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	6850
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million based on weight of tested sample =
mg/kg
ND = Not detected

Responsibility Of Chemist : Ken He

(II) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Halogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TEST REPORT

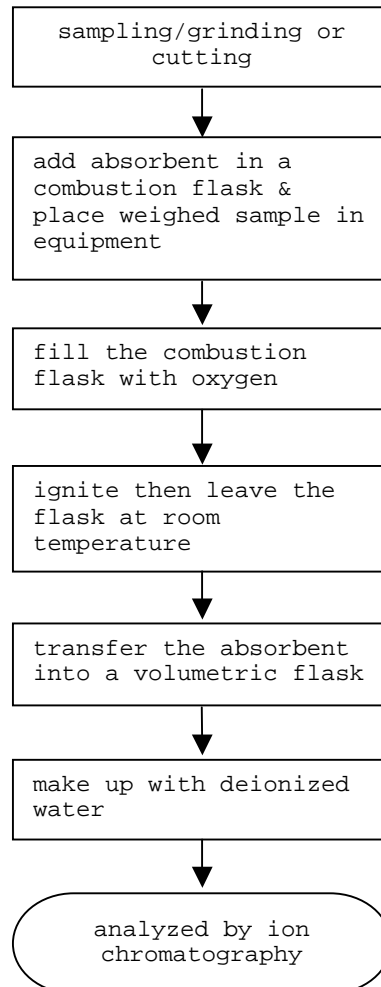
NUMBER: SHAH00287516

TESTS CONDUCTED

(III) Measurement Flowchart:

Test For Halogen Content

Reference Standard: EN 14582



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

3 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
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
Polybrominated Diphenyl Ethers (PBDEs)	
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

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

Remarks: ppm = Parts per million = mg/kg
ND = Not detected

Responsibility Of Chemist : Dent Fang / Ken He

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment
2005/618/EC for homogeneous material.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

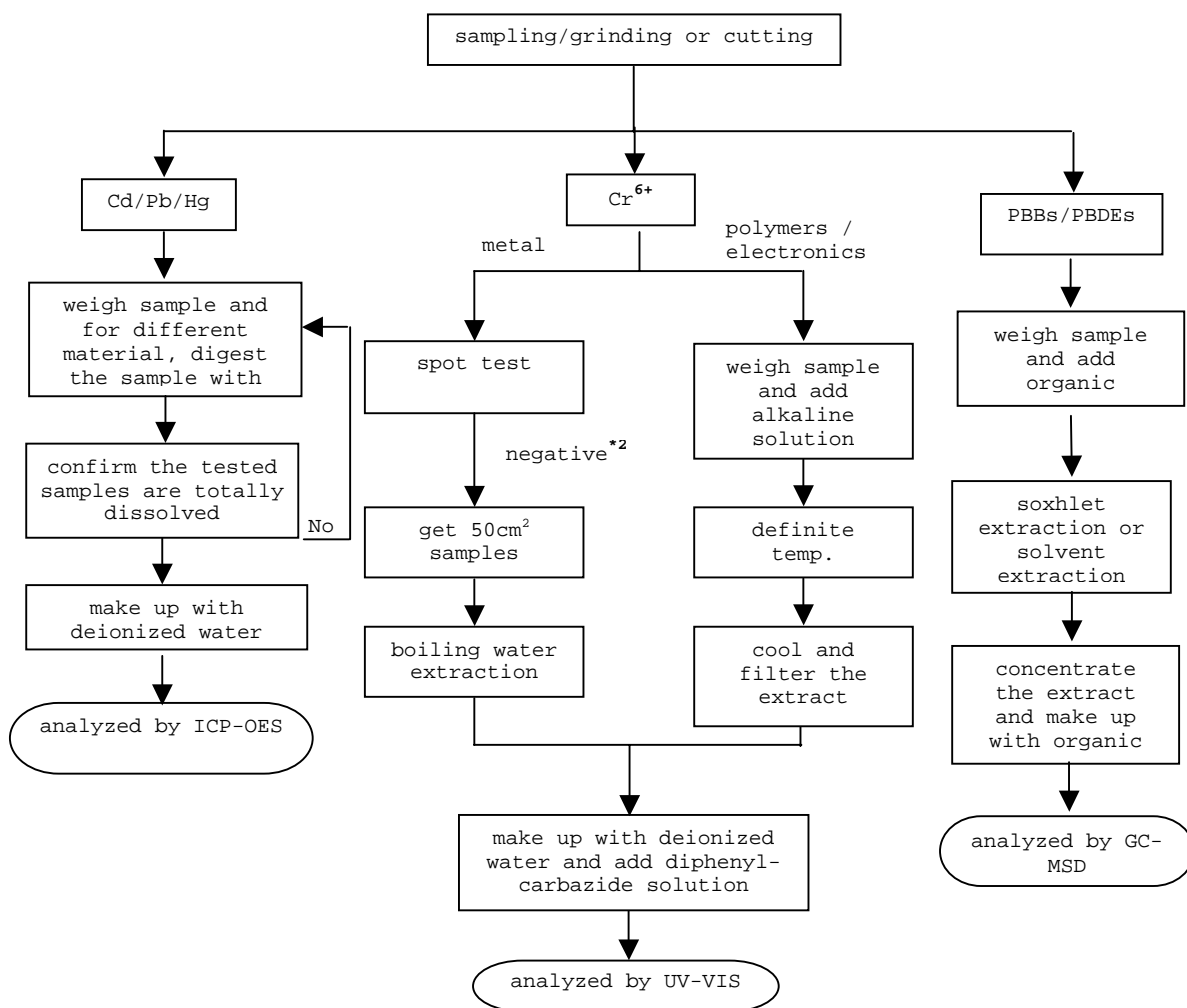
TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED
 (IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Contents
 Reference Standard: IEC 62321 edition 1.0:2008



 TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

4 PHthalate Content Test

WITH REFERENCE TO ASTM D3421, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

	<u>RESULT (% , w/w)</u>	<u>LIMIT (% , w/w)</u> <u>(MAX.)</u>
DIBUTYL PHTHALATE (DBP)	ND	0.1
DI(2-ETHYL HEXYL) PHTHALATE (DEHP)	ND	0.1
BENZYL BUTYL PHTHALATE (BBP)	ND	0.1

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO US CONSUMER PRODUCT SAFETY IMPROVEMENT ACT 2008 FOR PROHIBITION ON SALE OF CERTAIN PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01% (w/w)

ND = NOT DETECTED

% = PERCENTAGE BASED ON DRY WEIGHT OF SAMPLE/COMPONENT.

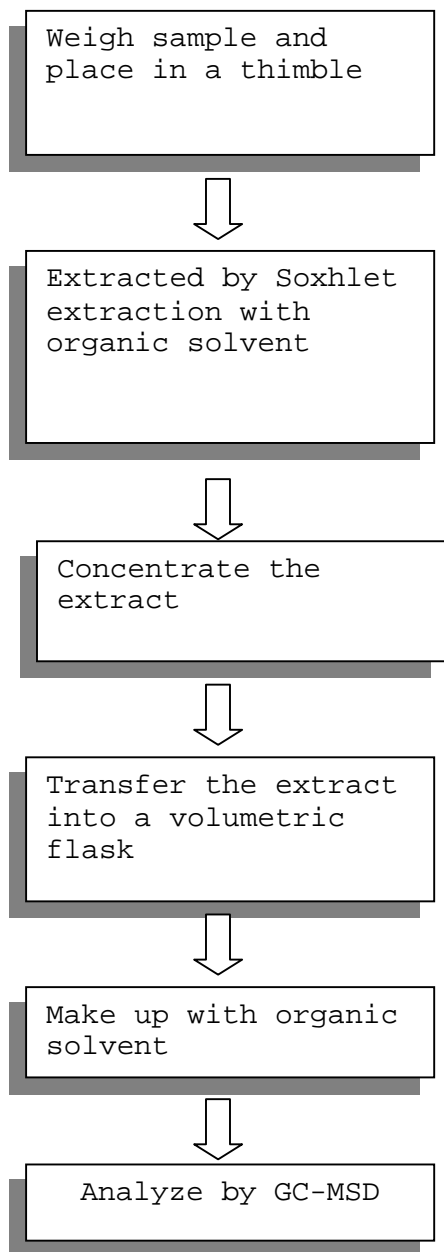
TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

5 (A) TEST RESULT SUMMARY:

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
HBCDD (HEXABROMOCYCLODODECANE)	ND

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
HBCDD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

DATE SAMPLE RECEIVED : OCT.25, 2011

TESTING PERIOD : OCT.25, 2011 TO OCT.28, 2011

TO BE CONTINUED

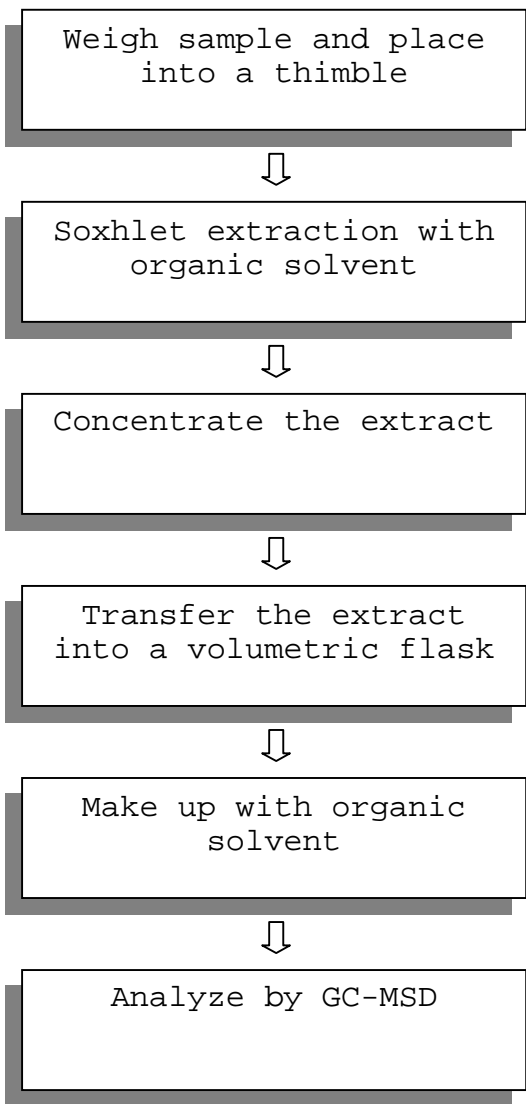
TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCDD (Hexabromocyclododecane) CONTENT



TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00287516

TESTS CONDUCTED



END OF REPORT